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Research Trainee Award Finalists

Characterization of Flumazenil Utilization in Electroconvulsive Therapy

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Type: Original research. **Background:** Flumazenil is a benzodiazepine reversal agent that is suggested to have a periprocedural role in electroconvulsive therapy (ECT) for patients on concomitant benzodiazepines. However, there is limited information available regarding its efficacy and appropriate use in this patient population. The primary objective of this study was to evaluate the efficacy of flumazenil administered postbenzodiazepine prior to a patient receiving ECT. The secondary objective was to analyze general practice of flumazenil administration in this patient population. **Methods:** This retrospective chart review included patients who received at least 1 dose of a benzodiazepine within 18 hours prior to undergoing ECT while admitted to a behavioral health unit from July 1, 2018, to June 30, 2023. Patients were excluded if they received ECT outpatient or received a benzodiazepine outside the time frame or if key outcomes were not documented. The primary outcome examined seizure duration. Secondary outcomes included flumazenil dose, change in lead placement, change in induction agent, change in ECT machine, addition of caffeine, and use of midazolam intravenous post-ECT. **Results:** A total of 852 patient encounters were included in the final analysis with 407 encounters with flumazenil and 445 without flumazenil prior to ECT. The average seizure duration was 39.1 seconds for those who received flumazenil compared with 41 seconds for those that did not receive flumazenil. The average dose of flumazenil administered was 0.37 mg. Patients who received flumazenil were more likely than not to experience a change in the lead placement ($n = 17$, 4.18% versus $n = 5$, 1.12%), an initiation of caffeine ($n = 6$, 1.47% versus $n = 2$, 0.45%), and a change in ECT machine ($n = 9$, 2.21% versus $n = 0$, 0%). **Conclusions:** Among inpatient encounters in which an ECT session was preceded within 18 hours by a benzodiazepine, approximately half received periprocedural flumazenil. There is a numerical trend indicating that flumazenil-associated encounters required more interventions to improve ECT effects compared with nonflumazenil encounters, including lead placement change and caffeine provision. These results could suggest inadequate seizures despite flumazenil administration or patient-specific variables not attributable to benzodiazepine use prior to ECT.

Psychotropic Stewardship: Review of Antipsychotic Polypharmacy at Discharge From a Freestanding Psychiatric Hospital

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Type: Original research. **Purpose:** Examine adherence to practice guidelines associated with Hospital-Based Inpatient Psychiatric Services 5 (HBIPS-5) measures of The Joint Commission Standards on antipsychotic polypharmacy (APP) at discharge from a freestanding psychiatric hospital. **Methods:** This quality improvement study included adults discharged from inpatient units between April 1, 2023, and September 30, 2023. Subjects with 2 or more standing antipsychotics were identified utilizing electronic health record reports. Discharge summaries were reviewed to determine if APP was appropriate per practice guidelines and HBIPS-5 documentation. The primary outcome was rate of clinically inappropriate APP per total subjects discharged on any standing antipsychotic. Secondary outcomes included 30-day readmission rate, discharge chlorpromazine equivalents, clinical rate of inappropriate versus appropriate APP at discharge, and rate of provider documentation discrepancies at discharge. Descriptive statistics were performed to present findings. **Results:** A total of 939 subjects were discharged on at least 1 standing antipsychotic, of which 90 were on APP (9.58%). There were 46 subjects discharged who did not have clinically appropriate APP per practice guidelines (4.49%). Subjects with inappropriate APP were mostly male (63.04%), median age

of 33 years (interquartile range [IQR]: 28, 50), with length of stay of 14 days (IQR: 8, 23). Of the appropriate APP population, subjects were mostly male (56.82%), median age of 37 years (IQR: 27.75, 47), with length of stay of 24.5 days (IQR: 12, 38.25). Individuals discharged with appropriate APP had a 30-day readmission rate of 3.61% compared with 1.12% with inappropriate APP. The median total chlorpromazine equivalents were higher in the appropriate APP group compared with the inappropriate APP group ([625 mg (IQR: 500 mg, 833.33 mg)] versus [500 mg (IQR: 333.33 mg, 800 mg)]), respectively). The rate of inappropriate APP ($n = 46$) compared with appropriate APP ($n = 44$) was 51.1%. There were provider documentation discrepancies identified in 53.33% of discharges reviewed. **Conclusions and Future Directions:** Study findings show a low frequency of inappropriate APP with larger discrepancies observed in provider documentation. An inpatient pharmacist-driven protocol will be developed to reduce inappropriate APP and optimize provider discharge documentation. A postimplementation quality improvement study will be conducted to evaluate the effectiveness of pharmacist intervention of psychotropic stewardship on APP.

Innovative Practices Award Finalists

A Novel Advanced Pharmacy Practice Experience: Scientific Writing With a Focus in Psychiatric Pharmacotherapy

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Type: Innovative practices. **Background:** Strong written communication skills are critical to the pharmacy profession. The practice of written communication in pharmacy curricula is required by the Accreditation Council for Pharmacy Education. An advanced pharmacy practice experience (APPE) was created to develop and enhance scientific writing skills with a focus in psychiatric pharmacotherapy. **Description of Innovative Service:** This 1-month, elective APPE was designed to provide insight into the writing process, teach the fundamentals of effective scientific writing, and provide an opportunity to develop a manuscript suitable for publication. The rotation specifically focuses on (1) expanding the knowledge base of a psychiatric pharmacotherapy topic; (2) learning to write effectively, concisely, and clearly; (3) writing a scientific manuscript; and (4) submitting the manuscript to a peer-reviewed journal. During week 1, students complete an online course through Coursera titled "Writing in the Sciences." This is a free, beginner-level, 30-hour course designed to teach "scientists" to become more effective writers, using practical examples and exercises. Students are also oriented to Zotero, which is an open-access, easy-to-use reference management tool. In week 2, students conduct a literature search on the assigned topic, retrieve and analyze information, develop a detailed outline, select a journal, and review the author guidelines. During week 3, students write a draft of the manuscript. In week 4, students revise the manuscript based on the preceptor's feedback, finalize the manuscript and other documentation (eg, cover letter, title page), and submit the manuscript to a peer-reviewed journal. **Impact:** Nine students completed the rotation from 2021 to 2023. Feedback from students has been positive. Most of the manuscripts are review articles. Topics include antipsychotic-induced hyperprolactinemia, dexmedetomidine, psychotropic medication-induced hyperhidrosis, COVID-worsening of diabetic outcomes in psychiatric inpatients, zuranolone, CBD-THC drug interactions with psychiatric medications, xylazine, and metformin use in prevention of antipsychotic-induced weight gain. Five articles have been published in the following journals: *Annals of Pharmacotherapy*, *CNS Drugs*, and *Current Psychiatry*. One manuscript has been accepted for publication, and 3 manuscripts written in late 2023 have been submitted to journals with decisions pending. **Conclusion:** This novel APPE focused in scientific writing provides hands-on training and may encourage students to incorporate writing into their career plans.

Integration of a Psychiatric Clinical Pharmacist Practitioner into A Virtual Long-Term Opioid Therapy Reassessment Clinic

Audrey A. Abelleira, PharmD, BCPS, BCPP[1,3]; Alissa Scalise, PharmD, BCPS, BCPP[1,4]; Alyssa Falleni, PharmD[2,3]

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Type: Innovative practices. **Background:** The intersection of chronic pain (CP) and psychiatric disorders presents a unique set of therapeutic needs. CP often accompanies psychological distress, fostering conditions such as depression, anxiety, and insomnia. Similarly, chronic pain and substance use or misuse often co-occur. Understanding this overlap through a biopsychosocial framework is crucial to improve patient outcomes and well-being. Psychiatric pharmacists are well suited to provide medication to address the needs of this patient population. **Description of Innovative Service:** The Opioid Reassessment Clinic (ORC) is a multidisciplinary team providing telehealth to rural veterans with CP throughout New England who are already on long-term opioid therapy (LTOT) or considering initiation of LTOT. The multidisciplinary team evaluates the

veteran in a collaborative intake visit, assessing multimodal pain management, substance use, and mental health treatment needs. The team includes medical providers, clinical psychologists, a registered nurse, and board-certified psychiatric clinical pharmacist practitioners (CPP). Following the intake, veterans may then continue follow up with a CPP through video telehealth. CPP services include prescribing and management of LTOT, medications for opioid use disorder and alcohol use disorder, transition from full agonist opioids (FAO) to buprenorphine, and management of co-occurring psychiatric diagnoses. **Effect on Patient Care:** From August 1, 2023, through December 31, 2023, a total of 16 veterans were seen for an intake visit with the ORC. Veterans ranged from 46 to 80 years old, and 4 were female. Thirteen veterans continued medication management with a CPP, ranging from 1 to 16 follow-up visits. Six veterans exhibited signs of opioid misuse, and 5 exhibited concerning use of nonopioid substances at intake. All veterans seen by ORC had at least 1 comorbid psychiatric diagnosis; however, only 5 were engaged in mental health care. In total, 11 veterans were transitioned from FAO to buprenorphine, psychotropic medications were adjusted for 8 veterans, and opioid risk mitigation strategies were updated for 12 veterans. **Conclusion:** The psychiatric pharmacist's specialized training and expertise enables comprehensive medication management that considers the interplay between pain, psychiatric symptoms, and substance misuse. Collaboration with health care team members allows for implementation of multimodal treatment strategies, enhancing therapeutic outcomes and increasing access to care.

Therapeutic Case Report Award Finalists

From Mute to Multilingual: Successful Treatment of Benzodiazepine-Refractory Chronic Catatonia With Memantine

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Type: Therapeutic case report. **Background:** There is sparse data on the management of benzodiazepine-refractory chronic catatonia. Whereas electroconvulsive therapy (ECT) is a first line option, there are numerous systemic, legal, and social barriers to implementation. Memantine, an N-methyl-d-aspartate receptor antagonist, may be helpful for patients with catatonia by assisting in the equilibration of excitatory-inhibitory imbalance. **Patient History:** A 38-year-old transient Somali-American male, on conservatorship, with a history of schizophrenia (diagnosed at age 23) and methamphetamine dependence presented to the emergency department with police after assaulting his case manager. Upon initial evaluation, the patient was noted to have an "intense blank stare" without spontaneous speech. Patient continued to demonstrate persistent mutism, stiffness, waxy flexibility, and posturing despite 106 days of oral lorazepam ranging from 2 to 10 mg/day for presumptive catatonia. The team considered ECT, which was determined not to be feasible given systemic and legal barriers. Memantine 5 mg daily was initiated on hospital day 107, and the patient was continued on lorazepam 1 mg twice daily. Improvement in eye contact, spontaneous speech, and flexibility were noted as early as day 109. On day 112, the patient started speaking Dutch (which he had spoken in earlier years), and his engagement in the milieu improved markedly. On day 114, memantine was increased to 10 mg/day with no reported or observed side effects. **Review of Literature:** There is scant literature regarding the use of memantine in chronic benzodiazepine-refractory catatonia. It is hypothesized that chronic excessive GABA can induce disproportionate inhibition of the mesocortical dopaminergic pathway, which is then unable to supply an adequate release of dopamine in the prefrontal cortex, inducing negative and cognitive symptoms. There is one randomized trial that proposes lorazepam is not effective in the treatment of chronic catatonia, which suggests that there may be an alternative neurobiological basis. Memantine is safe, well tolerated, and has a unique mechanism of action, warranting consideration as a second line agent if benzodiazepines do not adequately resolve symptoms and/or ECT is not possible. **Conclusion:** Memantine may be helpful in patients with chronic benzodiazepine-refractory catatonia for whom ECT is not feasible.

High-Dose Vilazodone for the Treatment of Major Depressive Disorder: A Case Report

Dozie Dike, PharmD, BCPP[1,2]

[1] *Michael E. DeBakey Veterans Affairs Medical Center, Houston, Texas;* [2] *Baylor College of Medicine, Houston, Texas*

Type: Therapeutic case report. **Background:** Vilazodone is a novel antidepressant approved for the treatment of unipolar major depressive disorder (MDD) with a dosing range of 10 to 40 mg/day. In clinical practice, occasionally antidepressants are dosed above their manufacturer labeled maximum doses for therapeutic benefit of various psychiatric conditions. However, the use of high-dose vilazodone has not been previously evaluated in literature. **Patient History:** The patient is a 47-year-old Hispanic male with a past medical history of MDD, adjustment disorder, other specified trauma or stressor-related disorder, fatty liver disease, obstructive sleep apnea, urinary incontinence, irritable bowel syndrome–diarrhea, gastroesophageal reflux disease, and erectile dysfunction. He was diagnosed with MDD on December 27, 2007. He previously trialed citalopram (ineffective), paroxetine (ineffective), fluoxetine

(rash), sertraline (numbing), and venlafaxine (worsened sexual dysfunction). On June 30, 2016, he was titrated to vilazodone 40 mg daily. Vilazodone dose was subsequently titrated to 70 mg daily on July 16, 2019, and the patient remains on this dose currently as of Octobe 13, 2023. Other current psychotropic medications include bupropion immediate release 150 mg daily, gabapentin 300 mg daily, prazosin 1 mg twice daily, and trazodone 200 mg at bedtime. His social history was noncontributory. He denied tobacco and illicit substance use and reported drinking one 12-oz. beer twice per month and one 12-oz. cup of coffee daily. His recent Patient Health Questionnaire-9 score was 4, indicating minimal depression. The patient did not meet the Hunter criteria for serotonin syndrome. No mania/hypomania symptoms were reported. Sexual dysfunction, diarrhea, dizziness, restlessness, nocturnal hyperhidrosis, and xerostomia were reported. **Review of Literature:** A PubMed search revealed no published literature of vilazodone use greater than 40 mg/day for the treatment of MDD. Vilazodone prescribing information states that 80 mg once daily may be utilized when used concomitantly with strong CYP3A4 inducers for greater than 14 days. **Conclusion:** In this case report, vilazodone 70 mg daily was noted to be effective for the treatment of MDD. There were some potential confounders that may be the culprit of some side effects reported, such as the patient's comorbid conditions and concurrent medications. Additional studies are needed to validate these findings.

Original Research Award Finalists

Tranq: Perceptions of Xylazine and Harm-Reduction Practices Among People Receiving Treatment for Substance Use Disorders

Aaron Salwan, PharmD, MPH, BCPP
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Type: Work in progress. **Background:** Xylazine, commonly known as "tranq," is a veterinary tranquilizer added to opioids to extend the opioid effect on the central nervous system. Use of xylazine-adulterated fentanyl is linked with an increase in overdose deaths and a withdrawal syndrome that does not respond to usual treatment. From 2018 to 2021, overdose deaths involving xylazine-adulterated fentanyl rose from 102 to 3 468. **Purpose:** This study aims to assess the knowledge, attitudes, and beliefs surrounding xylazine among individuals undergoing inpatient treatment for substance use disorders and explore their effect on engagement in harm-reduction behaviors. **Methods:** This is a cross-sectional, prospective study conducted at a community hospital. An electronic-based survey instrument was developed aimed at assessing knowledge of xylazine, exposure to and/or use of xylazine, xylazine-seeking behavior, and engagement in various harm-reduction practices. The Health Belief Model served as the theoretical framework for survey item development. Demographics and past month substance use history were also collected. Participants were eligible to participate in this study if they were receiving inpatient treatment for a substance use disorder that was not primarily alcohol use disorder. Survey items were reviewed with patients with opioid use disorder for clarity and adjusted prior to survey dissemination. **Outcomes:** By utilizing a behavioral theory, we hope to gain a better understanding of the perceived risk and susceptibility to xylazine and if the perceived susceptibility affects engagement in harm-reduction behaviors among people who use drugs. Further, we aim to learn how frequently our patient population interacts with xylazine-adulterated substances.

Do Discharge Medications Prevent Rehospitalization Following Short-Term Crisis Stabilization at a County Psychiatric Hospital?

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Type: Original research. **Purpose:** Patients requiring short-term (<48 hour) psychiatric support are commonly placed in the crisis stabilization unit (CSU) of a county psychiatric hospital (CPH) as an alternative to inpatient admission. Upon discharge from the CSU, providers may choose to dispense a limited quantity of medication (typically a 14-day supply) via an on-site meds-to-beds program to bridge the patient until outpatient services can be established. This study evaluated whether dispensing medication upon discharge from the CSU impacted 14-day rehospitalization rates at CPH. **Methods:** This single-center, retrospective cohort identified all CSU encounters at CPH between January 1, 2021, and December 31, 2022. Patient demographics, diagnoses, length of stay, facility encounter data, and discharge medications (excluding naloxone nasal spray) were collected via the electronic health record. Encounters were excluded if the discharge disposition was to a noncommunity setting or the patient left against medical advice. The primary outcome compared 14-day rehospitalization rates at CPH between patients dispensed medication upon CSU discharge and those discharged without medication. **Results:** A total of 5195 CSU encounters were identified of which 1581 cases received at least 1 non-naloxone discharge medication. Controls who did not receive discharge medications were matched 1:1 to cases via propensity score matching across baseline characteristics. There was no difference in the 14-day rehospitalization rate between cases and controls (14.6% versus 13.2%, $p = .295$). These results were independent of the type of medication dispensed (antipsychotic, mood stabilizer, or other). Multivariate regression showed the largest predictors of 14-day

rehospitalizations to be 2 or more CPH encounters within 2 years prior to the index encounter (risk ratio [RR] 2.79, 95% confidence interval [CI] 2.30 to 3.39) and homeless status upon discharge (RR 1.61, 95% CI 1.31 to 1.98). **Conclusions:** There was no difference in the 14-day rehospitalization rate between patients dispensed medication upon discharge from CSU and those who were not. Higher utilizers of CPH services (≥2 encounters in the previous 2 years) and homeless status upon discharge were strongly predictive of the primary outcome. High rates of stimulant use disorder and treatment nonadherence among this patient population likely contributed to these findings.

AAPPF Award Finalists

Comparison of Pharmacist-Led Outpatient Depression Management to Current Prescriber-Led Depression Management

Allison Tiemann, PharmD; Emily N. Gray, PharmD, BCPP; Amanda Hembree, PharmD, BCPS; Andrea Strocen, PharmD; Bobbi Jo Numbers, PharmD, BCPP; Madison Kirkland, PharmD; Teresa Cooper, PharmD, BCPS

Laureate Psychiatric Clinic and Hospital, Tulsa, Oklahoma

Type: Original research. **Purpose:** In 2019, 15 million physician office visits in the United States occurred with depressive disorder as the primary diagnosis. With the expected decrease in the number of psychiatrists, it is important to examine the pharmacist's role in improving mental health outcomes. This study evaluated pharmacist treatment of depression in a behavioral health integrated virtual (BHIV) clinic in which patients were generally followed twice monthly compared to standard of care twice yearly primary care management. **Methods:** A descriptive report from January 1, 2020, to May 31, 2023, identified patients diagnosed with depression managed in the pharmacist-run BHIV clinic and patients managed by prescribers in the internal medicine (IM) clinics. Patients were excluded if they were established with a mental health specialist, diagnosed with a severe mental health disorder, receiving treatment for postpartum depression, pregnant, or only prescribed trazodone at doses less than 100 mg. One hundred forty-two patients were included with 71 patients in each group. The cohorts were compared based on the primary outcome, which was the final Patient Health Questionnaire-9 (PHQ-9) score. **Results:** Aside from higher benzodiazepine use (20/71, 14% versus 5/71, 7%; $p = .002$) and greater total depression and anxiety medication trials (4, SD, 1.8; 2, SD, 1.8; $p \leq .001$) in the BHIV cohort, the groups were similar at baseline. The average initial PHQ-9 score was equal in both groups (13, SD, 4.5; 13, SD, 5.5; $p = .8$). The average final PHQ-9 score was similar between groups (7, SD, 5.6; 6, SD, 6.6; $p = .7$). The average time to remission and response in weeks was shorter in the BHIV group (9, SD, 6.4; 27, SD, 20.5; $p \leq .001$; 7, SD, 5.9; 29, SD, 26.0; $p \leq .001$). **Conclusion:** This study is limited due to the small sample size and omission of documentation of certain outcomes including PHQ-9 score. Patients in the BHIV clinic were able to achieve remission and response rapidly compared with the IM group demonstrating the benefits of medication management by a pharmacist. Clinical outcomes were comparable between cohorts at the final assessment. Overall, this shows that pharmacists can provide close follow-up and improve patient's quality of life by providing rapid symptom resolution.

Development and Validation of an Instrument to Assess Patient Experience of Pharmacist-Led Patient Medication Education Groups

Joseph Cusimano, PharmD, BCPP[1,2]; Jennifer Alastanos, PharmD, BCPP, BCPS[3]; Susie Park, PharmD, BCPP, FCSHP[4]; Andy Williams, PharmD, BCPP, BCGP[4]; P. Brittany Vickery, PharmD, BCPP, BCPS[5]

[1] Shenandoah University, Winchester, Virginia; [2] Winchester Medical Center, Winchester, Virginia; [3] St. Joseph's Behavioral Health Center, Tampa, Florida; [4] Riverside University Health System, Moreno Valley, California; [5] AdventHealth Hendersonville, Hendersonville, North Carolina

Type: Original research. **Purpose:** Psychiatric pharmacist-led patient medication education groups (PMEGs) are a form of psychoeducation designed to educate patients about the use of psychiatric medications. There are no guidelines or standardized manuals for conducting PMEGs with little known about the experience of participants. A validated instrument would permit quantitative assessment of PMEGs, which can demonstrate their value to stakeholders, assess trainee competence, and improve patients' experience. The objective was to develop and validate a patient experience instrument for assessment of PMEGs. **Methods:** A preliminary, 3-facet instrument was developed by 9 psychiatric pharmacists with PMEG experience. The instrument was refined following focus groups with $n = 31$ psychiatric inpatients and surveys of $n = 21$ psychiatric providers from 5 sites. The final, 10-item instrument was administered at 4 inpatient psychiatric units following completion of routine PMEGs. **Results:** After removal of $n = 13$ "straight-lined" responses and $n = 2$ blank forms, $N = 247$ final instrument responses were analyzed. The majority (70%) were age 18 to 50, female (66%), and White (76%). Most participants had a high school diploma or equivalent (39%) or some college credit (21%). Differences in responses for 9 items were statistically significant between sites A, B, or C versus site D by Kruskal-Wallis test followed by a Dunn multiple comparisons test and Bonferroni correction. Mean (±standard deviation) facet

composite scores (maximum possible score = 5) were 4.2 ± 0.76 for facet 1 (motivated), 4.2 ± 0.75 for facet 2 (informed), and 4.5 ± 0.71 for facet 3 (professional) for an instrument composite score 4.1 ± 0.56. Reliability analysis found adequate (>0.70) Cronbach's alpha for facet 1 (0.847) and facet 3 (0.895), with facet 2's alpha (0.675) improving to 0.826 upon removal of a negative item used to detect straight-lined responses. **Conclusions:** The development and validation of the PMEG patient experience instrument in a large sample of general psychiatric inpatients allows quantitative assessment of PMEGs with adequate internal reliability. Testing in outpatient psychiatric settings would expand generalizability. Advanced statistical techniques, such as factor analysis, would help confirm the instrument's dimensionality. Qualitative analysis of investigators' field notes, with retesting, may provide insights into PMEG quality improvement.

Original Research Abstracts

Analysis of Experiential Education Absence Policies for Mental Health Criteria

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Type: Original research. **Purpose:** Whereas attendance policies at schools of pharmacy accommodate medical conditions, the lack of explicit language emphasizing mental health can leave students uncertain about what is considered excused. This ambiguity may lead to hesitancy to seek accommodations, potentially endangering their well-being and academic success. This study explores the language used in experiential education resources and identifies how mental health is framed in the context of experiential education attendance policies. **Methods:** This is a narrative review of experiential education resources regarding mental health–related absences. Online student handbooks, experiential education syllabi, and other guidance documents from 144 Accreditation Council for Pharmacy Education (ACPE)–accredited schools of pharmacy were obtained after a thorough search of institutional websites. Content was analyzed to extract data on policies, procedures, and accommodations explicitly related to mental health absences. Key themes used were coded to identify the inclusion of mental health language within these documents. **Results:** Among the 144 ACPE-accredited schools of pharmacy, experiential education resources were accessible 77% of the time with Doctor of Pharmacy student handbooks being the most common resource (43%). Of the available resources, only 55% were policies explicitly stating attendance requirements within experiential education. Additionally, only 2 (3%) of the experiential education absence policies included explicit mental health terminology as criteria for absences. The most commonly used terms in the experiential education absence policies were nonmental health–specific and included "illness" and "medical emergency." Example excerpts of experiential education absence policies with mental health terminology will be shared. **Conclusion:** These early results unveil that, whereas many pharmacy schools address the importance of accommodating illness, sickness, and medical emergencies, an evident lack of explicit language emphasizing mental health inclusion persists within experiential education attendance policies. Further research should explore students' perceived interpretation of existing attendance policy language and its impact on requesting absences for mental health reasons. This research contributes to the ongoing discussion on enhancing mental health support in higher education and can serve as a catalyst within experiential programs by normalizing pharmacy student mental health as a criterion for excused absences.

Are Rapid Eye Movement Biomarkers Appropriate for Assessing Clinical Improvement in Major Depressive Disorder?

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Type: Original research. **Purpose:** Rapid eye movement (REM) suppression has been linked to disturbed sleep, a common symptom in those with major depressive disorder. Antidepressants' effects on sleep architecture and treatment response have been briefly explored. Since the mid-20th century, improving sleep has been shown to coincide with symptom improvement, indicating patients' progress. Past studies show a correlation between treatment responses and improved REM latency in the standard 8 to 12 weeks. This review evaluates whether early REM improvement correlates with overall treatment response. **Methods:** We conducted a systematic literature review analyzing drug effectiveness prior to the standard 8 to 12 weeks and its correlation to REM improvement. We assessed articles from 1992 to 2023 regarding commonly used antidepressant medications. **Results:** Lechinger et al compare baseline REM levels before and after antidepressant therapy and show a positive correlation between REM and the use of antidepressants. By the end of a standard treatment timeline, drugs such as escitalopram, mirtazapine, and nefazadone show an increase in REM sleep, whereas bupropion sustained release, paroxetine, and citalopram have minimal effect in increasing REM sleep. Wilson et al show REM changes as early as 3 days after taking citalopram or paroxetine, suggesting that improvement in a patient's

sleep might be a notable marker in a patient's early depression symptom improvement. Once-a-day trazodone, evaluated over 5 weeks with weekly measurements, showed significant reduction in Hamilton Depression Rating Scale scores and early improvement in sleep disturbances within 1 week compared with venlafaxine extended release (XR) or placebo. Symptoms were sustained even after 56 days when on trazodone, suggesting great antidepressant efficacy. In contrast, once-a-day venlafaxine XR exhibited significant treatment response by the second week, but 35% of patients experienced insomnia with no correlation with REM. Newer treatments, such as zuranolone, bupropion/dextromethorphan, and ketamine, demonstrate improved depressive symptoms in 2 weeks, 1 week, and 24 hours, respectively, but studies evaluating their effect on REM sleep could not be found. **Conclusion:** Findings suggest analyzing and evaluating REM sleep can be considered as a valuable marker for assessing patients' treatment response but have yet to be used in the newer therapies purporting quicker onset of action.

Assessing Documentation of Clozapine Trials in Patients Prescribed Antipsychotic Polypharmacy Regimens at Discharge

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Type: Original research. **Purpose:** Despite decades of research supporting the use of clozapine in treatment refractory primary thought disorders, it remains an underutilized medication. Alternatively, providers may instead select antipsychotic polypharmacy for treatment-resistant cases. This study sought to determine rates of prior clozapine trials and characterize reasons for not initiating clozapine among patients discharged from an inpatient psychiatric unit on antipsychotic polypharmacy. **Methods:** This retrospective chart review included patients who were initiated on and discharged with antipsychotic polypharmacy, here defined as use of 2 or more scheduled antipsychotics, during hospitalization on an inpatient psychiatric unit between January 1, 2019, and August 1, 2023. Patients were excluded if they had documented pregnancy during their hospitalization or were prescribed antipsychotic polypharmacy prior to their hospitalization, clozapine as part of their polypharmacy regimen, or antipsychotic polypharmacy for indications other than the treatment of a primary thought or mood disorder. The primary outcome was documentation of prior clozapine trial in the medical record. Secondary outcomes included characterization of reasons for not initiating clozapine and documentation of antipsychotic polypharmacy in compliance with The Joint Commission (TJC) quality measures. **Results:** A total of 47 patients were included in the final analysis. The majority of patients were male (30, 63.8%) and identified as Black (28, 59.6%). Median patient age was 39 years (interquartile range 26 to 47.5). The most common patient diagnoses were schizoaffective disorder (24, 51.1%) and schizophrenia (15, 31.9%). A total of 36 patients (76.6%) did not have documentation of prior clozapine trials. Of these patients, most (29, 80.6%) had no documented explanation for not trialing clozapine, and the majority of all patient encounters (43, 91.5%) did not include justification for antipsychotic polypharmacy in compliance with TJC quality measures. Documented reasons for not initiating clozapine, when available, varied widely. **Conclusions:** Over an approximately 4-year period, the majority of patients discharged on newly initiated antipsychotic polypharmacy did not have documented prior trials of clozapine nor justification for the use of polypharmacy per TJC quality measures. This study further outlines the potential underutilization of clozapine and opportunity to limit antipsychotic polypharmacy among patients admitted at an inpatient psychiatric facility.

Assessment of Psychiatric Patients' Actual QTc Intervals Versus Predicted QTc Prolongation Risk

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Type: Original research. **Purpose:** Many psychiatric inpatients have complex medication regimens due to the refractory nature of psychiatric illness and the high incidence of medical comorbidities. Among the many inherent issues of these regimens, a concerning adverse drug reaction is QTc prolongation and the potential sequelae torsades de pointes. Many medications are associated with QTc prolongation, and of these, antipsychotics and antidepressants are some of the most highly implicated and commonly prescribed agents in this population. This study builds on previous research that validates the MedSafety Scan (MSS) QT prolongation risk scoring tool by predicting theoretical clinical risk. The objective of this study was to compare patients' MSS risk score to their actual QTc interval to assess the degree of correlation between them, validating the predictive effect and objective clinical value of the MSS tool for the purpose of informing safe prescribing in the psychiatric inpatient population. **Methods:** Data from 251 subjects were extracted from a state adult inpatient psychiatric facility's electronic medical record system from February 1, 2018, through September 30, 2023. The inclusion criteria included inpatients with a documented electrocardiogram during the study period. The exclusion criteria were patients with a criminal procedure law designation. A

retrospective analysis was conducted to assess the relationship between subjects' QTc Δ (the calculated difference from measured QTc intervals to gender-specific QTc prolongation thresholds: women = 470 ms, men = 450 ms) and a calculated QTc prolongation risk score from the online MSS tool. Data were analyzed using a one-way analysis of variance (ANOVA) with alpha set to 0.01. **Results:** The data from the ANOVA that compared QTc Δ to MSS risk score were found to be significant (p-value $< .01$). **Discussion/Conclusion:** This study shows that the MSS tool accurately reflects the relationship between patients' measured QTc intervals and their predicted risk scores, which objectively validates the predictive effect and clinical utility of this tool. The MSS is a valuable tool for clinicians in psychiatric inpatient settings because it is free, easy to use, and patient specific and provides accurate clinical decision-making support that can help inform and increase safe prescribing habits.

Comparing Effectiveness Between Different Antidepressants in Preventing Psychiatric Rehospitalization

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Type: Original research. **Purpose:** Major depressive disorder (MDD) is a common psychiatric condition that can have a significant effect on patients' health. Patients with multiple hospitalizations tend to have a worse predicted disease prognosis, and health care costs are a large economic burden in patients with MDD. There are many first line treatment options for MDD, and finding an optimal treatment regimen is required to improve outcomes and prevent readmissions. The purpose of this trial is to compare the readmission rates of patients discharged on different antidepressants. **Methods:** This is an institutional review board–approved single-center, retrospective chart review of patients with MDD discharged between August 1, 2020, and June 30, 2023. The primary outcome was psychiatric readmissions within 30 days of first admission. Secondary outcomes included 6-month and 1-year readmission rates. Descriptive statistics were utilized to analyze the primary and secondary outcomes. Statistical significance was defined as $P < .05$. **Results:** Over the time frame analyzed, 36 out of 319 admissions (11.3%) led to readmissions. Patients discharged on sertraline had lower odds of readmission than patients discharged on other antidepressants (odds ratio [OR]: 0.2282, 95% confidence interval [CI]: 0.0533 to 0.9777, $p < .05$). Patients discharged on more than 1 antidepressant had higher odds of readmission than patients discharged on 1 antidepressant (OR: 4.517, 95% CI: 1.581 to 12.908, $p < .05$). Patients discharged on all other antidepressants did not show a statistically significant association with readmission. **Conclusion:** This study demonstrates that sertraline may be associated with fewer readmissions compared with other antidepressants, whereas patients receiving multiple antidepressants are readmitted more frequently. Further research is needed with larger sample sizes and longer time frames to help determine the optimal treatment for MDD.

Comparison of Kloxxado® and Narcan® Usage Following Updates to Computerized Patient Record System

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Type: Original research. **Purpose:** A medication use evaluation (MUE) conducted within a veterans health system in June 2023 compared prescribing incidence of Kloxxado® (naloxone 8 mg nasal spray) and Narcan® (naloxone 4 mg nasal spray) ordered between March 1, 2022, and February 28, 2023. Analysis determined that Kloxxado® was potentially underutilized, namely, in patients with high risk for overdose per Veterans Affairs pharmacy benefits management recommendations. Following the completion of the MUE, changes were implemented to the Computerized Patient Record System (CPRS) on September 12, 2023, in order for prescribers to more readily access Kloxxado® as a medication option and educate them on appropriateness of use. The purpose of this study was to determine if Kloxxado® prescribing increased following these changes. **Methods:** A report was generated to identify each time naloxone nasal spray (4 and 8 mg doses) was dispensed between September 12, 2023, and December 12, 2023. Descriptive statistics were collected to compare the frequency of Kloxxado® and Narcan® prescribing prior to and following the changes to CPRS. Every naloxone order from the report was included in the data set even if prescribed more than once to the same patient during this time frame. A chart review was conducted to determine prescriber specialty. **Results:** Of the prescriptions analyzed for the MUE, 98.9% were for the 4 mg nasal spray and 1.1% were for the 8 mg nasal spray. Following the implemented changes to CPRS, 3244 prescriptions for naloxone were dispensed between September 12, 2023, and December 12, 2023. Of these prescriptions, 3199 (98.6%) were for naloxone 4 mg and 45 (1.3%) were for naloxone 8 mg. Most orders were prescribed by providers in primary care, surgery, and mental health service. Of the 45 prescriptions for Kloxxado®, 29 (65.9%) were ordered by a clinical pharmacy specialist (CPS). **Conclusions:** The results of this study did not demonstrate a significant increase in

Kloxxado® prescribing following updates to CPRS. Most Kloxxado® orders were prescribed by a CPS, indicating other specialties may require further intervention. The data collected demonstrates a need for continued provider education. Additional changes to CPRS may be necessary to ensure that veterans receive an appropriate dose of naloxone.

Effect of Clozapine for Depressive Symptoms in Black Patients With Schizophrenia or Schizoaffective Disorders

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Type: Original research. **Background:** Depressive symptoms in schizophrenia occur in 25% to 81% of patients and result in reduced functional outcomes and poorer quality of life. Changing from depressed to nondepressed status is associated with improved medication adherence, life functioning, and satisfaction and reduced substance use and suicidality. **Objectives:** The purpose of this study is to analyze the effect of clozapine for depressive symptoms in Black patients with schizophrenia or schizoaffective disorder, describe variables that predict the occurrence of depressive symptoms, and determine factors that increase symptom response to clozapine. **Methods:** This study is a secondary analysis of a 24-week, multicenter, prospective, open-label trial of clozapine in Black patients. Two hundred nine patients with a confirmed diagnosis of schizophrenia ($n = 161$) or schizoaffective disorder ($n = 48$) were included in the sample. Patients were stratified into depression or nondepression groups with a major depressive episode (MDE) defined as a Calgary Depression Scale for Schizophrenia (CDSS) score ≥ 6 at baseline. **Results:** Nineteen of the 209 patients included (9.1%) met criteria for MDE. Patients were more likely to have depression if they had a higher Brief Psychiatric Rating Scale (BPRS) total score ($\chi^2 = 10.1$, $p = .0015$), were female ($\chi^2 = 5.19$, $p = .023$) or had a lower education level ($\chi^2 = 4.45$, $p = .035$). Those meeting criteria for MDE also had a significantly higher BPRS anxiety/depression subfactor score compared with nondepressed patients (10.3 ± 2.4, 5.6 ± 2.7, $p < .001$). The primary endpoint, change in CDSS score, was significantly improved from baseline to end of study in the depression group compared with the nondepressed group (time by group effect, $F = 4.57$, $df = 6, 296$, $p = .002$). Seventeen of the 19 patients (89.5%) with depression at baseline had a resolved MDE at study conclusion. The mean time to treatment response was 2.7 ± 1.9 weeks. **Conclusions:** In Black patients eligible for clozapine treatment, depression occurred in 9.1% of the sample population with female sex, lower education level, and greater severity of illness being factors predictive of depression. Clozapine significantly improved depressive symptoms in patients who met criteria for MDE at baseline. Symptom response was enhanced by concomitant antidepressant use.

Establishing a Database to Examine the Real-World Impact of Psychiatric Pharmacogenomic Testing in a Large Health System

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Type: Original research. **Background:** Pharmacogenomics (PGx) offers significant potential to advance precision prescribing. Food and Drug Administration (FDA) labeling and guidelines from the Clinical Pharmacogenetics Implementation Consortium (CPIC) and the Dutch Pharmacogenetics Working Groups (DPWG) provide recommendations for several commonly used psychiatric medications. However, integrating PGx data into electronic health records (EHR) and clinical workflows remains challenging. Relevance of testing to current treatments and whether existing PGx results are effectively utilized in real-world clinical settings have not been clarified. **Objective:** The objective is to develop an EHR-based research database to determine the real-world impact of psychiatric PGx testing. **Methods:** A comprehensive search was conducted on a large health

system's EHR data from 2012 to 2023 through the institute's Best Practices Integrated Informatics Core with data extracted and analyzed within a secure data shelter. PGx-related terms identified test result PDF files. Results were all scanned PDFs requiring manual data extraction. Genotype-to-phenotype translations were harmonized using consensus standards. Demographic and clinical data were merged with PGx results. Relationships between clinical characteristics and PGx results were analyzed with descriptive and inferential statistics. Genetic interactions with psychotropic medications were determined based on FDA, CPIC, and DPWG guidance. **Results:** Of 7304 PDFs, 6392 contained results of a commonly used commercial PGx test for 3471 unique patients. Of these, 2815 had test results for psychotropics and were treated with at least 1 medication at the time of testing. Most test receivers were adults (80.6%), female (67.2%), and white (88.3%). The top psychiatric diagnoses were depression (47.0%) and anxiety (34.8%) spectrum illnesses. More than 93% of patients had genetic variants impacting clinically actionable pharmacogenes for psychotropic medications (CYP2B6, CYP2D6, CYP2C19, CYP2C9, CYP3A4, HLA-A*31:01, HLB-B*15:02) with 21.8% having extreme enzymatic activities (ultrarapid/poor metabolism) or HLA positivity. Clinically actionable drug-gene interactions (DGIs) for psychotropic medications were identified for 10.3% of patients. The positive prediction rate for DGIs was higher in pediatric than in adult patients (15.0% versus 9.3%, $\chi^2 = 5.13$, $p = .023$). **Conclusion:** PGx test results were stored as scanned PDFs, requiring informatics approaches for identification in the EHR and manual extraction of genotype results. One in 10 patients tested had results potentially impactful for current psychiatric medications highlighting the clinical relevance of testing.

Evaluating the Impact of Photovoice on Self-Stigma Levels Among Individuals with Substance Use Concerns

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Type: Original research. **Purpose:** Photovoice is a research methodology in which participants are encouraged to capture and caption images related to personal issues of concern. This methodology has not been studied as an intervention for self-stigma among those with substance use concerns. Self-stigma, characterized by internalized negative attitudes and shame, has been linked with decreased health care service use and poorer health outcomes. This study evaluated if photovoice is an effective intervention for reducing self-stigma levels in individuals with substance use concerns. **Methods:** Individuals who self-identified as having previous or current substance use concerns were recruited for this study. At baseline, the participants took a presurvey using the previously published Substance Abuse Self-Stigma Scale (SASSS) to identify baseline self-stigma levels. The SASSS comprises 4 subscales, and the total score is the sum of these subscales. Total scores range from 40 (minimal self-stigma) to 200 (high self-stigma). Participants were then instructed to post 3 to 5 captioned images to the SNAP the Stigma website and take a postsurvey using identical questions to the presurvey. **Results:** Eleven participants ($n = 11$) completed the presurvey, posting of images, and postsurvey portions of the research study. Of these, 72% (8/11) were aged 18 to 24 years, and 55% (6/11) had a highest level of education of a high school or general equivalency diploma. Participant-reported substance use prior to completing the presurvey ranged from: <1 month prior ($n = 4$, 36%), 1 to 6 months prior ($n = 2$, 18%), or >6 months prior ($n = 4$, 36%). Upon completion of the presurvey, each participant posted a minimum of 3 photos with an accompanying caption. The average presurvey total SASSS score of all 11 participants was 93.636 and average postsurvey total was 93.818 ($p = .971$). Individual participant changes in pre to post total SASSS scores ranged from -31 to 17. No statistically significant differences were observed between the presurvey and postsurvey individual subscales or total SASSS scores. **Conclusions and Future Direction:** No statistically significant changes in self-stigma levels were found. Further investigation is warranted, potentially with larger sample sizes and inclusion of qualitative analysis, to better examine the lack of change from this intervention.

Evaluating the Impact of Pre and Post Exams on Psychiatry Pharmacy Student Rotations: A Comprehensive Analysis

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Type: Original research. **Background and Objectives:** Psychiatry pharmacy rotations are integral components of pharmacy education, providing students with opportunities to develop clinical skills and competencies in the field of mental health. This study explores the efficacy of implementing pre and post exams as a pedagogical tool to enhance the learning experience and assess the knowledge acquisition of pharmacy students during their psychiatry rotation. **Methods:** The study involved pharmacy students enrolled in a psychiatry rotation, in which they participated in both pre and post exams designed to evaluate their baseline knowledge and measure their progress over the rotation period. The exams consisted of multiple-choice

questions covering topics related to psychopharmacology, psychiatric disorders, and clinical decision making. **Results:** The findings suggest that the use of pre exams before the rotation provided students with an opportunity to identify their knowledge gaps and set personal learning goals. This self-assessment process contributed to increased motivation and engagement during the rotation as students were more focused on specific areas of improvement. Moreover, the pre exam results served as a baseline for evaluating knowledge growth throughout the rotation. The post exams administered at the end of the rotation revealed improvements in students' knowledge and comprehension of psychiatric pharmacy concepts. The comparative analysis of pre and post exam scores demonstrated a statistically significant increase in overall performance, indicating that the rotation had a positive impact on the students' understanding of psychiatry pharmacy. Additionally, qualitative data collected through student feedback and reflections indicated that the pre and post exams encouraged self-directed learning and reflective practice, fostering a deeper understanding of the subject matter and enhancing clinical reasoning skills. Students reported increased self-confidence. **Conclusions:** In conclusion, the incorporation of pre and post exams in psychiatry pharmacy student rotations appears to be a valuable educational strategy for promoting self-assessment, motivation, and knowledge acquisition. These assessments provide a structured means of tracking student progress and can serve as a valuable tool for educators in tailoring their teaching methods to meet the evolving needs of pharmacy students during their psychiatric pharmacy rotations. Further research is warranted to explore the long-term effects of this pedagogical approach on student learning outcomes and clinical practice.

Evaluation of Intentional Overdose Trends Among Youth in Pennsylvania Before and During the COVID-19 Pandemic

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Type: Original research. **Purpose:** The number of deaths attributed to overdoses has been increasing since 2000, including in the child and adolescent population. Both the mental and physical health of this age group were impacted by the COVID-19 pandemic due to changes in routine, caregiver absences, financial instability, illness, and more. The purpose of this study was to evaluate rates of intentional overdose and related morbidity and mortality before and during the COVID-19 pandemic. Additional aims were to identify overdose trends based on age, gender, socioeconomic status, and substance. **Methods:** Data from cases reported to the 2 regional poison centers in Pennsylvania were extracted from the National Poison Data System. Cases included intentional exposures to any substance for individuals between the ages of 6 and 19 years old reported between October 1, 2017, and September 30, 2022. Data elements collected included age, sex, ZIP code, substance, and outcome. Case overdose trends were analyzed quarterly with the onset of the COVID-19 pandemic defined as March 2020. **Results:** A total of 12 973 intentional overdose cases were reported during the 5-year study period. There was an increasing trend in intentional overdoses reported after the onset of the COVID-19 pandemic with the highest incidence reported in quarter 1 of 2022 ($n = 877$). Two thirds of cases occurred within 15- to 19-year-olds, 31% within 10- to 14-year-olds, and 3% within 6- to 9-year-olds. Almost three quarters of cases involved females. ZIP codes with median household incomes of $25 000 to $75 000 also had higher rates of youth overdose. There were 630 unique substances identified with one third of cases involving more than 1 substance. Death or major effects occurred in 2.8% of cases with the top 3 substances being antidepressants, acetaminophen, and anticonvulsants. **Conclusions:** As expected, intentional overdose trends among youth increased at a steeper rate during the COVID-19 pandemic underscoring the impact of the pandemic on youth mental health. In addition to the onset of the COVID-19 pandemic, female gender and age 15 to 19 years old were additional risk factors identified in the rising rates of intentional overdose in the Pennsylvanian youth population.

Evaluation of Lithium Utilization at an Inpatient Mental Health Facility to Optimize Patient Outcomes

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Type: Original research. **Introduction:** Lithium is a first line mood stabilizer that requires monitoring in an acute inpatient setting due to its narrow therapeutic window and high potential for adverse effects. Lithium requires prompt and accurate levels; however, the inpatient mental health facility does not currently have a protocol for the monitoring of lithium. A study by Johnson et al shows the benefit of a pharmacist- versus provider-managed lithium protocol

in an inpatient medical center for biochemical and safety outcomes. Pharmacist-managed patients were more likely to receive lithium levels within 24 hours of admission, receive a pregnancy test if indicated, have an identified drug interaction affecting lithium levels, and receive pharmacy-provided education. **Objective:** The objective is to retrospectively review lithium use at an inpatient mental health facility for the purpose of improving patient outcomes and patient safety. **Methods:** The Belmont University institutional review board reviewed the study and verified it as exempt. A retrospective review of 160 charts was performed from March 1, 2022, to September 1, 2023. Patients were included if they were at least 18 years of age and were maintained or initiated on lithium during admission. Data analysis was performed using descriptive statistics. **Conclusions:** Of the 127 patients who were admitted with a home medication of lithium, only 51.2% had their serum concentration drawn upon admission. Of the 51.2%, 80% had their concentration drawn at the appropriate time. Of the 132 patients who were eligible for a steady state serum concentration, only 47% had their serum concentration drawn. Of the 47%, 83.9% had their concentration drawn at the appropriate time. Sixty-one labs were drawn unnecessarily resulting in increased work for staff, cost, and patient inconvenience. Several labs were drawn with no concentration reported in the patient chart.

Glucagon-Like Peptide-1 Receptor Agonists and Risk for Depression Relapse

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Type: Original research. **Purpose:** Liraglutide, semaglutide, and tirzepatide are glucagon-like peptide-1 receptor agonists (GLP-1RAs) that are Food and Drug Administration–approved initially for type 2 diabetes and later for weight management. Concern for worsening depression and suicidal ideation from label warnings based on a small number of events has led to some hesitancy to prescribe GLP-1RAs to patients with depression. Our objective was to determine whether initiation of GLP-1RAs is associated with depression relapse among patients receiving stable antidepressant therapy, relative to comparator medications. **Methods:** Using national administrative data from the Veterans Health Administration, we identified 36 360 patients with depression who initiated a GLP-1RA, dipeptidyl peptidase 4 inhibitor (DPP-4i), or sodium-glucose cotransporter 2 inhibitor (SGLT2i) between January 1, 2013, and December 30, 2021, and also receiving stable antidepressant monotherapy for 6 months. The primary outcome of depression relapse was defined by a subsequent change in the preexisting maintenance antidepressant regimen within 12 months. Cox proportional hazard regression was employed adjusting for demographics, comorbidity, and pharmacotherapy. **Results:** Depression relapse within 12 months of initiation was observed in 28.4% (1912/6722) and 26.2% (3332/12 730) initiating a GLP-1RA versus a DPP-4i, respectively (hazard ratio [HR] = 1.11; 95% confidence interval [CI]: 1.04, 1.18). After adjustment, the HR was 1.06 (95% CI: 0.99, 1.14), failing to demonstrate a significant increase in risk for depression relapse following initiation of a GLP-1RA compared with DPP-4i. Patient characteristics independently associated with depression relapse in the multivariable model included age (<55 years: HR = 1.57; 95% CI: 1.48, 1.70; 55 to 64 years: HR = 1.22; 95% CI: 1.13, 1.31; relative to age 65 to 74), female sex (HR = 1.17; 95% CI: 1.07, 1.28), comorbid generalized anxiety disorder (HR = 1.16; 95% CI: 1.04, 1.30) or posttraumatic stress disorder (HR = 1.17; 95% CI: 1.10, 1.25), and concomitant use of benzodiazepines (HR = 1.22; 95% CI: 1.09, 1.36). In a secondary analysis using a different comparator medication, GLP-1RAs were also not associated with increased depression relapse risk (HR = 1.05; 95% CI: 0.98, 1.12) relative to SGLT2is. **Conclusion:** We observed a small increase in risk of depression relapse following GLP-1RA initiation relative to therapeutic alternatives. However, this effect was not statistically significant after adjustment for confounding factors and unlikely to be clinically meaningful.

Impact of Combinatorial Pharmacogenomic Testing on Hospitalization Rates in a Real-World Data Set of Patients With Major Depressive Disorder

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Type: Original research. **Purpose:** Although pharmacogenomic (PGx) testing improves response and remission rates for patients with major depressive disorder (MDD) in controlled trials, less is known about its impact in real-world settings. The current study determined (1) the proportion of MDD patients taking medications with significant gene-drug interactions pre and post combinatorial PGx testing and (2) health care use patterns in a large US administrative claims data set. **Methods:** Commercially insured and Medicare Advantage patients who received combinatorial PGx testing were linked with deidentified administrative claims data from a nationwide (United States) data warehouse. Patients were included in the study if they received combinatorial PGx testing between January 1, 2015, and

September 30, 2021, had an MDD diagnosis code, were age ≥18 years, and had continuous enrollment with both medical and pharmacy benefits ≥360 days prior to and ≥180 days after the PGx test result date. The PGx test report organized psychiatric medications into these categories: no known gene-drug interactions, moderate gene-drug interactions, and significant gene-drug interactions. Hospitalizations (total, psychiatric, and nonpsychiatric) were compared in the 180 days pre and post PGx testing. **Results:** A total of 20 933 patients were identified that met inclusion criteria. Patients had an average age of 46 years and were predominantly female (∼70%). Psychiatric comorbidities were observed in ∼93% of patients with anxiety being the most common (∼78%). Of the 20 933 total patients, 16 965 patients (81%) were prescribed medications in both the 90-day pre and post PGx testing periods. At pre versus post testing, respectively, 27% versus 47% of patients were taking medications with no gene-drug interactions, 46% versus 37% with moderate gene-drug interactions, and 26% versus 16% with significant gene-drug interactions. The proportion of patients with hospitalizations for any reason and psychiatric-related hospitalizations showed a decrease of 29% and 39% in the 180-day posttest period relative to the 180-day baseline, respectively ($p < .001$). The proportion of patients with nonpsychiatric hospitalizations did not significantly change. **Conclusions and Future Directions:** Post PGx testing, fewer patients were prescribed medications with significant gene-drug interactions and health care resource utilization was reduced compared with pre-PGx testing. Future directions include investigating the impact of post-PGx medication selection on health economics.

Investigating the Inhibitory Effects of Cannabis Smoke Condensate on Cytochrome P450 in the Human Lung

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Type: Original research. **Purpose:** Smoked cannabis flower is the primary form of medical cannabis (MC) dispensed for various qualifying conditions in the state of Florida and elsewhere and the most common form used recreationally. MC is frequently used for chronic conditions including amyotrophic lateral sclerosis, cancer, Crohn disease, epilepsy, glaucoma, and others. The use of conventional medications, including lung therapeutics, concurrently with MC raises concerns about drug-drug interactions. This study focuses on the collection and characterization of cannabis smoke condensate (CSC) and an assessment of its in vitro inhibitory effects on 6 major cytochrome P450 enzymes (CYP) expressed in the lung. **Methods:** Three standardized cannabis cigarettes sourced from the US National Institute of Drug Abuse Drug Supply Program were consecutively combusted in an enclosed smoke exposure system. Generated smoke was routed through an ultra-cold condenser permitting the collection of CSC. The CSC was weighed and analyzed for the presence of 8 major cannabinoids (CBs) via liquid Chromatography with tandem mass spectrometry. In vitro enzyme inhibition studies were conducted/ongoing using human lung S9 to evaluate the potential inhibitory effect of CSC on CYP2C8, CYP2C9, CYP2C19, CYP2D6, CYP2B6, and CYP2E1. **Results:** A total of 14.6 mg (4.87 mg per cigarette) of CSC was collected, containing 0.022% CBD, 1.163% CBN, 9.317% THC, 0.193% CBG, and 0.008% 11-OH-THC of the total weight. The half-maximal inhibitory concentration (IC50) of CSC for CYP3A inhibition was determined to be 17.85 μM with Δ9-tetrahydrocannabinol (THC) as the index substrate. **Conclusions and Future Directions:** The study revealed that the relative CB content of cannabis smoke is substantially different from that of uncombusted cannabis flowers. Furthermore, CSC produced a mild inhibitory effect on CYP3A activity. Further investigations are ongoing to elucidate the inhibition mechanisms and assess the inhibitory effects on other CYPs.

Lithium and Antipsychotics in Postpartum Psychosis: Utilization of Pro re Nata Medications on an Inpatient Psychiatric Perinatal Unit

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Type: Original research. **Introduction:** Postpartum psychosis is a term that encompasses a set of symptoms within the bipolar spectrum that occurs after childbirth. The estimated prevalence of postpartum psychosis is 1 to 2 cases per 1000 childbirths and is associated with a high risk of suicide and infanticide. Standardized treatment regimens have been developed but need to be evaluated in clinical settings. Therefore, this study aimed to evaluate current treatment regimens and add to existing literature for treatment optimization. This study implemented a single-center, retrospective chart review to measure the difference in pro re nata (PRN) medication use in patients treated with antipsychotics, lithium, and combination therapy for postpartum psychosis. **Methods:** Fifty-one patients with postpartum psychosis treated at the University of North Carolina Medical Center peripartum perinatal psychiatry

inpatient unit from January 1, 2019, to August 31, 2022, were categorized into either receiving lithium monotherapy ($n = 5$), antipsychotic monotherapy ($n = 21$), or combination therapy ($n = 25$). The primary outcomes for this study were the amount of PRN antipsychotic use in chlorpromazine equivalents or benzodiazepine use in lorazepam equivalents. Secondary outcomes included postpartum psychosis medications and dosage prescribed at discharge. **Results:** The average dose of PRN antipsychotics was not found to statistically differ for patients across the lithium monotherapy (40 mg), antipsychotic monotherapy (74.6 mg), and combination therapy (191.3 mg) groups ($p = .29$). Similarly, there was no statistical difference among the average PRN benzodiazepine dose between lithium monotherapy (0.4 mg), antipsychotic monotherapy (1.6 mg), and combination therapy (3 mg) ($p = .29$). A total of 30 patients were discharged on lithium, and 44 patients were discharged on antipsychotic medications, including aripiprazole, fluphenazine, haloperidol, lurasidone, olanzapine, paliperidone, quetiapine, and risperidone. Patients were discharged on an average of 201.7 mg of chlorpromazine equivalents and 960 mg of lithium. **Conclusion:** This retrospective review did not see a significant difference between PRN medication use between the 3 treatment groups, suggesting a role for lithium monotherapy. This outcome is evidence to support the current proposed treatment algorithms. Future studies are warranted to further evaluate therapy efficacy for the treatment of postpartum psychosis.

Long-Acting Injectable Antipsychotic Use and Discontinuation Rates in Pediatric Patients Using Medicaid Claims Data

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Type: Original research. **Purpose/Objectives:** The primary objective was to analyze the prescribing of long-acting injectable (LAI) antipsychotics among pediatric populations. The secondary objective was to assess if discontinuation rates differed between LAI agents. **Methods:** International Classification of Diseases, 10th edition, codes were used to discern pediatric patients (2 to 17 years old) who received LAI antipsychotics between January 1, 2017, and December 31, 2021, using Merative® MarketScan® Multi-State Medicaid Databases. LAI antipsychotics were identified using National Drug Code numbers for all doses using brand and generic names. Race/ethnicity was classified as Black, Hispanic, White, other, or missing, and gender was defined as female or male. Based on Food and Drug Administration pediatric drug legislative guidance, age was separated into two groups: children (2 to 11 years) and adolescents (12 to 17 years). Kaplan-Meier survival curves were examined and stratified log-rank tests conducted to compare the time until discontinuation distributions across LAI antipsychotics. Significance level set at $<.05$. **Results:** A total of 1277 out of 67 502 patients met the inclusion criteria and were included in the final analysis. There were approximately 97% adolescents ($n = 1233$) and 3% children ($n = 44$). The average age was 15.4 ± 1.7 years (range 7 to 17 years). Approximately 59% were male ($n = 747$) with 48% Black ($n = 610$), 38% White ($n = 491$), 3% Hispanic ($n = 37$), 3% other ($n = 34$), and 8% missing ($n = 105$). Prescribing of LAI second generation antipsychotics (SGA) occurred in about 94% of the population. The most common LAI SGA antipsychotics prescribed included paliperidone (40%), aripiprazole (38%), and aripiprazole lauroxil (10%). When controlling for age group, gender, and plan type, the discontinuation rate for paliperidone and aripiprazole formulations did not differ. **Conclusion and Future Directions:** Despite the limited sample size, this study explored the prescribing rates and discontinuation rates between LAI antipsychotics in a pediatric population. The study also shed light on what the emerging use of LAI SGA may have on the care for pediatric patients. Among the most used agents, there did not appear to be differences in discontinuation rates. Future studies may further explain the unique challenges (eg, reasons for discontinuation) and economic impact LAI antipsychotics present within pediatric psychiatric treatment.

Long-Acting Injectable Antipsychotic Use in Pediatric and Adolescent Patients With Psychiatric Disorders

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Type: Original research. **Background:** Long-acting injectable antipsychotics (LAIAs) are widely known to be an effective treatment option for adult patients with schizophrenia, schizoaffective disorder, and bipolar disorder. However, literature regarding LAIA use in pediatric and adolescent patients is very sparse. There are currently no LAIAs Food and Drug Administration–approved for use in patients less than 18 years of age; however, case reports and studies documenting off-label use suggest clinical benefit in this patient population. **Purpose:** The objective is to describe the use of LAIAs in pediatric and adolescent patients with psychiatric disorders. **Methods:** This quality improvement–

approved retrospective chart review included patients less than 18 years of age discharged from an acute psychiatric hospital between October 1, 2015, and October 31, 2022. Patients were included if they had an inpatient or day-of-discharge order for a new start LAIA during their hospitalization. Patient information (age at admission, date of birth, sex, race) and hospital encounter information (admission and discharge dates, diagnoses at discharge) was collected. Descriptive statistics were utilized for data analysis. **Results:** A total of 6402 unique pediatric and adolescent patients were discharged from the acute psychiatric hospital within the specified time frame. Of these, 45 patients (0.70%) were newly initiated on a LAIA. Monthly paliperidone palmitate was the most commonly prescribed LAIA ($n = 21$), followed by aripiprazole monohydrate ($n = 15$), aripiprazole lauroxil ($n = 7$), haloperidol decanoate ($n = 1$), and risperidone microsphere ($n = 1$). The most common diagnoses for LAIA therapy by International Classification of Diseases, 10th revision, code included bipolar disorder ($n = 14$), unspecified psychotic disorder ($n = 7$), schizophrenia ($n = 5$), schizoaffective disorder ($n = 5$), and autistic disorder ($n = 5$). Most patients (71%) received a loading dose or oral overlap regimen consistent with adult package-insert dosing. **Conclusions and Future Directions:** Prescribing rates of LAIAs in pediatric and adolescent patients with psychiatric disorders is low, accounting for less than 1% of all adolescent and pediatric patients discharged within the 7-year study period. Further research is needed to identify barriers to use of LAIAs in this patient population. Future directions for this project include evaluation of clinical outcomes, such as LAIA efficacy, tolerability, and impact on antipsychotic adherence and persistence.

Long-Term Follow-up of Implementation of Psychotropic Medication Utilization Parameters for Children and Adolescents in Texas Foster Care

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Type: Original research. **Background:** Attention has focused on the use of psychotropic medication in children. Youth in foster care are a vulnerable population that are often fraught with emotional distress and mental disorders. Improved use of psychotropic medications in this population is needed. **Methods:** Subsequent to legislative action, the Texas Department of Family and Protective Services (DFPS) appointed a task force to develop psychotropic utilization parameters for foster children. The first edition was published in 2005 with succeeding editions in 2007, 2010, 2013, 2016, 2019, and currently under review. The parameters were developed by an interprofessional task force with external peer review. Whereas an evidence-based approach was used, expert consensus was used to fill in missing gaps of evidence. Using the Texas Medicaid database, utilization was monitored on a quarterly basis. The parameters were initially disseminated by DFPS, and in 2008, a single mental health managed care organization (Superior Healthplan) implemented a system to utilize these parameters as a component of prospective quality of care assessment and clinician feedback. **Results:** The use of psychotropic medication for >60 days in foster children decreased from 31.4% of children in fiscal year (FY) 2004 to 17.9% in FY 2021. Within class polypharmacy decreased from 6.2% in FY 2004 to 2.9% in FY 2021. The percentage of children receiving >5 psychotropic medications decreased from 2.2% in FY 2004 to 0.8% in FY 2021, and the percentage receiving >4 medications decreased from 6.3% in FY 2004 to 2.9% in FY 2021. The percent of children <4 years of age receiving psychotropics >60 days decreased from 4.2% in FY 2004 to 1.5% in FY 2021. **Change in Parameters:** In 2013, the parameters were revised to include a decrease to 4 concomitant psychotropics for review of multidrug polypharmacy, the adoption of metabolic monitoring parameters, and enhanced dosing information. Major revisions in the medication tables were made in 2023. **Conclusion:** The implementation of statewide psychotropic medication utilization parameters for foster children was associated with a sustained decrease in psychotropic prescriptions and a decrease in polypharmacy. Prospective review and prescriber feedback improved utilization over dissemination and education alone.

Mental and Behavioral Health Supports and Services Provided by Pharmacists in Washington State

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Type: Original research. **Purpose:** Pharmacists are one of the most accessible health care providers and are well suited to provide care for patients with behavioral and mental health conditions. Demand for psychiatric services has significantly risen since the onset of the COVID-19 pandemic. This study was designed to determine emerging trends in how pharmacists assess, identify, monitor, and care for patients with behavioral and mental health conditions in

Washington State. **Methods:** A cross-sectional REDCap survey was distributed on June 7, 2023, via email to licensed pharmacists in Washington State ($n = 8082$). The survey contained demographic questions, questions focusing on mental and behavioral health services provided, and questions pertaining to self-confidence in providing mental and behavioral health services. Responses were analyzed using descriptive statistics. **Results:** A total of 842 participants responded to the survey (10% response rate). Most respondents had a PharmD degree (74.2%), and nearly one third had residency training (32%). The most common practice settings were community (36.5%), hospital (26.9%), and clinic (20.6%) settings. Less than 1% of respondents were board-certified psychiatric pharmacists. Talking with patients about medication(s) for a mental and/or behavioral health condition and discussing a patient's psychiatric medication with a provider were the most common services provided by pharmacists with 48% of respondents providing these services minimally on a monthly basis. Screening patients for mental and/or behavioral health concerns, referring patients to community resources, and discussing goals for behavioral health treatment outcomes were the least provided services with 77%, 63%, and 60% of respondents never providing these services, respectively. Confidence was highest for providing services pertaining to psychiatric medication (eg, discussing side effects, therapeutic response to medication) and was lowest for providing behavioral health screenings and making referrals for patients within the community. **Conclusions:** Among respondents, pharmacists in Washington State feel prepared and are well positioned to provide behavioral and mental health care services focused on psychiatric medication (eg, education, communicating medication concerns with other health care professionals). Gaps in service delivery and confidence for conducting behavioral health screenings and making referrals were evident, indicating the need for further professional development for pharmacists in these areas.

Opioid Treatment Programs, Health Care Resource Utilization, and Health Care Costs Among Patients Initiating Treatment With Buprenorphine Extended-Release

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Type: Original research. **Background:** The economic burden of opioid use disorder (OUD) is high, and health care resource utilization (HCRU) and costs associated with different opioid treatment programs (OTP) have not been extensively studied. **Objective:** The objective is to describe utilization of buprenorphine extended-release (BUP-XR), HCRU, and costs across OTPs among patients initiating treatment with BUP-XR. **Methods:** This retrospective longitudinal study used PharMetrics Plus claims data. Adult patients with OUD initiating treatment with BUP-XR between March 1, 2019, and December 31, 2020 (initiation date = index date) were identified. Baseline clinical characteristics were evaluated during the 12 months preindex, and OTP utilization, MOUD adherence, and opioid-related HCRU and costs were evaluated during the 12 months postindex. HCRU and costs were reported by index OTP (residential treatment program [RTP], office-based outpatient treatment [OBOT], intensive outpatient program [IOP]) and by OTP during follow-up (OBOT only, multiple OTP). Results were descriptive. **Results:** Seven hundred ninety-eight patients were treated with BUP-XR in RTP ($n = 20$), OBOT ($n = 636$), IOP ($n = 108$), or undefined OTP ($n = 34$) at index. During follow-up, 522 were treated in OBOT only and 235 in multiple OTP. Mean number of BUP-XR administrations during follow-up were as follows: 3.8 injections for index RTP patients, 6.0 for index OBOT, 4.5 for index IOP, and 5.8 for undefined. Index OBOT patients were more likely to receive >1 BUP-XR injection than index RTP patients (83.2% versus 55.0%). Index OBOT had the longest mean time from first to second BUP-XR injection of 42 days, followed by index IOP with 41 days and, finally, index RTP and undefined with 36 days. Of patients with >1 BUP-XR injection, index IOP had the shortest average time from first to last injection, 181 days, followed by index RTP with 198 days, undefined with 205 days, and index OBOT with 210 days. Overall, patients with index OBOT had lower HCRU and health care costs than patients with index RTP or index IOP. **Conclusion:** OUD patients started in index OBOT appeared to have greater use and continuation of BUP-XR compared with patients started in RTP and IOP. Although results are unadjusted to reflect differences in patient profiles, a trend toward lower HCRU and health care costs is observed in index OBOT patients.

Pharmacokinetics of Viloxazine Extended-Release Capsules in Breast Milk of Healthy Lactating Women

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Type: Original research. **Background:** Viloxazine extended-release (ER) is a Food and Drug Administration–approved, nonstimulant treatment for children (6 to 17 years old) and adults with attention deficit hyperactivity disorder (ADHD). Despite extensive study during clinical development for ADHD, viloxazine presence in human breast milk has not yet been assessed. We report the

pharmacokinetics of viloxazine and its major metabolite (5-HVLX-gluc) in breast milk and calculate the resulting estimated infant exposure. **Methods:** Healthy lactating women ($N = 15$) received viloxazine ER 600 mg (maximum recommended adult dose), each morning for 3 days. Breast milk and plasma concentrations of viloxazine and 5-HVLX-gluc were measured predose (days 1 and 3) and for 24 hours postdose on day 3. Daily infant dose (DID, mg/day) was measured as the total drug present in breast milk with the potential to be consumed by the infant per day. Milk-plasma ratios (ML/PL; AUCtau,milk/AUCtau,ss) were used to generate estimated daily infant dosage (EDID; calculated as ML/PL x average plasma concentration [Cavg, ss] x infant milk intake [150 mL/kg/day or 200 mL/kg/day in early infancy]), and relative infant dose (RID; calculated as EDID/maternal dosage). **Results:** The mean (Cavg,milk) and maximum (Cmax,milk) concentrations of viloxazine in breast milk on day 3 were 0.963 ± 0.351 and 1.48 ± 0.528 μg/mL, respectively. Median Tmax,milk was 5.53 hours. Corresponding viloxazine Cavg,ss and Cmax,ss in plasma were 2.74 ± 0.794 and 4.02 ± 0.988 μg/mL, respectively, with median Tmax,ss of 5.00 hours. Mean DID of viloxazine and 5-HVLX-gluc was 0.599 ± 0.322 mg/day and 0.0393 ± 0.0175 mg/day, respectively (∼0.1% and 0.007% of the daily 600 mg dose). The milk-plasma ratio was 0.343 ± 0.0577 for viloxazine and 0.0391 ± 0.0118 for 5-HVLX-gluc. The mean viloxazine EDID-150, based on milk intake of 150 mL/kg/day, was 0.141 ± 0.0519 mg/kg/day; mean viloxazine EDID-200 was 0.189 ± 0.0692 mg/kg/day. RID of viloxazine (percentage of weight-adjusted maternal dosage) was $1.53\% \pm 0.424\%$ (RID-150) and $2.11\% \pm 0.565\%$ (RID-200). RID of 5-HVLX-gluc was $0.122\% \pm 0.0482\%$ (RID-150) and $0.162\% \pm 0.0642\%$ (RID-200). **Conclusions:** The low observed viloxazine concentrations in breast milk and resulting estimated infant exposure (∼2% of weight-adjusted maternal dosage) are reassuring; however, real-world experience to assess effects on breastfed infants is needed.

Prescribing Patterns of Valproic Acid and Derivatives in Nursing Home Residents With Dementia

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Type: Original research. **Purpose:** As the off-label use of antipsychotics for behavioral and psychological symptoms of dementia (BPSD) has decreased, substitution with mood stabilizers such as valproic acid (VPA) has increased despite guidelines recommending against this practice. Significant gaps in knowledge exist about the use and long-term safety of VPA in the geriatric population. The purpose of this retrospective, quality improvement project was to describe VPA prescribing patterns in nursing home patients with BPSD. **Methods:** This single-site, retrospective quality improvement project evaluated VPA use among nursing home patients with dementia and a history of behavioral disturbance admitted between January 1, 2015, and December 12, 2022. Patients with a history of seizure disorder, migraine disorder, or bipolar disorder were excluded. Patient charts were reviewed to determine VPA doses, formulations, and dosing strategies used, incidence of adverse drug events (ADEs) with a particular focus on infection, somnolence, falls, and presence of key laboratory monitoring, such as VPA concentrations, hepatic function, and ammonia. New diagnoses of schizophrenia or schizoaffective disorder were noted. **Results:** Seventy-one patients were included during the time period. The most common VPA starting dose was 500 mg/day with a most common maximum dose of 1500 mg/day although doses as high as 4000 mg/day were utilized. The most common dosing strategy was titration to effect (38%) followed by fixed dosing without titration (20%). Patients, on average, experienced 6 ADEs during the study period with 51% of patients experiencing at least one fall. Incidence of hepatic dysfunction, hyperammonemia, and thrombocytopenia was low (<6%). Abnormal VPA concentrations were noted in 70% of patients although only 54% resulted in dose adjustment. New diagnoses of schizophrenia or schizoaffective disorder were entered following the initial diagnosis of dementia for 39% of patients. **Conclusions:** This data highlights the lack of professional consensus on optimal dosing strategies and monitoring frequency for dementia patients started on VPA for behavioral disturbances. Future studies may aim to compare incidence of ADEs in patients with and without VPA treatment to further describe the risks of long-term VPA use in this population.

Protocol Deviations of Inpatient Medication Order Adjustments Associated With Electroconvulsive Therapy

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Type: Original research. **Purpose:** An inpatient hospital protocol exists to guide medication adjustments before and after electroconvulsive therapy (ECT). This protocol provides generalized recommendations for commonly prescribed medication classes; however, it is neither comprehensive nor addresses responsibility for order modifications.

Identification and documentation of protocol deviations may be inconsistent or unidentified. This quality improvement project will assess protocol deviations that occur before and after ECT at a freestanding psychiatric hospital. **Methods:** A retrospective chart review was conducted from March 1, 2023, through March 31, 2023. Patients were identified using electronic medical record reporting, which included individuals ≥18 years of age receiving ECT when inpatient. The primary outcome was the number of ECT sessions with at least 1 reported or unreported protocol deviation. The first 6 sessions per patient encounter were reviewed. Protocol deviations were defined as duplicate medication administrations after ECT and otherwise inappropriate administrations or omissions 24 hours before ECT. Descriptive statistics will be used to report outcomes. **Results:** Twenty-six patient encounters were identified, and they included 138 ECT sessions. The median age was 42 years, length of stay 32 days, and 9 ECT sessions per patient encounter. Primary indications for ECT included bipolar (38.4%), depressive (38.4%), and psychotic (15%) disorders. Fifty-nine deviations were identified via pharmacist chart review. No deviations were submitted through the hospital's incident reporting system. Thirty percent of ECT sessions contained at least 1 protocol deviation. Three deviations were duplicate administrations after ECT, and 56 were related to inappropriate administrations or omissions before ECT. Common medications associated with deviations included antihypertensives (42.4%), proton pump inhibitors (25.4%), anticonvulsants (10.2%), benzodiazepines (10.2%), and lithium (6.8%). **Conclusion and Future Directions:** These protocol deviations demonstrate the limitations of the current protocol and the need for workflow optimization surrounding ECT procedures. Future directions are to expand the current protocol to include a more robust medication list and specific steps for order adjustments. Interdisciplinary education will be provided to improve the recognition of medications that require clinically relevant adjustments for ECT and how to report protocol deviations. Last, a hospital-wide satisfaction survey will be distributed to gain further insight into process improvement strategies.

Relapse Rates Among Veterans on Maintenance Doses of Oral Buprenorphine/Naloxone Versus Subcutaneous Extended-Release Buprenorphine for Opioid Use Disorder

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Type: Original research. **Purpose:** Buprenorphine is a partial agonist/antagonist of opioid receptors available in multiple formulations for pain and opioid use disorder (OUD). Multiple subcutaneous extended-release (SQ ER) injection formulations have been developed to improve adherence and to limit misuse of buprenorphine. The purpose of this study is to evaluate the efficacy of sublingual (SL) buprenorphine/naloxone versus SQ ER buprenorphine. **Methods:** A retrospective chart review was conducted of veterans diagnosed with OUD per the *Diagnostic and Statistical Manual of Mental Disorders*, fifth revision, criteria on maintenance doses of SL buprenorphine/naloxone and SQ ER buprenorphine between June 1, 2021, and May 31, 2022. Exclusion criteria included pregnancy, use of prescribed opioids, SL buprenorphine/naloxone <8 mg/day, duration of therapy ≤28 days of SL buprenorphine/naloxone, and SQ ER buprenorphine at maintenance doses prior to the review period. A maintenance dose of SQ ER buprenorphine was considered to be either 100 or 300 mg/month after administration of 2 initial 300-mg doses at least 26 days apart. The primary outcome for this study was the rate of relapse measured by urine drug screen and/or veteran report. Secondary outcomes included time to relapse, completion of fentanyl screens, and completion of buprenorphine urine levels in veterans prescribed SL buprenorphine/naloxone. **Results:** Eight veterans prescribed SL buprenorphine/naloxone and 11 veterans prescribed SQ ER buprenorphine did not meet exclusion criteria. Demographic characteristics did not differ significantly between groups. The average total daily dose of SL buprenorphine/naloxone was 15 mg, and the average monthly dose of SQ ER buprenorphine was 190 mg. The rate of relapse was 63% in the SL buprenorphine/naloxone group and 27% in SQ ER buprenorphine group ($p = .14$). The average time to relapse was similar in both groups. Six veterans in the SL buprenorphine/naloxone group (75%) and 6 veterans in the SQ ER buprenorphine group (64.5%) had fentanyl screens. Only 1 veteran receiving SL buprenorphine/naloxone had urine buprenorphine concentrations checked during treatment. **Conclusions:** This study was limited by the smaller number of veterans prescribed SQ ER buprenorphine compared with SL buprenorphine/naloxone during the review period and incomplete documentation in the chart. Prospective, randomized controlled trials are needed to determine if SQ ER buprenorphine is noninferior to SL buprenorphine/naloxone.

Relevance of Psychiatry-Focused Pharmacogenomic Test Results to Nonpsychiatric Medication Treatment in Pediatric and Adult Patients

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Type: Original research. **Background:** Psychiatry-focused pharmacogenomics (PGx) testing is increasingly ordered to guide psychotropic medication dosing and selection. With high comorbidity of psychiatric conditions with other diseases, patients often require medications for multiple health issues. Many clinically important pharmacogenes are relevant to a range of nonpsychiatric medications, highlighting an urgent need to determine the extent to which psychiatry-focused PGx results have the potential to influence nonpsychotropic medication treatment. **Objective:** The objective is to examine the relevance of existing psychiatric PGx test results on nonpsychotropic medications prescribed to adult and pediatric patients. **Methods:** The study included 2815 patients (adult $n = 2268$; pediatric $n = 547$) with PGx results of a commonly used commercial psychiatry-focused test from an electronic health record database. Most were adults (80.6%), female (67.2%), white (88.3%), and primarily diagnosed with depression (47.0%) and anxiety (34.8%) spectrum conditions. Analyses focused on 6 pharmacogenes (CYP2B6, CYP2D6, CYP2C19, CYP2C9, HLA-A*31:01, and HLB-B*15:02) reported by the PGx test that have Clinical Pharmacogenetics Implementation Consortium guidelines or are included on actionable sections of the Food and Drug Administration Pharmacogenomic Associations Tables. Drug-gene interactions (DGIs) were quantified for nonpsychiatric medications taken at the time PGx results were returned. Descriptive statistics and regression models were performed for age relationships and group comparisons of clinically relevant DGIs with pediatric (<18 years), younger (18 to 49 years), and older (50+ years) adult patients. **Results:** Among all patients, 93.1% had nonnormal genotype-predicted phenotypes in at least one clinically actionable pharmacogene with 21.8% displaying extreme enzymatic activities (ultrarapid/poor metabolism) or human leukocyte antigen positivity. A total of 245 significant DGIs were identified among 232 patients across 15 nonpsychotropic medications, most commonly NSAIDs and proton pump inhibitors, potentially requiring dose adjustment and/or alternative medications, representing 20.3% of patients on those medications. Clinically relevant DGIs were more prevalent in adults ≥50 years compared with those aged 18 to 49 years and pediatric patients (26.2% versus 17.2% versus 8.6%, $\chi^2 = 18.458$, $p < .001$). Older adults were 1.6 times and 3.8 times more likely to have significant DGIs than younger adults (odds ratio [OR] $= 1.551$, $p = .004$) and pediatric patients (OR = 3.792, $p < .001$). **Conclusion:** The substantial proportion of significant DGIs with nonpsychotropic medications identified in this study highlights the critical role of existing psychiatric PGx results in guiding medication therapy across various health conditions with increasing importance as patients age.

The Effect of Mental Health Clinical Pharmacy Specialist Intervention on Cardiovascular Safety and Urine Drug Screen Monitoring for Patients Prescribed Stimulants at the Cincinnati Veterans Affairs Medical Center

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Type: Original research. **Background:** The Psychotropic Drug Safety Initiative (PDSI) is a Veterans Affairs nationwide psychopharmacology quality improvement program. One aspect of PDSI focuses on guideline-concordant treatment of veterans with stimulant use disorder as well as safe and appropriate stimulant medication prescribing. For adults prescribed stimulant medications, there is a lack of clear guidelines on standard monitoring practices. Published literature and PDSI subject matter experts recommend vitals assessment every 6 months and a urinary drug screen (UDS) every 12 months as appropriate safety monitoring for prescribed stimulants. **Methods:** Patients were identified in the PDSI dashboard as receiving an outpatient stimulant with no documented vitals within the previous 6 months and/or no UDS within the previous 12 months. The PDSI dashboard data pull began in March 2023 with a subsequent data pull in August 2023. Patient lists were organized and letters and emails were sent to individual prescribers by a mental health clinical pharmacist. **Objectives:** The primary outcome was to assess the change in the number of patients needing stimulant monitoring after the mental health clinical pharmacist letter campaign. Secondary outcomes included the number of patients in which stimulants were discontinued, number of consultations to other services because of vital signs and UDS results, treatment for updated vitals or substance use disorder, and change in the total number of patients resulted on the PDSI dashboard. **Results:** There were 517 patients identified via PDSI dashboard as receiving outpatient stimulants in March 2023. Of the patients identified, 100 were randomly selected for chart review to evaluate appropriate safety monitoring for stimulants. After the distribution of emails and letters to stimulant-prescribing providers, there was a 43.1% increase in stimulant monitoring and a 16% decrease in the total number of patients resulting on the PDSI dashboard. No patients required consultations or treatment for updated vitals or UDS results. **Conclusion:** Mental health clinical pharmacist intervention increased stimulant-prescribing provider awareness for stimulant monitoring and resulted in updated vitals and UDS results.

The increase in safety monitoring demonstrates the potential impact that pharmacist-led intervention and provider education may have on further improving stimulant monitoring and patient safety.

The Role of Social Media on Dissemination of Information Regarding Antidepressants

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Type: Original research. **Purpose:** With the increasing utilization of social media platforms by patients, health care professionals (HCPs), and the pharmaceutical industry, this study aims to analyze the role of social media in shaping patients' attitudes toward selective serotonin reuptake inhibitors (SSRIs) and offer perspectives on the evolving relationships among patients, HCPs, and pharmaceutical companies in the digital age. **Methods:** A literature search was conducted via PubMed, Medline, and Google Scholar. Terms used in the search were *social media, direct-to-consumer, antidepressants*, and *SSRI* combined with the Boolean operator AND with terms *health care professionals* and *patient*. Studies were included if they were available in English, focused on the United States, were published between January 1, 2018, and December 31, 2023, and described the representation of SSRIs in social media. **Results:** Eleven articles were reviewed that examined the interaction between patients and/or HCPs with social media alongside the influence of both in the discussion of treatment plans for patients. Patients posted their personal experiences with antidepressants, primarily focused on side effects. Twitter was the most common source of patient experience–related dissemination of information, including both positive and negative sentiments, whereas Facebook hosted support groups and conversations. Additionally, negative sentiments were posted on Instagram. Such sentiments may contribute to medication nonadherence. In contrast, some authors postulated that the open publication of side effects promotes discussion between the patient and the HCP, allowing for a more nuanced understanding. HCPs should take the initiative to relay anecdotes professionally to account for details that may not have been recorded during clinical trials. From the HCP's perspective, direct-to-consumer advertising (DTCA) increases the prescription of specific medications. Proponents of DTCA and medication education on social media say that it prompts users to seek further information and discuss different outcomes with HCPs. **Conclusions and Future Directions:** Patients share their experiences on social media and engage in content about antidepressant medications, whereas pharmaceutical companies use these platforms to increase their DTCA. HCPs and the industry should use these platforms to gather data for pharmacovigilance and education.

The Safety and Efficacy of Antidepressants As an Alternative Therapy in the Treatment of Attention Deficit Hyperactivity Disorder in Pediatric Populations: A Review of the Literature

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Type: Original research. **Introduction:** Currently, first line pharmacotherapy in the treatment of attention deficit hyperactivity disorder (ADHD) in pediatric populations are stimulants. Whereas stimulants are effective, their abuse potential and associated risks prompt the exploration of alternatives that mitigate ADHD symptoms without risk of dependence. This review focuses on studies of the efficacy and safety of antidepressants when they have been used as the monotherapy or initial therapy for ADHD, including selective serotonin reuptake inhibitors (SSRIs), tricyclic antidepressants (TCAs), selective norepinephrine reuptake inhibitors (SNRIs), and atypical antidepressants. **Methods:** An electronic literature review was conducted using MEDLINE and PubMed databases. Existing literature reviews, randomized control trials, and observational trials were included. **Results:** Studies investigating SSRIs, such as fluoxetine, show an improvement in symptoms using various clinical scales. Barrickman et al find on the Conners Parent Rating Scale (CPRS) there was a significant improvement in reduction of ADHD symptoms among patients ($p < .001$). On the Clinical Global Impressions Scale (CGI-1), which assesses extent of improvement of symptoms after initiation of pharmacotherapy, there was a significant ($p < .001$) improvement in symptom severity, dropping from 6.0 (severe ADHD) to 3.4 (mild severity). SNRIs, such as venlafaxine, show an improvement in scores on the CPRS Impulsivity/Hyperactivity index but not the Conduct index (Olivera et al). Prince et al find that the TCA nortriptyline shows overall reductions in symptoms on the *Diagnostic and Statistical Manual of Mental Disorder*, fifth revision, ADHD checklist. Concerning the CGI-I scale, 69% of subjects on nortriptyline showed a significant improvement compared with only 22% in the placebo group after the discontinuation phase. Barrickman et al did not find a significant difference

in CPRS Conduct index scores between bupropion and methylphenidate (MPH). However, on the CGI-S scale, MPH was slightly favored at week 5 with significant symptom reduction ($p < .5$). **Conclusion:** Overall, many antidepressants show significant reductions in symptoms across various scales compared with placebo. There are limited studies about the efficacy of antidepressants in ADHD, and more research is needed to assess their place in treatment. Most reviews currently published focus on the efficacy of numerous drug classes concerning ADHD treatment; this review is unique by solely highlighting antidepressants.

Treatment Patterns and Health Care Resource Utilization Following Initiation of Aripiprazole Lauroxil Using a 1-Day Initiation Regimen

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Type: Original research. **Purpose:** The long-acting injectable aripiprazole lauroxil (AL) initiated using a 1-time injection of a nanocrystal dispersion formulation of AL (ALNCD) and a 30-mg oral dose of aripiprazole significantly improved symptoms of schizophrenia in a phase 3 study. The current analysis examined treatment patterns and health care resource utilization (HCRU) among patients with schizophrenia initiating AL using ALNCD in the real-world setting. **Methods:** This retrospective analysis used administrative claims data from January 1, 2018, to December 31, 2022. Adult patients with schizophrenia with continuous enrollment $\geq$6 months before (baseline) and after (follow-up) AL initiation using ALNCD were eligible. Treatment patterns were evaluated during and after initiation. Inpatient admissions, emergency department (ED) visits, and outpatient visits were compared between baseline and follow-up periods. **Results:** Included patients ($N = 1152$) had a mean age of 38.4 years; 36% were female. Most patients received AL 1064 mg (39%) or 882 mg (37%); 90.3% initiated with ALNCD and their first AL injection on the same day, and 78% received a second AL dose. Proportions of patients with all-cause, mental health (MH)–related, and schizophrenia-related inpatient admissions and ED visits significantly decreased between baseline and follow-up (all $P < .001$); the proportion of patients with all-cause, MH-related, or schizophrenia-related outpatient visits did not decrease. **Conclusions and Future Directions:** Findings from this first real-world study suggest that initiating AL using ALNCD may result in clinically meaningful reductions in patient burden and health care costs as evidenced by significant declines in HCRU.

Trends in the Use of Coprescribed Benzodiazepines and Opioids in the United States: 2011 to 2020

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Type: Original research. **Purpose:** Benzodiazepines manage anxiety, insomnia, and seizures through their depressant effects. Opioids target nerve receptors for pain relief. Coprescribing risks include addiction, respiratory depression, and fatalities, imposing a significant burden. The Food and Drug Administration required a 2016 black box warning for concurrent opioid and benzodiazepine use. This study examines their combined use trends nationally among United States adults from 2011 to 2020. **Methods:** This study was a cross-sectional pharmacoepidemiologic study using data from the National Health and Nutrition Examination Survey cohort years 2011 through March 2020. This study included participants 20 years of age and older. Coprescription referred to participants reporting simultaneous use of any opioid and benzodiazepine within 30 days of the survey. Coprescription of opioids and benzodiazepines was evaluated overall, cross-sectionally within survey years, and within sociodemographic and clinical predictors, including race/ethnicity, gender, age, family monthly poverty index, education, excessive alcohol use, reported trouble sleeping, history of cancer or malignancy, gout, arthritis, and experiencing any depression symptoms. Chi-square tests assessed medication use within biannual survey year, and logistic regression models explored medication associations within demographic and clinical subpopulations. An alpha level of 5% assessed significance. All results are nationally representative. **Results:** Out of 45 462 initial survey participants, 2290 adults met inclusion criteria. Among them, 297 (14%) reported coprescribed opioid-benzodiazepine therapy, and this percentage of use did not vary over time. However, use after the black box warning slightly decreased numerically to 12%. Females; heavy drinkers; or individuals with sleep issues, arthritis history, or reporting any depression symptoms were more likely to couse ($p < .05$). Conversely, Blacks, Hispanics, and other ethnic groups were less likely than whites ($p = .002$) to use both agents concurrently. **Conclusion:** Approximately 1 in 7 adults over the age of 20 who take benzodiazepines or opioids in the United States are coprescribed both agents, a combination that has resulted in a black box warning. Prescribers must be made aware of the prevalence of this important drug-drug interaction. This study also highlights the importance of interprofessional communication in patient care.

Zuranolone and Brexanolone: A Review of Novel Treatment Options for Moderate-to-Severe Postpartum Depression

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Type: Original research. **Background:** Postpartum depression (PPD), a common and debilitating complication of childbirth, is often underdiagnosed and undertreated due to limited treatment options. Emerging pathophysiological theories link PPD to inhibited gamma-aminobutyric acid (GABA) signaling and low allopregnanolone levels. Recently Food and Drug Administration–approved intravenous brexanolone and its oral cousin, zuranolone, are positive allosteric modulators of the GABAA receptor and, thus, offer novel treatment options for PPD. This review aims to analyze the current literature regarding the safety and efficacy of brexanolone and zuranolone to assist clinical decision makers in choosing between these available drugs in this pharmacological class. **Methods:** Using MEDLINE secondary databases, a scoping review of the literature was performed with key search terms *zuranolone, brexanolone,* and *postpartum depression*. Both drugs underwent evaluation in randomized, double-blind, placebo-controlled phase 3 trials, which included women aged 18 to 45 with moderate-to-severe PPD. Brexanolone was studied in 2 trials: study 1 tested infusion doses of 90 µg/kg/h (BRX90) and 60 µg/kg/h (BRX60), whereas study 2 tested only BRX90. Zuranolone was studied in the SKYLARK trial at 50 mg/day orally for 14 days. The primary outcome for all 3 trials was the change from baseline in mean Hamilton Depression Rating Scale (HAM-D) score, measured at 60 hours postinfusion for brexanolone and on day 15 for zuranolone. **Results:** In brexanolone study 1, BRX60 ($n = 45$) and BRX90 ($n = 47$) showed significant least square mean (LSM) reductions in HAM-D scores (19.5 and 17.7 points, respectively) compared to the placebo ($n = 46$) reduction of 14.0 points (BRX60: $p = .0013$, BRX90: $p = .0252$). In brexanolone study 2, BRX90 ($n = 54$) again demonstrated a significant HAM-D score reduction compared with placebo ($n = 54$) (14.6 versus 12.1; $p = .0160$). In the SKYLARK study ($n = 200$) zuranolone also showed significant LSM reduction in HAM-D score (15.6 versus 11.6 points in placebo; $p = .001$). Common adverse effects were headache, dizziness, and somnolence with brexanolone and somnolence, dizziness, and sedation with zuranolone. **Conclusion:** Both brexanolone and zuranolone rapidly and effectively treat moderate-to-severe PPD. Whereas the oral zuranolone is less costly and more suitable for outpatient use, further studies are needed to compare both drugs comprehensively to evaluate cost-effectiveness, long-term effects, and efficacy against the standard of care.

Work in Progress Abstracts

Alcohol Use Relapse Rates for Patients With Liver Transplants in Early Versus Standard Transplant Timeline

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Type: Work in progress. **Background:** Alcohol-associated liver disease (ALD) describes alcohol use–related liver disease presentations from hepatic steatosis to steatohepatitis and eventually cirrhosis. Historically, a 6-month abstinence from alcohol criteria has qualified patients with current alcohol use disorder (AUD) to be considered for liver transplant. More recent guidelines indicate a similar alcohol relapse-free survival rate for patients who received liver transplants prior to 6 months of alcohol abstinence and a standard timeline of more than 6 months of abstinence. However, minimal data is reported regarding the effects of pharmacotherapy or nonpharmacologic interventions to support abstinence from alcohol posttransplant. Therefore, it would be beneficial to assess if patients who received early transplants with concomitant diagnosis of AUD/ALD experienced different survival and relapse outcomes than patients on a standard transplant timeline, particularly if patients who received follow-up pharmacotherapy or nonpharmacologic interventions maintained complete abstinence from alcohol posttransplant compared with patients who did not engage with additional support. **Objectives:** The objectives are to (1) compare alcohol relapse rates for patients who received liver transplants with an alcohol use remission status of AUD uncontrolled, AUD early remission (3 to 12 months), and AUD sustained remission (12 months) and (2) compare different rates of alcohol abstinence between patients who utilized medication alone, therapy alone, medication and therapy, and no additional support aids. **Methods:** A retrospective chart review of patients who received a liver transplant with a diagnosis of AUD/ALD between January 1, 2020, and September 30, 2022, was performed at this medical center. Records were reviewed for patient reports/tests indicating an alcohol "slip" or potential relapse as well as for consistency of refills for medications for AUD and engagement in substance-focused psychotherapy. Results will be analyzed in Excel. **Outcomes:** Basic patient demographics (age, race, alcohol use remission status) will be reported. The primary endpoint will be alcohol use relapse rate as assessed by elevated liver enzymes, self-report of alcohol use, or serum phospatidylethanol concentration. Additional outcomes will include rate of adverse events (graft failure,

hospitalizations, mortality at 1 year posttransplant), frequency of missed follow-up appointments, and overall utilization of treatments for AUD (pharmacotherapy and psychotherapy). **Disclosures:** No conflicts of interest for any of the authors.

A Comparative Analysis of Metabolic Monitoring for Second Generation Antipsychotics in an Outpatient Psychiatry Clinic for Patients With and Without Pharmacist Comanagement

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Type: Work in progress. **Background:** As the field of pharmacy is rapidly growing, multiple studies have been published establishing the value of a pharmacist on the health care team in both inpatient and outpatient settings. This study will be conducted at a large academic medical center with multiple outpatient psychiatric clinics, including addiction medicine, geriatric psychiatry, and general psychiatry clinics. Several of these clinics are comanaged by board-certified psychiatric pharmacists (BCPPs) who practice under a collaborative drug therapy management (CDTM) agreement with providers. There are multiple CDTMs used, allowing BCPPs to manage depression, anxiety, and insomnia as well as to administer long-acting injectable medications. These CDTMs include the ability to treat and monitor patients on second generation antipsychotics (SGAs). Currently, there is not a set protocol for outpatient monitoring of patients on SGAs at our institution. However, the American Psychiatric Association (APA) suggests labs and outcomes to monitor in patients with schizophrenia. This study uses these recommendations to evaluate adherence to metabolic monitoring for patients on SGAs for any diagnosis. **Objective:** The objective of this study is to compare rates of metabolic monitoring for patients on SGAs managed exclusively by providers and those comanaged by BCPPs. **Methods:** This is a retrospective study, including patients seen at several outpatient psychiatry clinics and prescribed an SGA at our institution for at least 1 year between June 1, 2020, and June 30, 2023. Patients are excluded if they are less than 18 years of age or have an inpatient psychiatric admission during the study period. **Outcomes:** We will report the difference in compliance with the APA-recommended monitoring for SGAs between patients managed solely by providers and those comanaged by BCPPs. Baseline patient demographics, including race, gender, and age, for each cohort will be evaluated utilizing descriptive statistics.

A Retrospective Review of Changes in Rate of Psychosis-Related Inpatient Psychiatric Admissions and Recent Stimulant Prescriptions at a Nonprofit Psychiatric Facility

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Type: Work in progress. **Background:** Historically, attention deficit hyperactivity disorder (ADHD) was believed to primarily affect children and adolescents. Since the onset of the COVID-19 pandemic, rates of diagnosed ADHD in adults have drastically increased, likely for a variety of reasons. Increased stressors associated with the pandemic, increased access to mental health services due to telehealth, and increased awareness of ADHD due to social media have all been theorized to contribute to this increase in diagnoses. Whereas there are many positives associated with more individuals seeking treatment for their mental health, there are risks associated with overprescribing of medications, particularly controlled substance medications, such as stimulants. Inappropriate stimulant use is associated with notable negative outcomes, including increased mortality, poor mental health, and risk of cardiovascular events. **Objective:** The objective is to compare the number of inpatient psychiatric admissions with psychosis-related diagnoses during prepandemic years (2019-2020) versus 2021-2022 that were prescribed stimulants within the previous 60 days from date of admission. **Methods:** This institutional review board–approved retrospective chart review will include adults admitted to a nonprofit inpatient psychiatry service from January 1, 2019, through December 31, 2022. Individuals with a diagnosis of schizophrenia, unspecified psychosis, bipolar disorder with psychosis, and/or drug-induced psychosis are included in the data set. A total of 618 patients have been identified as meeting inclusion criteria. Entries will be evaluated for data points including demographics, length of stay, outpatient stimulant dispensation including dose and product within the previous 60 days, and urine drug screen during admission if available. Descriptive statistics will be used to illustrate the demographic information. Differences between continuous variables will be assessed using a Student *t* test or Wilcoxon rank sum as appropriate. Differences in categorical variables will be assessed using a χ^2 or Fisher exact test as appropriate. **Outcome:** The primary outcome will be an assessment of rates of recent prescription of stimulant medication

in admitted patients with an initial diagnosis of schizophrenia, bipolar with psychosis, psychosis unspecified, and/or substance-induced psychosis from 2019 to 2020 and 2021 to 2022 at a nonprofit inpatient psychiatry service.

An Outpatient Pharmacist Consultation Service to Help Address A Psychiatry Wait-List Crisis: Protocol for Implementation and Program Evaluation

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Type: Work in progress. **Background:** To help address long wait times for community patients to receive psychiatric care, targeted funding added a clinical pharmacist to a referral management team in September 2023 to provide a consultation service that supports both referring providers and psychiatrists. It is well known internationally that pharmacists have a valuable role in optimizing medication therapy management for patients with mental health conditions and enhancing health system capacity. However, in Saskatchewan, establishing psychiatric pharmacy practice is in its infancy, and the integration of a psychiatric pharmacist on an outpatient referral management team is a novel practice model requiring continual program evaluation to demonstrate value and determine how to most effectively affect patient care. **Objectives:** The objectives are to (1) describe the utilization and outcomes of a pharmacist consultation service for adult outpatients who have been referred to psychiatric care and (2) evaluate the impact of pharmacist-delivered consults on referral wait times. **Methods:** Data from each consultation and patient assessment will be collected using the secure online software REDcap. Count frequencies and measures of central tendency will be used to describe the volume of and reason for pharmacist consults, time spent on medication assessments, drug therapy problems identified, and categories of recommendations made. The change over time in referral wait-list census will be tracked manually. Demographic or personal health information will not be collected. **Outcomes:** This study will report an initial evaluation of service implementation and continue to collect data for longitudinal analysis. Outcomes of interest will include consult volume, reasons for consultation, and drug therapy recommendations. The effectiveness of service delivery will be assessed in the context of overall referral wait times and the provision of clinical interventions that have proven value. Pharmacist workload information will also be used for future evaluation of cost-effectiveness and allocation of resources within the mental health system.

Analysis of Anxiety, Stress, and Depression Trends in Pharmacy Students Prepandemic Versus Postpandemic

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Type: Work in progress. **Background:** Health profession students face an intense academic load with minimal time for self-care activities. Previous studies conducted in pharmacy students found high rates of clinically significant anxiety and stress attributed to perceptions of academic performance, health, relationships, and postgraduate employment. Whereas studies regarding the mental health of the broader health care student population found higher rates of depression, suicide, burnout, and overall mental distress during the COVID-19 pandemic, there is a lack of literature focusing on pharmacy student mental health postpandemic. It is important to identify trends in anxiety prepandemic versus postpandemic when considering perceived stress and depression in pharmacy students. **Objectives:** The objectives are to (1) identify trends in anxiety in pharmacy students prepandemic versus postpandemic; (2) identify trends in depression and perceived stress in pharmacy students postpandemic; and (3) analyze demographic information of pharmacy students in relation to trends in anxiety, depression, and perceived stress. **Methods:** This institutional review board–approved prospective research study will survey pharmacy students at an individual institution in the fall 2023 semester and again in the spring 2024 semester. The study will include students in the first preprofessional up to the third professional year. Outcome measures include Generalized Anxiety Disorder-7 (GAD-7) scores, Perceived Stress Scale (PSS) scores, and Patient Health Questionnaire (PHQ-9) scores as well as descriptive variables, including demographic information and responses to novel survey questions related to health, academics, and stress. Data will be compared across academic years and to a previous sample of pharmacy student data collected prepandemic (2019) to examine trends in anxiety, stress, and depression. **Outcomes:** Results from the fall semester of 2023 found a mean GAD-7 score of 10.1 ($N = 187$, SD = 5.64), indicating moderate anxiety, compared with a mean score of 8.11 ($N = 234$, SD = 5.6) in the prepandemic sample ($P = .0003$). The mean PHQ-9 score in the fall 2023 sample was 10 (SD = 6.5), indicating moderate depression. The mean PSS score was 21.7 (SD = 6.11), demonstrating

moderate stress. Data from the spring semester will be collected and compared with the fall semester as well as the prepandemic sample.

Assessing Acute Agitation Management at a Federal Health Care Center

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Type: Work in progress. **Background:** Agitation is a nonspecific behavioral syndrome characterized by excessive or inappropriate motor or verbal activity that is commonly seen in psychiatric units, emergency departments (EDs), and long-term care facilities. Nonpharmacologic de-escalation tools should be utilized first and are often coupled with pharmacologic treatments to enhance overall management. If medication interventions are necessary, selection should consider both patient preference and suspected etiology when mitigating the risk of adverse events. Whereas pharmacotherapy can be effective, there is a need to understand the frequency and patterns of pharmacological interventions. This analysis can provide insights into clinical decision making at a federal health care facility and guide future efforts for improvement. **Objectives:** The primary objective is to assess the appropriateness of pharmacologic interventions made for agitation in practice at a single hospital site. Secondary objectives include the evaluation of the safety of these interventions based on patient allergies, history, and drug-drug interactions. Additionally, the frequency of interventions and the practice differences between the ED and the inpatient psychiatric units will be analyzed. **Methods:** This project will use a retrospective observational design that will examine the acute management of agitation for patients between June 1, 2022, and June 1, 2023. The institution's electronic medical record will be used to collect all data, including age, sex, length of stay, chief complaint, psychiatric diagnoses, and medication dosage form. The inclusion criteria include patients ages 18 and older with at least one acute agitation episode when in the ED or admitted to an inpatient psychiatric unit. Patients will be excluded if they are pregnant, have significant liver or kidney disease, or have a length of stay less than 24 hours on the inpatient units. **Outcomes:** Student *t* tests and descriptive statistics will be utilized to analyze collected data. Demographics of patients who have been treated with pharmacologic modalities for agitation on the acute psychiatric unit and in the ED will be reported. Further results and secondary measures to be presented at the American Association of Psychiatric Pharmacists 2024.

Assessing the Applicability of Drug-Related Concentration Factors for Antipsychotics in Forensic Psychiatric Patients

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Type: Work in progress. **Background:** Psychiatric patients undergoing antipsychotic therapy often face challenges in achieving optimal drug concentrations that effectively manage their symptoms while avoiding toxicities. Therapeutic drug monitoring has emerged as a valuable tool in tailoring medication dosages to individual patient needs. The 2017 Consensus Guidelines for Therapeutic Drug Monitoring in Neuropsychopharmacology advocates for the use of drug-related concentration (DRC) factors to compute dose-related reference ranges. These factors are utilized to calculate expected plasma concentrations from the total daily dose and were derived from patients aged 18 to 65 years; weighing 70 kg; and lacking relevant pharmacokinetic comorbidities, medications, or genetic abnormalities affecting drug metabolism. However, limited data exists on the applicability of this approach in a forensic population. **Objectives:** The objectives were to (1) determine if there is a difference between the expected plasma concentration range of antipsychotics based on minimum and maximum DRC factors compared with measured plasma concentrations and (2) identify factors associated with measured antipsychotic plasma concentrations falling outside of the expected DRC range. **Methods:** This institutional review board–approved retrospective chart review of patients admitted to a long-term psychiatric hospital from January 1, 2019, through August 1, 2023, with a resulting antipsychotic plasma concentration will assess if DRC factors are accurate for a forensic population. Patient samples will be included if the resulted antipsychotic plasma concentration represents a trough level at steady state. Demographic information (age, sex, race, weight, body mass index) will be collected. Categorical variable data includes the antipsychotic name, total daily dose, medication start date, date and time of sample collection and prior dose administered, plasma concentration result, comorbid conditions, psychiatric diagnoses, prescribed medications affecting drug metabolism, and pharmacogenomic results if available. Antipsychotics will be individually analyzed using *t* tests to detect differences between expected and actual plasma concentrations and logistic regressions to identify associated factors. **Outcomes:** This study will determine if disparities exist between expected and actual plasma concentrations in forensic patients. Additionally, it will pinpoint factors

contributing to plasma concentrations falling outside of the expected range.

Assessing the Impact of An Innovative Behavioral Health Urgent Care Clinic

Shaina Schwartz, PharmD, BCPP[1,2]; Emma Brown, PharmD Candidate[1]; Mallory Bullard, PharmD Candidate[1]; Chak Yui Martin Chan, PharmD Candidate[1]; Joshua Doolittle, PharmD Candidate[1]; Kathryn Harrison, PharmD Candidate[1]; Alexander Pashayan, DO[2]; Archana Kumar, MD[2]

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Type: Work in progress. **Background:** Patients experiencing a mental health crisis often present to the emergency department (ED) and are admitted to an inpatient facility for treatment. This can result in care discontinuity and increased costs and may worsen clinical outcomes compared with treatment in the outpatient setting. A community-based behavioral health urgent care (BHUC) facility was established to provide a number of critical mental health services, such as individual therapy, crisis stabilization, partial hospitalization, substance abuse intensive outpatient services, specialized intensive adult group therapy, medication management (including long-acting injectable antipsychotic administration), and a peer living room. The goal of the BHUC was to improve care for patients experiencing a mental health crisis. **Objectives:** The primary outcome of this project is to assess the impact of the BHUC on patient care by comparing length of stay during the index inpatient encounter, 30-day and 1-year psychiatric rehospitalization rates, and number of ED visits within 30 days and 1 year of the index inpatient encounter before versus after its establishment in July 2021. Secondary outcomes will assess the interaction of psychiatric diagnoses, medication use (including oral versus long-acting injectable antipsychotic formulations), and demographic characteristics (age, gender, race, ethnicity, and health insurance type). **Methods:** This study will consist of a retrospective chart review of all adult patients with an inpatient admission at the behavioral health hospital in the same health system as the BHUC between January 1 to December 31, 2019, and January 1 to December 31, 2022. Data points that will be collected include age, gender, race, ethnicity, health insurance, psychiatric diagnoses, medication history, and behavioral health encounter history within 1 year postdischarge from the index hospitalization. Linear regression modeling will be used for statistical analysis. **Outcomes:** We will report the change in length of stay, readmission rate, and ED visit rate before and after the establishment of the BHUC. The subgroup analysis will explore interactions between patient-specific variables and the impact of the BHUC on patient care outcomes.

Assessment of Clozapine Therapeutic Drug Monitoring

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Type: Work in progress. **Background:** Therapeutic drug monitoring (TDM) for clozapine is recommended by several guidelines yet remains a nonstandard practice. Literature suggests this may be due to factors such as testing availability, result turnaround time, and knowledge of using clozapine TDM. Clozapine TDM can be important to optimize patient outcomes in the setting of suboptimal response and when adverse effects are suspected. Many studies have secondarily characterized the low rates of clozapine TDM but have not formally evaluated this as a primary outcome. Understanding the current state of clozapine TDM in clinical practice is a crucial first step for improving TDM monitoring strategies. **Objectives:** This study aims to quantify the rate of clozapine TDM use between January 1, 2015, and November 26, 2023, and assess any changes over time. Secondarily, this study will quantify interventions made after obtaining clozapine concentrations to assess the potential influence of TDM clinical practice. **Methods:** A retrospective cohort study will be completed to describe TDM practices of patients presenting to a large, 2000-bed academic medical center for any reason. The electronic health record will be used to extract patient demographics, clozapine TDM characteristics (eg, timing, turnaround), clozapine concentration values, clinical characteristics (eg, reason for hospitalization, dose adjustments, documented adverse effects, documented interventions based on clozapine TDM values). Rates of clozapine TDM during admission will be calculated every 6 months along with corresponding 95% confidence intervals. Interrupted time series analysis will also be used to compare trends in TDM before and after internal efforts to expedite turnaround times. This approach will estimate the preslope, the change in TDM rate at the time of project/lab change, and the change in slope. **Outcomes:** The findings of this study are expected to provide insights into the current state of TDM at a single institution, which may allow for insight into opportunities for improvement of clozapine monitoring and address barriers. The results could support adoption of standardized clozapine TDM practices, an evidenced-based approach to clozapine management.

Assessment of Long-Acting Injectable Antipsychotic Use and Hospital Readmissions After a Pilot Formulary Expansion

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Type: Work in progress. **Background:** Long-acting injectable antipsychotics (LAIAs) are often initiated with the goal of improving adherence and decreasing disease relapse and hospitalizations. Although LAIAs can offer advantages, cost and accessibility can be barriers to their use. Inpatient availability of LAIAs and reducing barriers to use has been a focus of our health system in recent years. There have been previous projects to evaluate LAIA use at a merging hospital and the impact on readmission as well as drug cost. An additional project worked to pilot expansion of the health care system's inpatient formulary to include more second generation LAIAs, criteria of use aimed at minimizing barriers for outpatient continuation, and exploration of the inpatient hospital free trial programs to optimize cost-effectiveness. Our objective with this quality improvement project is to evaluate that pilot formulary expansion to identify potential opportunities for optimizing acute care use and reducing cost. **Objectives:** The objectives are to (1) characterize acute care use of long-acting injectable aripiprazole and paliperidone palmitate, (2) evaluate adherence to the established criteria for use, (3) determine readmission rates after initiation of one of these LAIAs, (4) analyze LAIA drug costs across the health care system's hospitals, and (5) determine in-system outpatient follow-up rates. **Methods:** We will conduct a retrospective chart review of patients administered long-acting injectable aripiprazole or paliperidone palmitate in an acute care setting across a 10-hospital health care system from July 1, 2022, to June 30, 2023. Patient records will be assessed for LAIA administrations; hospital length of stay; reason for hospitalization; psychiatric diagnosis; in-system hospital admissions at 30, 90, and 180 days pre- and post-LAIA initiation; subsequent in-system injections within 60 days posthospitalization; and cost of injection for the hospital. **Outcomes:** We will report a comparison of the number of pre- and post-LAIA initiation hospitalizations for the designated time frames, clinical characteristics of patients, a characterization of use across the health system, adherence to established criteria of use, and the rate of in-system outpatient follow-up within 60 days posthospitalization.

Behavioral Health Agitation Protocol Impact on As-Needed Medication Use

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Type: Work in progress. **Background:** Agitation is a medical emergency and can occur frequently on inpatient psychiatric units. There are currently no universal recommendations for optimal treatment of agitation. Improper management of agitation can lead to physical and psychological harm to patients and staff. Project BETA (best practices in evaluation and treatment of agitation) was introduced in 2010 by the American Association for Emergency Psychiatry to help address the lack of guideline-directed care. This facility implemented an agitation protocol based on these recommendations as a strategy to improve patient and staff safety. This study aims to evaluate the impact of the agitation protocol. **Objectives:** The objectives are to (1) evaluate change in frequency of as-needed medication administration and (2) evaluate changes in reported staff harm events, patient seclusion events, and hospital length of stay. **Methods:** This institutional review board–approved retrospective chart review includes inpatients at least 18 years of age admitted to one of the facility's 3 adult units during the study period (October 4, 2023, through December 31, 2023). All patients admitted during these dates will have agitation protocol medications ordered upon admission with provider approval. The control group will include patients admitted to an adult unit from October 4, 2022, through December 31, 2022. Data to be collected include demographic information, as-needed medication orders and administrations, reported staff harm events, patient seclusion events, and hospital length of stay. Medication orders will be reviewed for indication to include only those given for agitation, excluding medications documented as given for anxiety or any other indication. **Outcomes:** The outcome will be the effect of the agitation protocol on as-needed medication administrations, reported staff harm events, patient seclusion events, and hospital length of stay.

Buprenorphine Microinduction and Bridge Dosing Outcomes

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Type: Work in Progress. **Background:** Buprenorphine is a partial opioid agonist that is approved for use in opioid use disorder and pain management. In traditional buprenorphine initiation methods, it is recommended that a patient be in moderate opioid withdrawal prior to initiating buprenorphine to circumvent the risk for precipitated withdrawal. Microinduction is a novel practice utilized to transition patients from full opioid agonists to buprenorphine without the need for the patient to exhibit moderate withdrawal symptoms. Since January 2023, our institution has been piloting a buprenorphine microinduction protocol. The purpose of this study is to assess the therapeutic outcomes of patients with opioid use disorder who have received buprenorphine for microinduction. **Objectives:** The primary objective of this study is to assess the efficacy of the buprenorphine microinduction protocol as measured by change in Clinical Opiate Withdrawal Scale (COWS) scores from baseline to after the first dose of buprenorphine. Secondary objectives of this study are to assess the

proportion of patients who experience precipitated withdrawal or side effects to buprenorphine, had a follow-up appointment scheduled at discharge, and had a prescription for buprenorphine sent at discharge. **Methods:** This retrospective chart review will include adult patients with opioid use disorder admitted to our institution from January 1, 2023, to October 31, 2023, who received a dose of buprenorphine buccal film or transdermal patch for microinduction. Data to be collected include demographic information (age, sex, race, ethnicity), opioid use history, history of precipitated opioid withdrawal, baseline laboratory values, baseline COWS score, patient disposition at discharge, and clinical outcomes including postdose COWS score(s) and patient-reported changes in withdrawal symptoms or pain. Demographic information will be evaluated using descriptive statistics. For the primary objective, a sample size of 21 achieves 90% power to detect a mean of paired differences of 3.0 with an estimated standard deviation of differences of 4.0 and a significance level (alpha) of 0.05 using a two-sided paired *t* test. **Outcomes:** Data collection and analysis is in process. Results will be used to identify best practices for the management of buprenorphine microinductions at our institution.

Burnout Assessment of Pharmacy and Physician Assistant Program Students at a Historically Black College and University

Thomas Maestri, PharmD, BCPP; Cheryl Hayes, RPh, PhD; Ahlam Ayyad, PharmD; Nina Casanova, PharmD Candidate 2024; Gabrielle Atkins, PharmD Candidate 2026; Janyah McCree, PharmD Candidate 2026

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Type: Work in progress. **Background:** Burnout is defined as a multidimensional syndrome characterized by emotional exhaustion, depersonalization, and a diminished sense of personal accomplishment. Burnout is often described as a consequence of chronic, unrelieved stress that affects quality of life and can often be experienced independent of depression. Risk factors correlated with burnout include work-life imbalance, heavy workload, depression, interpersonal disputes, and a decreased sense of self-worth. Burnout has garnered a great deal of attention in academia in recent years. The demands of a graduate-level degree program can be overwhelming for some students. In addition, data shows that health care students, in particular, may be more susceptible to stress than age-matched peers in other graduate programs. Within the context of graduate programs, chronic exposure to these stressors places health professions students at increased risk of experiencing burnout. This study will survey pharmacy and physician assistant students at a single Historically Black College and University (HBCU) to explore the patterns of burnout within the college. **Objectives:** The purpose of this study is to measure rates of burnout in students enrolled in a single college of pharmacy (COP) that consists of both pharmacy and physician assistant program students. **Methods:** Surveys were disseminated using Qualtrics and made available to all students currently enrolled in the COP. One hundred seventy-nine students completed a survey assessing the incidence of burnout. The survey assessed the number of participants meeting criteria for burnout using the Maslach Burnout Inventory. The institutional review board–approved study took place from August 1, 2023, to December 31, 2023. Statistical analysis was completed with R software, and a χ^2 test will be used for burnout analysis by demographics and logistic regression for multivariate analysis. **Outcomes:** The findings of this research will aid in the implementation of targeted interventions including but not limited to enhancements of mental health resources, academic support services, and implementation of stress management programs. This study seeks to inform the development of support systems to enhance the overall well-being of the student body at an HBCU and to promote resilience in the academic environment.

Burnout Assessment of Pharmacy Faculty at a Historically Black College and University

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Type: Work in progress. **Background:** In the fast-paced realm of modern workplaces or educational settings, burnout emerges as a silent yet pervasive threat. Burnout is a state of physical and emotional exhaustion often accompanied by feelings of cynicism and detachment from work. It results from prolonged exposure to stressors such as high workload and challenging student dynamics, potentially leading to diminished performance and a sense of disillusionment among educators. In a pharmacy setting, appropriately addressing burnout is crucial to address decreased job satisfaction, increased stress on students, and the potential for increased medication errors and compromised patient safety. Burnout has become more common in academic settings although little is known in the area of pharmacy schools that are Historically Black Colleges and Universities (HBCUs). This study will survey from 1 college of pharmacy (COP) at an HBCU to assess the incidence of burnout. **Objectives:** The purpose of this study is to measure rates of burnout in faculty in a single COP that consists of both pharmacy and physician assistant program students. **Methods:** The institutional review board–approved study from August 1, 2023, to December 31, 2023, was

disseminated to faculty at a single COP using Qualtrics. There were 21 faculty participants in total. The Maslach Burnout Inventory was used to assess the participants who met criteria for burnout. Statistical analysis was completed with R software, and a χ^2 test will be used for burnout analysis by demographics and logistic regression for multivariate analysis. **Outcomes:** The findings of this research will aid in the implementation of targeted interventions including but not limited to enhancements of mental health resources, academic support services, and implementation of stress management programs for pharmacy faculty. This study seeks to inform the development of support systems to enhance the overall well-being of the faculty at an HBCU and to promote resilience in the academic environment.

Changes in Attitudes and Behaviors Associated With Buprenorphine Best Practices Dissemination

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University of Southern California Alfred E. Mann School of Pharmacy and Pharmaceutical Sciences, Los Angeles, California

Type: Work in progress. **Background:** Treatments for opioid use disorder (OUD) are available, safe, and highly efficacious. Buprenorphine can be dispensed by community pharmacies and has fewer regulatory barriers to use. Despite a long history of safety and efficacy, individuals with OUD face access barriers. In fact, it is estimated that 250 000 Californians have OUD. If all 345 566 grams of buprenorphine distributed to California in 2022 were dosed optimally at $\geq$24 mg/d and dispensed to patients, only 20% of patients with OUD will have been treated. Access at the provider level improved with the removal of the X-waiver; however, patients must obtain these medications from a pharmacy, where barriers to access remain. The reasons for community pharmacy level barriers are twofold: (1) stigma and (2) regulatory concerns. These barriers could be improved through policy changes and additional community pharmacist education. **Objectives:** Following a buprenorphine educational session, the objectives of this study are to (1) analyze attitude changes toward buprenorphine stocking, ordering, and dispensing, and (2) assess for changes in stocking and dispensing behaviors. **Methods:** A buprenorphine best practices educational session was created for community pharmacists. To address stigma, best practices were gathered from the clinical literature to dispel myths of buprenorphine use and present principles of harm reduction. To address regulatory barriers, interviews were completed with representatives from the Drug Enforcement Administration, board of pharmacy, and pharmaceutical distributors. Standardized interview questions investigated each agency's role in buprenorphine access and history of sanctions for dispensing and/or ordering. Interview responses were analyzed and threaded throughout programming. This programming will be delivered for a community pharmacist audience, after which, they will be asked to rate their knowledge about medications to treat OUD, harm-reduction principles, and buprenorphine regulatory practices as well as comfort with stocking, ordering, and dispensing buprenorphine products. Demographic information will also be collected. Approximately 1 month following the delivery of this educational session, we will contact represented community pharmacies as a "secret shopper" to ask if buprenorphine is available for a new-start patient. **Outcomes:** Descriptive statistics will be utilized to stratify the knowledge of and attitudes toward buprenorphine as well as number of community pharmacies willing to dispense buprenorphine.

Cheers to Well-being: Exploring the Impact of A Peer Support Program on Pharmacy Student Resilience and Happiness

Anna Krienert; Nicole J. Zachwieja; Kelly N. Gable, PharmD, BCPP

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Type: Work in progress. **Background:** Pharmacy students navigate significant stressors that impact well-being and resilience. Tailored interventions to enhance pharmacy student well-being are lacking in existing literature. A positive correlation exists between increased well-being, social support exchange, and neurobiological changes associated with social reward-related neural activity. Evaluating such programs' impact is crucial in promoting enhanced academic performance and student retention. **Objectives:** The objective is to create, implement, and evaluate the impact of a peer support program on pharmacy student well-being at a school of pharmacy. **Methods:** During the fall of 2023, a peer support program was initiated at a school of pharmacy in the Midwest after approval by school administrators. The project was funded through an internal well-being and resilience grant. The program encouraged students to use peer support by submitting a Qualtrics survey with information about specific peer needs as they relate to the 8 dimensions of wellness. Personalized support boxes were created based on survey responses. These were tailored to students' specific needs, including items such as snacks, gift cards, and comfort items related to personal interests. To assess the program's effect, an anonymous institutional review board–approved follow-up survey will be disseminated to students early in the spring 2024 semester. The post survey will collect data on motivations for program participation and overall influence on well-being. Targeting approximately 60 responses, results will be analyzed using descriptive statistical models. **Preliminary Results and Significance:** Thirty-five students participated in the pilot program this fall; 22 received a peer support box. Primary peer support needs included family and home stressors, grief, academic stressors, and mental health struggles.

Program impact will be discussed further once the spring post survey is launched. This pilot project intends to highlight the comprehensive impact of peer support among students in a rigorous graduate-level training program. It aims to address the urgency of prioritizing pharmacy student well-being, intentionally focusing on peer-derived support. There is great potential to foster a more inclusive and compassionate environment in which students actively care for one another and ultimately thrive. We hope to lay the foundation for implementing similar programs in wider educational settings, advocating for adopting these initiatives in pharmacy programs across the nation.

Clozapine, Caffeine, and Smoking: A Correlational Study and Initiation of Pharmacist-Led Interventions to Improve Clinical Outcomes

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Type: Work in progress. **Purpose:** Caffeine and polycyclic aromatic hydrocarbons found in inhaled smoke are substrates and potent inducers of CYP1A2, respectively. Studies show that clozapine, a second generation antipsychotic, relies heavily on CYP1A2 activity for clearance. In addition, a small number of published case reports provide evidence that changes in caffeine and smoking intake have the potential to produce clinically significant effects, including seizures. The goal of this study is to review clozapine dosing relative to caffeine and/or smoking habits and to provide education on the interaction described. **Methods:** A retrospective chart review using the Veterans Affairs electronic medical record, Computerized Patient Record System, will be conducted to include patients with active outpatient clozapine prescriptions. Current caffeine and smoking habits will be confirmed through a patient questionnaire via telephone. Data collection will consist of patient demographics, clozapine total daily dose, serum levels (when available), refill history, and other active prescriptions. Data for the control group, hospitalized patients with caffeine/smoking restrictions, will be collected at the South Florida State Hospital in Pembroke Pines, Florida, using the electronic health record system. Quantitative data analyses will be performed using the Mann-Whitney *U* test to determine whether patients who use caffeine or smoke require a smaller or larger clozapine total daily dose, respectively. Patients who make changes regarding caffeine or smoking will be evaluated for a repeat clozapine serum concentration and dose adjustment as appropriate. Data made available as a result of this change will be collected for prospective phase II analysis.

Comparing the Cognitive Effect of Vortioxetine Versus Other Selective Serotonin Receptor Inhibitors

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Type: Work in progress. **Background:** According to the 2021 World Alzheimer's Report, an estimated 50 million people worldwide had a major neurocognitive disorder in 2019, and that number is expected to increase as the population ages. Although contested, some studies suggest that antidepressant use may increase the risk of cognitive decline. Neurocognitive disorders are characterized by the development of amyloid plaque and neurofibrillary tangles, leading to less release of acetylcholine, glutamate, serotonin, and norepinephrine. Vortioxetine increases the release of these neurotransmitters by being an antagonist of 5-HT3 and 5-HT7 and a partial agonist to an antagonist of 5-HT1B, thereby theoretically having cognitive protective benefits. Previously published studies demonstrate the short-term cognitive benefits of vortioxetine compared to other selective serotonin reuptake inhibitors (SSRIs); however, none of the studies evaluates the possible long-term benefits. Additional information may benefit patients with risk factors for cognitive decline. **Objectives:** The primary outcome is to compare the proportion of patients with 30-day exposure to vortioxetine or a comparator SSRI who developed cognitive decline after 2, 4, and 6 years after the same exposure period. The secondary outcome will include tolerability, days on therapy, and safety profile of vortioxetine compared with the comparator SSRIs. **Methods:** This institutional review board–approved retrospective chart review will include patients 50 years of age or older who were exposed to vortioxetine or a comparator for at least a 30-day period between October 15, 2015, and December 31, 2022. Patients included in the study will be those who have trialed at least 1 other SSRI or serotonin and norepinephrine reuptake inhibitor 2 years before the exposure period. Patients were excluded from the study if they were diagnosed with cognitive decline or started on a cognitive agent within 1 year of vortioxetine or comparator SSRI initiation or were diagnosed with vascular, Lewy body, Parkinson, or alcohol-related dementia. **Outcomes:** Data collection and analysis will be completed by April 2024. The study outcomes will be presented at the American Association of Psychiatric Pharmacists 2024 Annual Meeting.

Comparison of High-Dose Olanzapine and Standard-Dose Olanzapine in Adult Patients at a County Psychiatric Hospital: A Retrospective Study

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Riverside University Health System Medical Center, Moreno Valley, California

Type: Work in progress. **Background:** In adults with schizophrenia, olanzapine is typically dosed 5 to 20 mg/day with a maximum of 20 mg/day recommended by the manufacturer's labeling. Olanzapine doses in treatment-resistant schizophrenia or treatment-resistant schizoaffective disorder have been compared in a few open-label trials with higher doses associated with increased symptom improvement. The most significant adverse effects observed at higher doses of olanzapine (off-label doses above 30 mg/day) have been weight gain, sedation, or drowsiness; extrapyramidal symptom incidence was relatively low. Literature is lacking to support high-dose olanzapine as an equivalent treatment option to clozapine when other conditions do not preclude the use of clozapine. Available randomized controlled trials evaluate the comparative efficacy of these agents (or another comparator agent) mainly by clinical scoring scales and lack further exploration of patient demographics and outcomes. **Objectives:** This study will evaluate patient factors and outcomes in what was identified as a significant use rate of high-dose olanzapine compared with standard-dose olanzapine in patients admitted to a county psychiatric hospital in recent years. Length of stay and readmission rates will be compared to determine the effects on patient outcomes. The findings from this study can help inform practice and guide future clinical decision making. **Methods:** This retrospective review will involve 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, that received at least 7 days of scheduled olanzapine and that have a diagnosis of schizophrenia or schizoaffective disorder. The primary outcome will be a comparison of readmission rates following treatment with olanzapine during an admission over a 4.5-year postdischarge period between January 7, 2019, and June 31, 2023. **Outcomes:** The primary outcome will be the comparison of all-cause readmission rates following an index hospitalization between high-dose olanzapine as compared with standard-dose olanzapine use in adult patients with treatment-resistant schizophrenia/schizoaffective disorder. Secondary outcomes will compare lengths of stay, patient demographics (eg, race, age, sex), prior and concurrent medication use (clozapine, antipsychotics, long-acting injectables), and adverse effects.

Comparison of Rehospitalization Outcomes in the Veteran Population Administered Long-Acting Injectable Naltrexone Versus Oral Naltrexone for Alcohol Use Disorder Before Discharge

Katherine Callahan, PharmD; Andrew Naglich, PharmD, BCPP

Department of Pharmacy, South Texas Veterans Health Care System, San Antonio, Texas

Type: Work in progress. **Background:** Both formulations of naltrexone are used to reduce alcohol consumption and improve rates of abstinence from alcohol in patients with alcohol use disorder (AUD). Extended-release naltrexone is a long-acting injectable (LAI) administered monthly and could present an advantage over daily oral naltrexone when adherence is a concern. LAI use may also reduce pill burden, potentially improving treatment outcomes. Several studies have compared outcomes of LAI naltrexone with oral naltrexone with varying results concerning medication adherence and effectiveness. Consequently, a knowledge gap persists concerning the relative outcomes of the different naltrexone formulations for treatment of AUD. **Objectives:** The objectives of the study are to compare the recurrence of alcohol-related hospitalization within 1 year of discharge in patients prescribed oral versus LAI naltrexone, assess the frequency of naltrexone discontinuation, and identify the reason for discontinuation of naltrexone in applicable patients. **Methods:** This institutional review board–approved retrospective chart review will include adult veterans who were hospitalized for supervised alcohol withdrawal and received LAI or oral naltrexone between January 1, 2020, and January 1, 2022. Patients will be identified based on presence of 1 inpatient admission or discharge record associated with International Classification of Diseases, 10th revision, codes indicating primary diagnosis of AUD and/or associated diagnoses, and medication administration records indicating receipt of naltrexone in either formulation prior to discharge. Patients who used LAI or oral naltrexone before inpatient admission or for an indication other than AUD will be excluded. Medication administration, pharmacy dispensing records, and hospitalization records will be extracted from the Veterans Affairs corporate data warehouse. Manual chart review will be completed to identify reasons for discontinuation of naltrexone when applicable. Data will be analyzed using descriptive and inferential statistics to assess for any differences in outcome between the 2 patient groups. **Outcomes:** We will report the occurrence of alcohol-related rehospitalization within 1 year of discharge among veterans who were hospitalized for supervised withdrawal and

initiated AUD treatment with LAI naltrexone compared with oral naltrexone as well as frequency of and reason for naltrexone discontinuation.

Comparison of Treatment Outcomes in the Veteran Population Administered Aripiprazole Long-Acting Injectable Versus Paliperidone Palmitate Long-Acting Injectable for Bipolar Disorder in the Inpatient Setting

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Type: Work in progress. **Background:** Long-acting injectables (LAIs) present an attractive treatment option for patients prescribed antipsychotic medications for the treatment of severe, long-term mood and psychosis-related symptoms. A limited basis of evidence indicates that patients with bipolar disorder treated with LAIs have better medication adherence and longer median time to medication discontinuation, are less likely to discontinue their medication, and have reduced frequency of hospitalizations compared with those treated with oral antipsychotics. Rates of efficacy, adherence, and discontinuation of LAIs have been studied extensively in schizophrenia although few publications describe these aspects of use of LAIs in patients with bipolar disorder. **Objectives:** Study objectives are to measure occurrence of rehospitalization postdischarge in veterans who were administered aripiprazole long-acting injectables (ALAIs) versus paliperidone palmitate (PLAI) in the inpatient psychiatric setting, identify frequency of rehospitalization in the aforementioned population, identify occurrence of medication discontinuation, and identify reasons for medication discontinuation. **Methods:** This retrospective chart review will include veterans who have received ALAI or PLAI in the inpatient setting between January 1, 2021, and January 1, 2022. Patients who received ALAIs or PLAI prior to admission or for reasons other than bipolar disorder will be excluded. Demographic information will be aggregated along with other pertinent information, including medication administration/dispensing records with dosage, occurrence, and reason for medication discontinuation; date of discharge; and occurrence of rehospitalizations occurring within 1 year of discharge. **Outcomes:** Descriptive statistics will be calculated to detect differences in outcomes between ALAIs and PLAI. We will report occurrence of discontinuation of LAI within 1-year postdischarge, reason for discontinuation of LAI, occurrence of rehospitalization within 1 year, and frequency of rehospitalization within 1 year in inpatients receiving PLAI as compared with ALAIs.

Correlation Between Higher Screen Time and Decreased Quality of Life in General Adolescents: An Analysis of Youth Risk Behavior Surveillance Data from the Centers for Disease Control and Prevention

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Type: Work in progress. **Background:** Excessive screen time in the adolescent population has been a growing major public health concern. The concern was further highlighted and exacerbated by the pandemic. Prior studies assess the deleterious effects of excessive screen time, including behavioral problems, attention difficulties, anxiety, and depression. Studies of the effect of excessive screen time on adolescents and teenagers during and after the pandemic are limited. The Centers for Disease Control and Prevention (CDC) youth risk behavior surveillance (YRBS) system surveys high school students every other year with regards to lifestyle factors and risky behaviors. YRBS CDC data will be used to assess recent screen time trends and examine the impact of pandemic regulations (eg, virtual classes) associated with reported screen time in adolescents. **Objectives:** The objectives are to (1) describe characteristics of individuals within the adolescent population engaging in excessive daily screen time (3 or more hours), (2) compare distinguishing traits of those without excessive screen time use to those with excessive screen time use, and (3) investigate the correlation between adolescents' screen time duration and the frequency of self-rated mental health symptoms. **Methods:** This retrospective, cross-sectional study, reviewed by the Touro University California institutional review board (IRB) and deemed to be IRB exempt, analyzes 2021 YRBS data, which was collected between September 1, 2021, and December 31, 2021. As part of the YRBS, participants aged 14 to 18 provided demographic information, including age, gender, race, ethnicity, and relevant variables. The study considers specific risk behaviors, mental health indicators, and lifestyle factors to assess public health impact, identify trends, and inform person-specific interventions, educational policies, and preventative measures for the adolescent population, following YRBS survey guidelines. All analyses will be conducted using SAS V9.4 (Cary, North Carolina). **Outcomes:** We will investigate the distinctive characteristics of individuals within the adolescent population who engaged in prolonged screen time, such as their sociodemographic profile and behavioral patterns. Additionally, we will examine the correlation between the duration of adolescents' screen

time and self-rated mental health symptoms. Our goal is to distinguish traits linked to typical teenagers from those with heightened screen time, allowing for targeted interventions to assist with this ongoing crisis.

Does Patient Attitude Toward Psychiatric Drug Therapy Impact Adherence to Their Medications?

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Type: Work in progress. **Background:** Approximately 2 million people with serious mental illness are arrested every year, and 2 in 5 of those who are incarcerated have a history of mental illness. Nonadherence to medications leads to poor outcomes, including relapse and increased convictions. The patient's attitude toward treatment may play a significant role in improving medication adherence. This study aims to evaluate the relationship between patients' perceptions toward medications and adherence. **Objectives:** Patients with schizophrenia spectrum disorders who are incompetent to stand trial will be evaluated on their attitudes and perceptions toward treatment according to Perceptions of Psychiatric Pharmacotherapy Forensic (POPP-F) results. Among the secondary objectives are evaluating the impact of each POPP-F question on medication adherence, examining demographic and health factors that influence patients' perceptions of treatment and adherence, and comparing perceptions of treatment in patients with and without involuntary medication orders. **Methods:** This prospective, cross-sectional survey study will include adults admitted to an inpatient psychiatric facility for competency restoration for at least 4 weeks and prescribed antipsychotics (including long-acting injectables) during that time. We will exclude participants with guardians or those who cannot answer yes or no questions physically, cognitively, or culturally. In this study, POPP-F was developed from validated inventories to assess perceptions of psychiatric pharmacotherapy. Medication adherence will be assessed using the Medication Administration Record (MAR). Chi-square and *t* tests will be used to analyze results from the MAR and POPP-F. Sociodemographic factors (age, gender, ethnicity, diagnosis, level of education, and legal status) will also be collected and analyzed using descriptive statistics and multiple regression as appropriate. The number and type of current mental health medications per patient will also be collected along with involuntary medication orders. Thematic analysis will be used to find themes that emerge from the documented texts of any participant narratives. **Outcomes:** We will report differences in adherence in relation to results of the POPP-F, overall positive or negative perception of medications based on the POPP-F, and the individual percentage of positive and negative responses. We will also report demographic and health-related factors that affect patient-specific perceptions of treatment.

Duloxetine for Treatment-Resistant Depression in Older Adults

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Type: Work in progress. **Background:** Although there is no universally accepted definition, treatment-resistant late-life depression (TRLLD) can be defined as nonresponse to 2 or more adequate antidepressant trials in patients aged $\geq$60 years. This disease is often associated with significant direct and indirect societal costs, functional impairment, and worse outcomes for the afflicted individual. Data for the treatment of TRLLD exists for selective serotonin reuptake inhibitors, serotonin-norepinephrine reuptake inhibitors, tricyclic antidepressants, and second generation antipsychotics among others. Agents such as venlafaxine, bupropion, lithium, and aripiprazole have the most evidence. Currently, treatment strategies include direct antidepressant switching and antidepressant augmentation although stepwise treatment approaches are not well defined due to lack of comparison between strategies. It is important to expand available data to include other treatment options, such as duloxetine, to elucidate treatment differences with the goal of improving patient outcomes. **Objectives:** The objectives are to (1) compare the rates of improvement in patients with TRLLD receiving duloxetine monotherapy to alternative treatment strategies during a 12-week study period, (2) compare rates of remission, (3) analyze reasons for discontinuation of therapies, and (4) determine the prevalence of falls. **Methods:** This institutional review board–approved retrospective chart review of patient data will include adults with TRLLD aged $\geq$65 years at the time of inclusion between January 1, 2017, and December 31, 2022. Four study arms consisting of duloxetine monotherapy, bupropion monotherapy, bupropion augmentation, and aripiprazole augmentation will be evaluated and compared over a 12-week study period. The beginning of this study period will be designated by initiation of a treatment strategy. Excluded patients will be those with a diagnosis of bipolar disorder, cyclothymia, schizophrenia, schizoaffective disorder, or a neurocognitive disorder. Other pertinent data to be collected include diagnosis

of select chronic medical conditions, comorbid mental health conditions, and mean daily dose of antidepressant or aripiprazole. Statistical analysis of the primary outcome will include χ^2 and logistical regression, whereas secondary outcomes will be evaluated utilizing χ^2. **Outcomes:** Data collection and analysis will be completed by April 2024. The study outcomes will be presented at the American Association of Psychiatric Pharmacists 2024 Annual Meeting.

Effectiveness of Tetrabenazine for the Treatment of Antipsychotic-Induced Tardive Dyskinesia

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Type: Work in progress. **Background:** Tardive dyskinesia (TD) is a medication-induced movement disorder that effects approximately 4% to 8% of adult patients per year taking antipsychotic medications. Even when the offending antipsychotic is discontinued, patients may still experience irreversible and lifelong symptoms that can range from mildly irritating to physically disabling. Vesicular monoamine transporter type 2 inhibitors are used to treat TD, and there are currently 3 available: valbenazine, deutetrabenazine, and tetrabenazine. Although tetrabenazine is not FDA approved for TD, it is used off-label and has the advantage of being a lower acquisition cost compared with the 2 FDA-approved options. **Objective:** The objectives are to (1) evaluate the effectiveness of tetrabenazine as defined by change in abnormal involuntary movement scale (AIMS) scores in patients prescribed tetrabenazine for antipsychotic-induced TD and (2) define the frequency and type of adverse effects and time to treatment failure in patients prescribed tetrabenazine. **Methods:** Patients will be enrolled in this institutional review board–approved retrospective chart review if they have an outpatient prescription for tetrabenazine for the treatment of antipsychotic-induced TD documented in the electronic health record between January 1, 2014, and August 1, 2022. This study excludes patients who are prescribed tetrabenazine for indications other than antipsychotic-induced TD. AIMS scores will be collected at baseline, 3 months, 6 months, and 1 year. Treatment failure is defined as tetrabenazine discontinuation (due to ineffectiveness, intolerability, nonadherence), change in antipsychotic due to TD, or lost to follow-up. **Outcomes:** Effectiveness of tetrabenazine is defined by change in AIMS scores in patients prescribed tetrabenazine for antipsychotic-induced TD over a 1-year period. Factors such as frequency and type of adverse effects and time to treatment failure in patients prescribed tetrabenazine will be considered separately.

Enhancing Buprenorphine Access and Identifying Treatment Barriers in Veterans With Opioid Use Disorder

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Type: Work in progress. **Background:** Opioid use disorder (OUD) is an uncontrolled use of opioids despite consequences. The consistent use of opioids increases risk of tolerance, withdrawal, and fatal overdose. Left untreated, OUD impacts relationships, employment, morbidity/mortality, and more. The goals of OUD treatment are to suppress withdrawal, reduce cravings, block opioid effects, and ultimately stop opioid use. Buprenorphine is a partial mu receptor agonist available in various forms, including a naloxone combination that reduces reward effects via opioid antagonism. Fortunately, the Mainstreaming Addiction Treatment Act eliminated the requirement for practitioners to apply for a Drug Addiction Treatment Act waiver prior to prescribing buprenorphine. This restriction removal is intended to encourage buprenorphine prescribing and enhance patient access to OUD treatment. **Objective:** The objectives are to (1) increase buprenorphine therapy among Department of Veterans Affairs, Texas Valley Coastal Bend (VCB) veterans with untreated OUD and (2) identify the proportion of VCB primary care providers (PCPs) willing to prescribe buprenorphine via survey. **Methods:** Participants will be selected from the Stratification Tool for Opioid Risk Mitigation report. A chart review between August 1, 2023, and December 31, 2023, will be performed to evaluate participants meeting eligibility for untreated OUD. For objective 1, PCPs of eligible participants will be contacted to determine if they are willing to prescribe buprenorphine for eligible patient(s) under their care. For agreeing PCPs, their eligible patient(s) will be contacted for buprenorphine education and to determine interest in treatment. Participants consenting to buprenorphine treatment will be scheduled for buprenorphine evaluation, initiation, and follow-up with assistance from pharmacy pain clinics. Participants refusing buprenorphine treatment will be offered naloxone education. For PCPs unwilling to prescribe buprenorphine for eligible participants, with approval from treatment-consenting patients and their PCPs, the patient's care will be moved to a designated "alternate provider" willing to prescribe buprenorphine. For objective 2, a VCB education session will be held to offer PCPs information on buprenorphine therapy and to encourage OUD treatment. Subsequently, a survey will be sent to PCPs assessing willingness and/or barriers to

prescribing buprenorphine. **Outcome:** Reports will include the proportion of the following: participants initiated on buprenorphine, contacted providers agreeing to prescribe buprenorphine, participants consenting to buprenorphine treatment, and providers willing to prescribe buprenorphine per survey responses.

Establishing a Pharmacist-Run, Outpatient Long-Acting Injectable Antipsychotic Clinic in a Safety Net Hospital

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Type: Work in progress. **Background:** One of the biggest treatment obstacles for patients taking psychotropics is adherence. Long-acting injectable antipsychotics (LAIAs) have numerous benefits, including increasing adherence and quality of life, preventing relapse, and reducing hospitalizations and mortality. Getting LAIAs to patients in the outpatient setting can present challenges, including insurance/payer authorization, trained staff to administer injections, and coordinating care between health care systems. Implementing a pharmacist-run LAIA clinic presents an opportunity to address these barriers while providing clinical pharmacy care in a new setting. Current published literature documenting how to create, implement, and assess such a service at a large safety net hospital within a large health care organization is limited. **Objectives:** The objectives are to (1) implement a new pharmacy service in which pharmacists administer LAIAs and (2). report on the steps, policies, and procedures involved in implementing the service, contributing to the compendium of references and research on clinical services provided by psychiatric pharmacists. **Methods:** This prospective, quality improvement project will be conducted within a level 1 trauma center and major metropolitan academic hospital between June 1, 2023, and July 1, 2024. The process of developing and implementing this new service will be documented, starting with the groundwork data regarding the economic impact of pharmacist-run LAIA clinics used to create the business model proposal. The necessary stakeholders will be identified to create a partnership for the project, including directors of nursing, medicine, pharmacy, billing and contracts, compliance, information technology, and administrators. We will also report on other key factors, including product coverage and procurement, reimbursement for services, and establishing the proper clinic space. We will document the steps taken to generate our workflow, such as specifying pharmacist qualifications, creating guidelines for patient referrals and appointments, administration of injections, monitoring, evaluation, and documentation in the electronic health record. **Outcomes:** We will report on the steps taken to implement this new service and, ultimately, will be able to formulate a policy and protocol necessary to solidify the workflow. Future endeavors will be to assess sustainability of the service and conduct research regarding patient outcomes using metrics such as adverse reactions, efficacy, and readmission rates.

Establishing Monitoring Standards for Medication Therapy for Adults With Attention Deficit Hyperactivity Disorder

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US Department of Veterans Affairs, Veterans Affairs Portland Health Care System, Portland, Oregon

Type: Work in progress. **Purpose:** The attention deficit hyperactivity disorder (ADHD) Rating Scale (ASRS) is an essential tool in documenting effectiveness of ADHD medication primarily in children and adolescents. The primary objective of this study is to establish a standard for medication initiations utilizing ADHD rating scales in adults. Other objectives include monitoring changes in quality of life, establishing a standard for ADHD medication initiations, reviewing cost-effectiveness of standardized monitoring, and monitoring change in duration to stability. **Methods:** This study will be submitted to the institutional review board for approval. This is an ongoing single-center prospective trial and quality improvement project. The current institution practices do not include guidance on medication monitoring for ADHD treatment. An implementation of a data set for the rating scale to monitor scores over time may be useful. The electronic medication medical record system will identify patients who have a clinical diagnosis for ADHD (any subtype/presentation). The following data will be collected: patient age, gender, ethnicity, ADHD therapy medication, previous agents tried for ADHD, number of follow up visits since ADHD initiation, start date of ADHD therapy medication, and ASRS scores. The exclusion criteria include cardiovascular disease, seizures or other unstable medical conditions that might increase the risk for the patient, bipolar disorder, conduct disorder, psychosis, severe autism or other severe psychiatric or medical conditions making participation unsuitable, and an active substance use disorder. Subjectively, changes in quality of life and productivity will be monitored. All data will be recorded without patient identifiers and maintained confidentially. **Results:** We expect an increase in ASRS utilization for medication monitoring, a decrease in ASRS scores compared with initiation scores, improvements in time to stabilization, and an increase in quality of life. Due to current shortages and changes to local Veterans Affairs Formulary, we expect an increase in nonstimulant prescriptions and initiations. Resulting information can impact ADHD medication dispensing and increase validity of use of the ASRS in adults. **Conclusions:** Results will be presented at the American Association of Psychiatric Pharmacists Conference on April 7 to 10, 2024, in Orlando, Florida.

Evaluating Outcomes of Psychotropic Drug Safety Initiative Management System for Management of Stimulant Use at a Medical Center

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Type: Work in progress. **Background:** Efforts to reduce inappropriate opioid prescribing has successfully decreased the rate of opioid overdose in the United States. However, increases in stimulant overdoses has resulted in an overall increase in overdose deaths in the past decade. This project is a medication and patient safety initiative to assess the current Psychotropic Drug Safety Initiative (PDSI) management system implementation at a medical center. This project will be a retrospective review of phase 5 of the initiative, which focuses on the use of stimulants. **Objectives:** The objectives are to (1) evaluate implementation of PDSI guideline–recommended safety measures for identified patients who may benefit from stimulant medication management and (2) assess the impact of pharmacist-led interventions in stimulant monitoring. **Methods:** Data will be collected using the PDSI management dashboard and the electronic medical record, Computerized Patient Record System. Patients identified will have chart reviews conducted for stimulant use and safety measures. Collected data will include baseline demographics, past medical history, medication regimens, ordering provider specialty, and actionable PDSI patients. **Outcomes:** Patient profiles are being evaluated to assess the appropriateness of stimulant use by review of patients with stimulant-use disorder, indication for stimulant use, appropriate medication monitoring, concurrent controlled-substance prescriptions, and the provision of a naloxone kit. Pharmacist recommendations for stimulant use are documented in the patient charts and interventions are communicated to prescribers via secure messaging. We will report the results of pharmacist-led interventions on patients identified as candidates for stimulant monitoring. Implementation of recommendations and pharmacy interventions will be evaluated.

Evaluating the Impact of an Automated Phone Outreach Program on Naloxone Prescribing to Veterans At Risk for Opioid Overdose

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Type: Work in progress. **Background:** Despite decreased opioid prescriptions and increased use of risk-mitigation strategies (eg, prescription drug monitoring programs, urine drug screens), the number of drug-related overdoses and deaths continue to rise. Naloxone is associated with decreased opioid overdose mortality and is recommended for patients at risk of an opioid-related overdose. It is important to understand how different outreach strategies can be used to increase overdose education and naloxone distribution (OEND). **Objective:** The objective is to assess the impact of conducting veteran outreach via the AudioCARE automated telephone messaging system on naloxone acceptance. **Methods:** This institutional review board–exempt quality improvement project included the following populations at risk of an opioid overdose who have not been dispensed naloxone within the past year: (1) diagnosed with opioid use disorder, (2) diagnosed with stimulant use disorder, (3) experienced an opioid- or stimulant-overdose within the last year, and (4) prescribed an opioid and categorized as "very high" risk according to the Veterans Affairs (VA) Stratification Tool for Opioid Risk Mitigation. The National VA Academic Detailing Service OEND dashboard was used to identify veterans. Starting November 16, 2023, automated telephone calls were made on a rolling basis. The brief prerecorded telephone survey included information about naloxone and asked if the veteran was interested in receiving a free naloxone kit. Possible responses included yes, no, or interested in learning more. Veterans who responded "yes" or "interested in learning more" were contacted by a clinical pharmacist practitioner, who provided additional education about recognizing and responding to an opioid overdose and prescribed naloxone. A note was entered in the medical record to document response; a note was not entered if the veteran did not respond. Pharmacists incorporated outreach into established clinic workflow. **Outcomes:** The primary outcome will be the number of veterans prescribed naloxone. Secondary outcomes include the number of veterans for whom automated telephone outreach was possible, number who engaged with the automated telephone survey, number who declined naloxone, and number who were reached for follow-up. Veteran characteristics (age, gender, risk factor(s) for opioid overdose, and history of naloxone fills at the VA) will also be reported.

Evaluating the Occurrence of Mania-Related Hospitalizations in Patients With Bipolar Disorder or Schizoaffective Disorder Receiving Antidepressant Therapy

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Veterans Affairs Portland Health Care System, Portland, Oregon

Type: Work in progress. **Background:** Prescribing antidepressants to target bipolar depressive episodes comes with the potential risk of conversion to mania; thus, their place in therapy remains controversial. The 2015 STEP-BD study

found that patients continuing an antidepressant after an acute bipolar depressive episode were more likely to have rapid mood cycling regardless of mood stabilizer presence. By 2015, 2.5% of US veterans were diagnosed with bipolar disorder; in comparison, the prevalence of bipolar disorder in the general population was 1% to 1.5%. Given the higher prevalence of bipolar disorder in veteran patients and the resource impact of psychiatric hospitalizations, understanding the incidence of mania-related admissions in relation to outpatient treatment could potentially inform interventions in the future. **Objectives:** The objectives are to (1) evaluate the occurrence of mania-related hospitalizations in patients diagnosed with bipolar disorder or schizoaffective disorder prescribed an outpatient antidepressant at our Veterans Affairs hospital facility and (2) identify patient demographics and psychiatric medication regimen prior to mania-related hospitalizations. **Methods:** This institutional review board–approved retrospective chart review will include adult veteran outpatients with a documented diagnosis of bipolar disorder or schizoaffective disorder prescribed an antidepressant who were admitted to our facility's inpatient psychiatry unit within a 24-month time frame. The review period is July 1, 2021, to June 30, 2023. The antidepressant classes evaluated are selective serotonin reuptake inhibitors, serotonin-norepinephrine reuptake inhibitors, serotonin modulators, tricyclic antidepressants, monoamine oxidase inhibitors, and atypical antidepressants (bupropion, mirtazapine). The presence of outpatient mood stabilizer(s) (lithium and antiepileptics with psychiatric indications) and/or antipsychotic(s) at time of each admission will also be evaluated. Patients of interest will be obtained through a validated database and further evaluated through chart review. Descriptive statistics will be used to analyze collected data, which will be deidentified and entered in a securely stored electronic spreadsheet. **Outcomes:** The primary outcome is number of mania-related, inpatient psychiatric hospitalizations within the review period. Secondary outcomes include psychiatric medication regimen upon admission, patient characteristics (age, sex assigned at birth, race/ethnicity), and outpatient antidepressant prescriber type (mental health or nonmental health). Incidental findings based on the preliminary data will include number of bipolar depressive admissions when actively taking an outpatient antidepressant within the review period.

Evaluating the Use of a Pharmacist Led Initiative in Reducing Anticholinergic Burden at a State Psychiatric Hospital

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Type: Work in progress. **Background:** Antidepressants, antipsychotics, and antihistamines have known anticholinergic properties and are prescribed concomitantly to treat psychiatric symptoms. The combined use of anticholinergic medication increases patient risk for adverse effects such as constipation, urinary retention, cognitive dysfunction, dementia, and falls. To help quantify a patient's anticholinergic burden, online calculators such as the Anticholinergic Burden (ACB) Scale have been validated for use. Pharmacists are well equipped to utilize the ACB Scale, interpret results, and provide alternative medication recommendations to reduce patient anticholinergic burden and associated risks. This study aims to evaluate the use of a pharmacist-led initiative in reducing the anticholinergic burden in patients admitted to a state psychiatric hospital. **Objectives:** The objectives are to (1) evaluate changes in outcomes postintervention, including changes in anticholinergic burden and bowel regimen prescribing and incidence of as-needed (PRN) medication use, number of medications used per incidence, and restraint use, and (2) examine which indication contributed the most to patient anticholinergic burden and assess changes in pill burden following intervention. **Methods:** Pending institutional review board approval, an educational in-service will be presented to prescribers on anticholinergic burden awareness and the purpose of the study. All currently admitted adult patients from February 1, 2024, to March 31, 2024, will be included if they have an ACB Scale score of 3 or more and received a PRN ACB Scale acknowledged anticholinergic medication for anxiety, agitation, extrapyramidal symptoms (EPS), or EPS prophylaxis or if they experienced a fall within 1 week of taking an ACB Scale acknowledged anticholinergic medication regardless of whether the medication was PRN or scheduled. An email will be sent to prescribers informing them of their patient's ACB Scale score, contributing medications, and recommendations for lowering their patient's anticholinergic burden. Outcomes will be compared a month prior to and following the recommended interventions. **Outcomes:** Findings will include changes in ACB Scale score, incidence and number of PRN medications, medications used per episode of acute agitation, bowel regimen prescribing, patient restraint use, and reduction in pill burden following the intervention. We will also report which indications contributed the most to the anticholinergic burden.

Evaluation of Aripiprazole in the Treatment of Food-Avoidant Behaviors Among Adolescents With Anorexia Nervosa

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Children's Hospital Colorado, Aurora, Colorado

Type: Work in progress. **Background:** Anorexia nervosa (AN) is characterized by severe cognitive distortions around eating, caloric intake, fear of weight gain, and body image. Given rising rates of hospitalizations related to AN among adolescents and young adults, there is interest in the role of psychotropic medications to treat its core symptoms. AN treatment guidelines carry conditional recommendations regarding the use of antipsychotics with some evidence describing improvement in cognitive distortions, food-avoidant behaviors, and cognitive rigidity. Whereas olanzapine has the most evidence, its use is limited by adverse effects. Aripiprazole has gained interest given its unique mechanism as a D2 receptor partial agonist and favorable side effect profile. The eating disorders program at our institution serves adolescents and young adults with NG-supported nutrition and family based therapy (FBT) as core treatment modalities. Psychiatric pharmacists, dieticians, child and adolescent psychiatrists, and pediatricians work together to provide diagnostic clarification and medication recommendations. For adolescents with AN and severe cognitive distortions/food-avoidant behaviors that interfere with participation in FBT, aripiprazole is a treatment of choice. This study aims to add to existing literature regarding the role of aripiprazole in adolescents with AN. **Objectives:** The objectives are to (1) describe the use of aripiprazole in adolescents with AN including dose, timing of initiation, and tolerability, and (2) examine differences in treatment outcomes between those initiated on aripiprazole to those not on aripiprazole. **Methods:** This retrospective cohort study included adolescents initiated on aripiprazole between July 1, 2018, and October 31, 2023, with a primary diagnosis of AN. Those who received aripiprazole were matched 1:2 with those not receiving an antipsychotic. Efficacy will be evaluated based on change in food-avoidance behaviors, cognitive distortions, and severe obsessional thinking as well as time to achieve individualized target weight. **Outcomes:** We will evaluate the optimal dose, duration, and timing of aripiprazole initiation. Additionally, efficacy will be analyzed with comparisons to control group for time to target weight, food-avoidance behaviors, caloric intake, and changes in cognitive rigidity.

Evaluation of Behavioral Health Pharmacy Advocates, a Training Program for Pharmacy Personnel

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[1] Saint Joseph's University, Philadelphia, Pennsylvania; [2] Community Behavioral Health, Philadelphia, Pennsylvania

Type: Work in progress. **Background:** Pharmacy personnel are a trusted and accessible resource in the community, allowing them to be a valuable connection for patients needing behavioral health (BH) and social determinants of health (SDOH) services. However, there are barriers to providing these services in pharmacies, including gaps in training and education. The Behavioral Health Pharmacy Advocates (BHPA) program was developed to address identified BH and SDOH training and education needs for pharmacy personnel in Pennsylvania. **Objective:** The objective is to evaluate the impact of a training program on the practice behaviors and attitudes of pharmacy personnel toward patients with BH or SDOH needs. **Methods:** Participants in the BHPA program will be recruited from preselected community pharmacies in Pennsylvania. The BHPA program consists of a 9.5-hour asynchronous component to be completed over 6 weeks and a 4.5-hour live training following completion of the asynchronous component. Participants will be asked to complete a survey assessing their attitudes toward providing BH and SDOH services prior to starting the BHPA program, immediately after completion, and 2 months later. Participants will also be asked to describe patient interactions they had relating to BH and SDOH in the 2 months following completion of the program, such as number of patients provided BH screenings. Additionally, volunteers from the larger participant group will be asked to participate in a focus group 2 months after completion of the program to gain narrative descriptions of their experiences in the pharmacy and elicit their opinions regarding the efficacy of the program. **Originality of project:** There is significant variability in mental health programs previously reported in the literature. This study will evaluate changes in practice behaviors and attitudes following a standardized training program. Outcomes will be measured at multiple time points to ensure that outcomes are sustained. **Significance of project:** The BHPA program is a tailored program developed to address previously identified barriers to providing BH and SDOH services in pharmacies and to help pharmacy personnel become advocates for patients with unmet needs. This study was designed to evaluate the impact of the BHPA program on the practice behaviors and attitudes of pharmacy personnel.

Evaluation of Bupropion Renal Dose Adjustment at an Inpatient Mental Health Facility to Optimize Patient Outcomes

Hallie Waggoner, PharmD Candidate 2025; Cailey Henderson, PharmD Candidate 2026; J. Michael McGuire, PharmD, BCPP

Type: Work in progress. **Introduction:** Currently, there is limited evidence available on the pharmacokinetics of bupropion in patients with renal impairment. Researchers hypothesize that bupropion has reduced renal clearance in patients with renal impairment. Based on the most up-to-

date literature, a maximum daily dose of 150 mg should be considered in patients with a CrCl <60 mL/minute. **Objective:** The objective is to retrospectively review bupropion use at an inpatient mental health facility to assess dose appropriateness based on creatinine clearance and anxiolytic/hypnotic use. **Methods:** The project is a retrospective chart review of the use of bupropion at an inpatient mental health facility. A report will be generated from the electronic medical record identifying all patients who have received bupropion since January 2016. The results will be analyzed from December 1, 2023, to March 1, 2024. The control group is patients with renal impairment who did not receive a renally adjusted dose of bupropion. Medical records will be reviewed for gender, age, race, bupropion dose, formulation, SCr, CrCl, sedative/hypnotic prescribing, anxiolytic prescribing, adverse events noted, and bupropion discontinued due to adverse events. Each patient included in the study will be numbered, and deidentified data will be entered into an Excel spreadsheet on the principal investigator's laptop. **Results:** Demographic data as described will be reported. Descriptive statistics will also be performed to compare patients who received renally adjusted dosing to those who did not, specifically regarding the frequency of sedative/hypnotic/anxiolytic usage. **Conclusion:** Conclusion will be based on the data collected.

Evaluation of Current Valproic Acid Monitoring Practices in Inpatient Psychiatric Settings

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Type: Work in progress. **Background:** Therapeutic drug monitoring is a key component of implementing valproic acid as part of a patient's medication treatment plan. Current guidelines recommend routine monitoring every 3 to 6 months for patients on chronic therapy, but the timing of monitoring after initiation or dose changes is not well defined. Pharmacokinetic data suggests steady state is achieved within 5 days of a dose change; however, the lack of consensus in current literature and mood disorder treatment guidelines contributes to variations in clinical practice. **Objectives:** The objectives are to (1) evaluate valproic acid monitoring practices in psychiatric hospital settings and (2) identify patterns in initial and maintenance therapeutic drug monitoring, baseline laboratory monitoring, and dose adjustments. **Methods:** This retrospective study will evaluate patients prescribed valproic acid at 7 acute psychiatric hospital sites between April 1, 2023, and September 30, 2023. Patients will be stratified into the following groups: continuation of therapy upon admission to facility (continuity of care), initiation of therapy at a study facility prior to March 1, 2023 (maintenance therapy), and initiation of therapy at a facility between April 1, 2023, and September 30, 2023 (new start therapy). Patients who started on valproic acid therapy at the facility within 30 days of the data-collection period and patients prescribed valproic acid orders for indications other than seizures or mood disorders will be excluded. Demographic data will include age, sex, height, and weight. Additional data points related to study objectives include order information (dose, frequency, start date, end date, indication), drug concentration information (concentration type, collection date, results), and baseline laboratory monitoring (complete blood count, comprehensive metabolic panel, human chorionic gonadotropin, thyroid stimulating hormone, and hepatic panel). Data will be grouped and analyzed as aggregate data sets for the 3 study groups. For continuous data points, descriptive statistical analysis will be used, including as t tests. For nominal, χ^2 tests will be performed. **Outcomes:** Study outcomes will include frequency and timing of therapeutic drug monitoring, timing of dose changes, and completion of suggested baseline monitoring.

Evaluation of Electrocardiogram Monitoring for Citalopram and Escitalopram

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Type: Work in progress. **Background:** The Unites States, United Kingdom, and Canada have released warnings regarding the potential for QTc prolongation in elderly patients on high doses of citalopram with the United Kingdom and Canada also providing warnings regarding escitalopram. These organizations recommended periodic monitoring, including the collection of electrocardiograms (EKGs), for patients >60 years of age on doses of citalopram >20 mg per day and patients >65 years of age on doses of escitalopram >10 mg per day. **Objectives:** The primary objective of this medication use evaluation was to see if EKG monitoring was being completed in accordance with regulatory guidance. **Methods:** This was a prospective chart review study with a prescriber educational intervention. Patients were included if they were >60 years of age on doses of citalopram >20 mg or if they were >65 years of age on doses of escitalopram >10 mg. Patients were excluded if they had not filled citalopram or escitalopram for 180 days before the study start date (August 1, 2023). Subjects were identified using a preexisting internal population management tool. Patients were divided into a preintervention (February 1, 2023, to August 1, 2023) and postintervention group (August 2, 2023, to February 29, 2024). Patients were further divided into the general prescribing groups of outpatient mental health, primary care,

residential rehabilitation treatment program, and outside prescribers. The intervention consisted of speaking with prescribers at group meetings and providing a handout of monitoring parameters. Data collected included demographic information, liver function tests, EKGs, drug interactions (specifically any that may prolong the QT interval), presence of cardiac risk factors (myocardial infarction, arrhythmia, congestive heart failure, angina), type of prescriber, presence of QTc prolongation, and dose decrease or discontinuation after intervention. Descriptive statistics and χ^2 analysis will be used to describe outcomes as appropriate. **Outcomes:** We will report the rate of EKG monitoring preintervention and postintervention, the rate of medication dose reduction preintervention and postintervention, and the rate of medication discontinuation preintervention and postintervention. Other data collected will be used in the future for possible further interventions.

Evaluation of Medication Assisted Treatment Program Enrollment and Treatment Retention, Pre and Post Drug Addiction Treatment Act Waiver Elimination

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Type: Work in progress. **Background:** A substance use disorder is a mental disorder that affects a person's behavior, leading to an inability to control one's use of substances of abuse. In 2021, 94% of people aged 12 or older with a substance use disorder did not receive any treatment, and a major consequence of this occurrence is overdose. The use of synthetic opioids was the main driver of drug overdose deaths with a nearly 7.5-fold increase from 2015 to 2021. Prior to December 29, 2022, providers were required to obtain an additional certification that would allow prescribing of buprenorphine in cases of opioid use disorder as stipulated by the Drug Addiction Treatment Act (DATA 2000). The Mainstreaming Addiction Treatment Act (within the omnibus legislative package of 2023), eliminated the DATA waiver program, enabling providers with schedule III prescribing authority to prescribe buprenorphine, thus expanding access. Medication-assisted treatment (MAT) is the use of medications in conjunction with behavioral therapies to provide a holistic approach to the treatment of substance use disorders. **Objectives:** The objectives are to (1) evaluate the changes in MAT enrollment and retention patients presenting with substance use disorders pre and post DATA waiver elimination and (2) evaluate 14- and 30-day postinduction retention of patients referred to services within the health care system as well as assess barriers to treatment retention. **Methods:** A retrospective chart review will be conducted in a large multisite health care system containing 5 hospitals. One hundred patients 18 years of age or older with documented substance use disorders presenting after an overdose and/or those that had MAT consults placed during their admission initiated on buprenorphine will be reviewed. Analysis of the electronic medical record will include patient demographics, race, length of hospitalization, substance use history, rehospitalization frequency, time to MAT induction, 14-day retention, 30-day retention, insured status, housing status, and successful patient transitions. The time interval for chart analysis will be from July 1, 2022, through June 30, 2023. Descriptive and correlation statistics will be conducted to analyze data. **Outcomes:** Patterns in MAT enrollment will be evaluated to determine the need for additional training or workflow changes to address barriers in engagement.

Evaluation of Pharmacy Resident Burnout and Career Satisfaction Based on Residency Staffing Model

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Type: Work in progress. **Background:** Despite standardization of postgraduate year 1 and 2 (PGY1 and PGY2) pharmacy residency programs through accreditation standards, there is variation in weekend staffing requirements. Research is limited relating to the influence of weekend staffing frequency on career satisfaction and the mitigation of burnout among pharmacy residents. **Objectives:** This study aims to elucidate relationships between the number of weekends staffed by pharmacy residents and (1) changes in burnout over time, (2) changes in career satisfaction, and (3) likelihood of pursuing future professional endeavors. **Methods:** This is an institutional review board–exempt prospective survey study of pharmacy residents enrolled in any accredited pharmacy residency program in California. Participants will complete an electronic survey e-mailed at 2 time points: August 15, 2023, and February 13, 2024. The survey encompasses demographic information, residency program characteristics, weekend staffing requirements, burnout measured by the Maslach Burnout Inventory: Human Services Survey for Medical Personnel (MBI-HSS [MP]), subjective Likert scale rankings regarding career satisfaction, and likelihood of pursuing professional pursuits (postgraduate training and board certification). Participants will be categorized into 3 cohorts based on yearly

required staffing at their residency programs: 16 weekends or more, 1 to 15 weekends, and no weekend staffing. The primary outcome is the difference in MBI-HSS [MP] scores between the 2 time points, analyzed by analysis of variance. Secondary outcomes include changes in Likert scale career satisfaction rankings analyzed by Kruskal-Wallis test, correlation between number of required staffing weekends and MBI-HSS [MP] score changes using Pearson's correlation test, and predictive factors for planned professional pursuits with MBI-HSS [MP] scores as the outcome variable using regression analyses. Descriptive statistics were used to report demographic information. **Results:** Baseline survey data from 107 respondents provided demographic insights with 81% identifying as female gender, 56% as Asian, and a mean age of 26.7 years. The majority of respondents were enrolled in PGY1 programs with a focus in acute care (48%), whereas 32% were enrolled in a PGY2 program. No statistically significant differences were observed among the 3 cohorts in any of the MBI-HSS [MP] domains nor career satisfaction at baseline. Results from the second survey are pending.

Evaluation of the Impact of Concomitant Valproic Acid and Lorazepam Administration on Sedation

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Type: Work in progress. **Background:** Many psychiatric medications carry the risk of central nervous system depression, particularly sedation. This can manifest as impairment in physical or mental capabilities. Specifically, the concomitant use of valproate (or its derivatives) and lorazepam is noted to have an interaction related to the inhibition of lorazepam metabolism. This interaction is only known with lorazepam and no other benzodiazepine. Despite this widely accepted interaction, there has been limited research examining the combined sedative effects when these 2 common medications are administered simultaneously. **Objectives:** The aim of this study is to determine the incidence of sedation in patients admitted to an inpatient psychiatric facility who received concomitant doses of lorazepam and valproic acid derivatives. Then, in a prospective fashion, this study will compare the incidence of sedation in the aforementioned patients to the incidence of sedation in patients who receive concomitant doses of clonazepam and valproic acid derivatives. **Methods:** The retrospective portion of this single-center cohort review includes adult patients admitted to an inpatient psychiatric facility between January 1, 2022, and April 29, 2023, who received concomitant administrations of valproic acid (or its derivatives) and lorazepam. The prospective segment will follow similarly; however, it will include clonazepam instead of lorazepam and will have a prospective time frame. Concomitant administration is defined as administrations within 24 hours of one another including all formulations, routes of administration, and frequencies for valproic acid and lorazepam. Chart review was conducted to identify any signs of sedation noted in progress notes. Search terms included *sedated, tired, sleepy, drowsy, and fatigued*. Other information, such as age, psychiatric diagnosis, and doses of valproate and lorazepam was also collected. The primary endpoint for this study is the incidence of sedation in each patient group. Secondary endpoints include the incidence of falls and the incidence of sedation in patients greater than 65 years of age, specifically. Approximately 800 patients were included in the retrospective section of this analysis, whereas the prospective portion has yet to be determined.

Evaluation of Treatment for Mania in Veterans Wth Bipolar I Disorder

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Type: Work in progress. **Background:** The 2010 Veterans Affairs /Department of Defense (VA/DoD) Clinical Practice Guideline for Management of Bipolar Disorder in Adults strongly recommended lithium, valproate, carbamazepine, aripiprazole, risperidone, or ziprasidone as first line treatment for mania. With the recent 2023 update, the guideline now suggests lithium or quetiapine as monotherapy followed by olanzapine, paliperidone, or risperidone as monotherapy if the former medications listed were not selected. With the update in the pharmacological selection from the VA/DoD 2023 guidelines, it is important to identify past treatment selection for management of acute mania and identify any patient characteristics that may have influenced therapy selection. **Objectives:** The objectives are to (1) evaluate medications initiated for management of bipolar I disorder mania and (2) identify prescribing patterns and correlation of patient characteristics at the time of therapy initiation. **Methods:** This is a single-center retrospective quality assurance/performance improvement (research and development and institutional review board exempt) chart review of patients at the Veterans Affairs Loma Linda Healthcare System who were diagnosed with bipolar I disorder and initiated on treatment from September 1, 2010, to August 31, 2023. Initial psychotropic medication(s) will be evaluated for management of bipolar I disorder. Data will be collected via Computerized Patient Record System and VA Corporate Data Warehouse. Veterans will be identified by International Classification of Diseases, 9th and 10th revisions, diagnosis relating to bipolar I disorder and screened by structured query language. Patient information will be collected via RedCap

and Microsoft Excel. Demographic information (age at which bipolar I treatment was initiated, gender, ethnicity, housing situation, height, weight, body mass index), clinical picture at the time of diagnosis (cholesterol panel, liver panel, renal panel, concomitant mental health diagnoses), and medication initiated for bipolar I treatment will be collected. All data will be analyzed through descriptive statistics, including frequencies, percentages, and means. **Outcomes:** The primary outcome is to evaluate the selection of initial psychotropic medication(s) in veterans with bipolar I disorder for the treatment of mania. Secondary outcomes of this project include identifying prescribing patterns and correlation of patient characteristics at the time of treatment initiation.

Evaluation of Workload and Burnout Among Psychiatric Pharmacists in the United States

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Type: Work in progress. **Background:** Burnout is an occupational phenomenon resulting from chronic workplace stress. Whereas burnout rates vary among health care professionals, a recent systematic review estimated pharmacist burnout rates to be as high as 75%. Although there is no established method to determine patient panel sizes and workloads among health care professionals, inappropriate panel sizes may lead to pharmacist burnout. **Objectives:** The objective is to survey psychiatric pharmacists with direct patient care responsibilities to determine the average psychiatric pharmacist workload and level of burnout. **Methods:** An online survey using Qualtrics will be administered to members of American Association of Psychiatric Pharmacists (AAPP) between January 8, 2024, and February 29, 2024. The survey will be distributed to board-certified psychiatric pharmacists who have been pharmacist members of AAPP for 5 consecutive membership years as of September 1, 2023, excluding members of this research group. Participants will be emailed 2 times during this period. Participants who do not submit a response after the second email will be contacted directly by members of the research team by email and/or phone to encourage survey completion. Survey respondents will be entered in a drawing to receive a discount code valued at $100 that can be used toward AAPP products for their participation. The survey contains 14 demographic questions, 22 questions from the Maslach Burnout Inventory Human Services Survey for Medical Personnel (MBI-HSS [MP]) and 11 questions related to practice activities and workload. They will receive 4 to 10 additional customized workload questions based on their primary practice setting. **Outcomes:** The primary outcome is to determine the average workload, including panel size, for psychiatric pharmacists across practice settings. Secondary outcomes include the amount of time spent on nonclinical activities, the level of burnout as defined by the MBI-HSS [MP] domains among psychiatric pharmacists, and the relationship between average workload and levels of burnout across different practice settings.

Examining the Correlation Between Follow-Up After Opioid Overdose and Clinical Outcomes at Los Angeles General Medical Center

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Type: Work in progress. **Introduction:** Opioid overdose deaths are one of the leading preventable causes of death. Although evidence-based treatment is available, many health systems struggle to provide adequate transitions of care services for people after they overdose on opioids. This retrospective cohort study assesses the correlation between follow-up care and clinical outcomes at a large urban academic medical center for opioid use disorder (OUD) treatment. This study was designed to assess the correlation between initial follow-up visits and the retention rate and, therefore, to assess how individuals present after overdose. **Objective:** The primary objective is to assess the correlation between the initial follow-up visit timing and the retention rate in OUD patients from emergency department (ED) discharge in 1 year. The secondary objective is to assess the rate of rehospitalization and mortality for addiction treatment. **Methods:** This institutional review board–approved retrospective cohort study will be based on data collection at Los Angeles General Medical Center (LAGMC). Information on patient demographics, diagnosis codes, medication records, hospitalization history, and progress notes will be assessed through a manual retrospective chart review. A Cox proportional hazard will be conducted to adjust for baseline characteristics, and a *t* test will be done to compare patients to determine significant differences between the means of each group. Last, descriptive statistics will be reported. Conclusions, correlations, and discussions will be drawn, as appropriate, based on the

results. **Outcomes:** We will collect follow-up appointment data from 584 patients' electronic medical records, who were discharged from the designated ED from LAGMC from September 2022 to October 2023.

Examining the Interventions of an Interdisciplinary Overdose Review Team at a Rural Veterans Affairs Medical Center

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Type: Work in progress. **Background:** The Stratification Tool for Opioid Risk Mitigation (STORM) Summary Report assesses data from electronic health records to estimate patients' risk of overdose and suicide. Percentage risk is based on chronic health conditions, adverse events, health care events, mental health conditions, and substance use disorders. These factors are compared to patients who have experienced overdose events or suicide attempts, and an extrapolated risk is calculated. In 2022, an interdisciplinary overdose review team (ORT) was developed at this hospital to respond in a systematic fashion to patients considered high risk for suicide and death by overdose. An ORT review is triggered either based on the STORM report or by electronic health record documentation of a veteran experiencing an overdose event in the past year. A monthly meeting is conducted with interventions being discussed, implemented, and documented in the patient's electronic health record using a standardized note template. **Objectives:** The objectives are to (1) examine the number of patients who had subsequent overdoses or suicide attempts following ORT review, (2) determine the percentage of patients who were dispensed naloxone, (3) assess the frequency of reduction in day supply of medications, (4) review the percentage of patients who followed up with a mental health provider after ORT coordination, and (5) review the percentage of patients with a diagnosed substance use disorder referred for treatment of this condition. **Methods:** This retrospective chart review will assess the interventions made during the monthly ORT meetings. Electronic charts of patients who have previously been reviewed by the ORT will be evaluated. Background information collected will include patient demographics, overdose or suicide event information (date, methods, outcomes), current medical and mental health conditions, and any high-risk flags. Information collected to assess implemented interventions will include subsequent overdose events or suicide attempts, naloxone dispensing, frequency of reduction in day supply of medications, and follow-ups or referrals coordinated. **Outcomes:** The investigators will assess the impact of the interventions made by the ORT for patients who are at high risk for overdose or suicide events. All patients who have been reviewed by the ORT will be included in the data collection and included in the final report.

Expanding Buprenorphine Access in a Primary Care Setting at an Ambulatory Outpatient Clinic

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Type: Work in Progress. **Background:** Buprenorphine has unique properties at the mu-opioid receptor that result in diminished effects of physical dependency to opioids, increased safety in cases of overdose, and lower potential for misuse, which can make it an ideal treatment option for individuals seeking assistance with opioid use disorder. One strategy to enhance buprenorphine's access and remove barriers to treatment is by introducing it within the primary care setting. Primary care providers (PCPs) are well positioned to expand access to buprenorphine treatment due to their accessibility, existing relationship with patients, and nonstigmatizing practice setting. It is important for primary care clinics to have a well-defined process in place for successful implementation of buprenorphine program. **Objectives:** The objectives are to (1) update the facility standard operating procedure (SOP) with the purpose of creating clear and well-defined policies and procedures for integrating buprenorphine treatment into the clinic and (2) increase PCP competency and comfort level with its prescribing and monitoring within their practice. **Methods:** This institutional review board–exempt project will be conducted primarily within an ambulatory outpatient clinic and primarily target its PCPs. Baseline data on familiarity with buprenorphine will be gathered using a survey sent out to all PCPs. Once baseline assessment is completed, gaps in knowledge will be identified and used to direct pharmacist-provided education to providers and other primary care staff regarding buprenorphine treatment guidelines, facility policies, and best practices. At the conclusion of the project and after education is provided, a final survey will be sent out to the same providers to assess change in provider comfort level with buprenorphine prescribing and monitoring. When collecting data and educating primary care staff, the SOP will be concurrently updated and undergo the necessary approval process for final publication. **Outcomes:** We will use information from the project, such as potential barriers and challenges that may arise, to guide successful implementation of a buprenorphine program within primary care services at an ambulatory outpatient clinic.

Exploring the Impact of Oral Antidepressant Class Selection on Esketamine-Treated Patients With Treatment-Resistant Depression

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Type: Work in progress. **Introduction:** Esketamine nasal spray is Federal Drug Administration–approved for use in combination with an oral antidepressant for treatment-resistant depression and major depression with suicidal ideation. Whereas there are various classes of antidepressants available on the market, neither short-term, maintenance-of-effect, nor 4-year Sustain-3 studies identified a difference in efficacy among various antidepressants. As such, the most efficacious oral antidepressant class to use with concurrent esketamine treatment has not been identified. Esketamine has a novel mechanism of action postulated to antagonize glutamate N-methyl-D-aspartate receptors. Garnering an understanding of the efficacy related to esketamine coadministration with traditional antidepressants is paramount to maximizing the efficacy of this treatment modality. **Objectives:** The primary objective is to evaluate which classes of oral antidepressants were used concomitantly with esketamine in those patients who attained remission, defined as a Montgomery-Asberg Depression Rating Scale (MADRS) score at or below 12 for at least 3 consecutive treatments. The secondary objective is to identify how many patients who achieved remission were taking 2 or more oral antidepressant medications. **Methods:** A retrospective electronic chart review of patients diagnosed with treatment-resistant depression undergoing esketamine treatment in an outpatient hospital clinic from January 1, 2023, through December 31, 2023, was performed. Inclusion criteria include patients diagnosed with treatment-resistant depression, defined as failure to 2 antidepressants at a therapeutic dose and appropriate duration and patients with a baseline MADRS score above 20 (indicative of moderate-to-severe depression). Exclusion criteria included patients with a baseline MADRS below 20 (indicative of mild depression); patients who stopped treatment within a month of initiation; and patients who stopped treatment due to inability to afford treatment, lack of effectiveness, or relocation. **Outcomes:** Primary outcome will be to determine which oral antidepressant classes were predominantly used alone or in combination in patients who received concomitant esketamine treatment and achieved remission as defined as MADRS score of 12 or less.

Exploring the Need for Weight Loss Interventions in Clozapine Patients at a Veterans Affairs Healthcare System

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Type: Work in progress. **Background:** Clozapine is a second generation antipsychotic that has extensive data surrounding its use in the management of treatment refractory schizophrenia and suicidal behaviors in schizophrenia/schizoaffective disorder as well as off-label use for treatment-resistant bipolar disorder and psychosis in Parkinson disease. Due to the engagement of various receptors centrally and peripherally, many patients receiving clozapine experience systemic metabolic dysregulation potentially leading to dyslipidemia, dysglycemia, weight gain, and obesity, thereby predisposing them to associated comorbidities, escalating the health care burden and stress. It is important to evaluate the current state of weight management accessibility and utilization for these patients and to develop informed strategies that prevent and treat clozapine-induced weight gain as well as identify patients who would benefit from pharmacologic intervention. **Objectives:** The objectives are to (1) identify interventions and pharmacotherapeutic agents used in the treatment of obesity and weight gain in patients on active clozapine treatment, (2) assess the distribution of risk factors that may contribute to weight gain in this population, and (3) explore the potential impact of newer pharmacotherapeutic agents for weight management in this population. **Methods:** This institutional review board–approved retrospective chart review will include adult patients who are actively receiving clozapine treatment within a midsized academic institution from their respective dates of initiation until October 31, 2023. Patients who have received at least 1 month of clozapine treatment will be included. Demographic information (age, sex, race, height, weight, body mass index) will be collected. Other pertinent data to be collected include date of clozapine initiation, initial weight, net change in weight, comorbid conditions, total duration on clozapine, weight loss methods trialed if applicable, and metabolic monitoring including lipids and HbA1C. Descriptive statistics will be performed to examine factors of clozapine-induced weight gain and associated interventions. **Outcomes:** Outcome measures will report changes in weight across the duration of clozapine treatment, the distribution of risk factors for weight gain, and compliance to guideline-directed metabolic monitoring. These outcomes will be analyzed to assess the prevalence of clozapine-associated obesity and the need for pharmacotherapeutic intervention. Data collected will be analyzed to determine methods that can be implemented to mitigate the risks for developing clozapine associated obesity.

Exploring the Potential Efficacy of Medical Cannabis for Major Depressive Disorder: A Systematic Review

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Type: Work in progress. **Background:** Major depressive disorder (MDD) is a debilitating condition marked by persistent feelings of sadness or disinterest in once-enjoyable activities, accompanied by a minimum of 2 weeks of at least 4 additional symptoms, causing significant distress. In the United States, MDD affects more than 20% of adults during their lifetime with approximately 10% impacted each year. In 2020, around 21 million adults experienced at least one MDD episode. Whereas second generation antidepressants are the primary treatment initiated by primary care clinicians, 70% of patients do not achieve remission after the first trial, and more than 60% may experience at least 1 adverse drug reaction. Patients have turned to cannabis for relief despite limited evidence. The Food and Drug Administration has not approved medical marijuana for the treatment of any depressive disorder. Medical cannabis products vary in their composition and administration methods, making it challenging to determine the ideal product for research purposes. The paucity of studies highlights the need for further research to address these complexities and gain a better understanding of the effects of medical cannabis on depression. **Objectives:** This ongoing systematic review aims to assess the existing literature on the safety and efficacy of cannabis in relieving MDD symptoms. Focus areas include cannabinoid formulations, dosages, administration routes, and associated risks. **Methods:** We will conduct a systematic review aligned with PRISMA 2020 guidelines, concentrating on the correlation between cannabis use and MDD. Our comprehensive search will span various databases, such as Cochrane Central Register of Controlled Trials, Embase, Grey Matters, Google Scholar, Medline, PsycInfo, PubMed, and Web of Science, encompassing articles from inception to January 1, 2024. Additionally, a manual search will supplement to include relevant published or gray literature. **Outcomes:** Our study aims to provide an updated and expanded review of the safety and efficacy of cannabinoid therapies for adult MDD patients across different dosages, formulations, and administration routes. The incorporation of gray literature aims to mitigate publication bias and foster more comprehensive insights.

Extent, Patterns, and Predictors of Contraception Use Among Women of Child-Bearing Age Prescribed Valproic Acid in the United States

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Type: Work in progress. **Background:** Although valproic acid (VPA) use in women of child-bearing age is highly discouraged due to the documented risk for major congenital malformations, there are scenarios in which its use in this population is determined to be clinically indicated. In these scenarios, it is recommended that women use effective contraception when using VPA. However, practical observations reveal instances in which patients are prescribed VPA without prior discussions about contraceptive options. This places reliance on the pharmacy to ensure that patients are concurrently using effective contraception when taking VPA. The purpose of this study is to determine the prevalence of women who are prescribed contraception concurrently with VPA in ambulatory care settings in the United States as well as what the patterns and predictors are of this practice. **Methods:** This retrospective, cross-sectional study used 2010–2021 Medical Expenditure Panel Survey data. Females between the ages of 12 to 49 were included. Contraception use was defined as oral contraceptive pills, patches, implants, injectables, vaginal rings, and intrauterine devices/system. VPA formulations included divalproex sodium syrup, divalproex sodium delayed release/extended release tablets, and divalproex sodium sprinkles capsules. A multivariable logistics regression analysis was performed adjusting for predisposing, enabling, and need factors. **Results:** Pending data analysis. **Conclusion:** Pending data analysis.

Hit Me With Your Best Shot: Implementation and Evaluation of Clinical Pharmacist Impact within a Long-Acting Injectable Antipsychotic Clinic at a Veterans Affairs Medical Center

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Type: Work in progress. **Background:** Oral medication adherence can pose a significant challenge for patients with serious mental illnesses. Research shows that patients managed on long-acting injectable antipsychotics (LAIAs) are more adherent and experience fewer psychiatric hospitalizations than those managed on oral antipsychotics. Some LAIAs have Food and Drug Administration (FDA)–approved directions for management of missed injections, whereas others lack guidance. A retrospective chart review coincidentally identified that 1 in 25 veterans on LAIAs who needed a dose adjustment based on FDA-approved

labeling or would have benefitted from an assessment received the appropriate adjustment or assessment. Medication review, counseling, and monitoring by a pharmacist are known to reduce inappropriate prescribing, and clinical settings should assess their implementation. **Objective:** Implement and evaluate expanded clinical pharmacist involvement into the workflow of a nursing-driven LAIA injection clinic at an urban Veterans Affairs medical center (VAMC). **Methods:** This quality improvement project will assess the impact of a clinical pharmacist in a VAMC LAIA injection clinic through a pilot period of September 12, 2023, to December 19, 2023. The pharmacist will conduct assessments prior to LAIA administration through patient interview and chart review. The active dose at time of assessment will be verified for accuracy, and dose adjustment will be discussed with prescribers as appropriate. Collected data will include name, dose, frequency, indication, and administration dates of LAIAs, appropriateness of dose, need for dose adjustment/assessment, monitoring parameters, interventions made, medication errors identified, and percentage of days covered. The data collected during the pilot period will be compared with measures from the same clinic 1 year prior to implementation. Descriptive statistics will be used to analyze the results of this project. Appropriate bivariate statistics (t test, χ^2) will be reported. **Outcomes:** The impact of pharmacist implementation will be reported through analysis of the number of assessments and interventions as well as patient adherence to LAIAs compared with the same clinic prior to pharmacist involvement.

Impact of Antipsychotic Therapeutic Drug Monitoring in a Mental Health Intensive Case Management Team

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Type: Work in progress. **Background:** Therapeutic drug monitoring (TDM) for antipsychotics is not widely utilized but can offer valuable objective data to make clinical decisions. The consensus guideline for TDM was developed by the American Society of Clinical Psychopharmacology in 2020. The guidelines identified specific patient groups who may benefit most from antipsychotic blood concentration monitoring, which includes individuals with suspected nonadherence, concerns for efficacy despite optimized dosing, dose-related side effects, polypharmacy, and transitioning to different formulations. Inadequate treatment of schizophrenia due to high rates of noncompliance and side effects could cause increased morbidity rates and hospitalization. TDM could provide a swift and cost-effective tool to optimize treatment outcomes. An interdisciplinary outpatient mental health team designed to treat serious mental illness was selected to implement a pharmacist-led antipsychotic TDM service due to the complexity of medication regimens and the frequent communication required between veterans and team members. **Objectives:** The objectives are to (1) assess effects of antipsychotic TDM on management of schizophrenia symptoms, occurrence of antipsychotic side effects, and medication adjustments in an outpatient clinic setting; (2) examine ordering patterns of serum concentrations; and (3) evaluate the appropriateness of timing for a TDM test and interpretation of results. **Methods:** This retrospective chart review will include patients with schizophrenia who have undergone antipsychotic TDM through a newly implemented pharmacist-led service at an outpatient clinic from September 1, 2023, through February 29, 2024. Data collection will include demographic information and pertinent clinical details including diagnoses, antipsychotic regimen, concomitant medications for managing side effects, indication for TDM, time of laboratory sample collection, serum concentration results, therapeutic modifications made due to TDM, Positive and Negative Symptom Scale-6 scores, and Glasgow Antipsychotic Side-effect Scale scores. Descriptive statistical analysis will be used to report the outcomes and compare data between different groups. **Outcomes:** TDM indication and serum concentrations will be reported. Interpretation of antipsychotic concentrations and timing of sample collection will be assessed. Therapeutic changes and acceptance rates of pharmacist recommendations will be described. Symptom severity and antipsychotic tolerability will be compared between groups based on serum concentration category (subtherapeutic, therapeutic, supratherapeutic) and within individuals with medication adjustments based on TDM.

Impact of Medication Reviews by Pharmacists in Veterans Flagged as High Risk for Suicide

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Type: Work in progress. **Background:** In 2020, the suicide rate in veterans was more than 50% greater than for nonveteran US adults. Suicide prevention has become a national priority. Among veterans of all ages, suicide is the 13th leading cause of death and the second leading cause of death among veterans under age 45. Nationally, the Department of Veterans Affairs (VA) has implemented a flag to the electronic medical record (EMR) to alert providers if veterans are at high risk of suicide. When flags are initiated, mental health pharmacists are notified to review patient medications and make recommendations to reduce day supply. This helps decrease access to medications associated with toxicity in

overdose. The rate of recommendation implementation as well as the impact of these pharmacist-made interventions are currently unknown. **Objectives:** The objectives are to (1) determine the rate of recommendation implementation and (2) evaluate flag extension, inpatient psychiatric admissions, suicide attempts, and death by suicide. **Methods:** This is an institutional review board–exempt retrospective, cohort study that will assess the value of pharmacist medication reviews in patients flagged high risk for suicide between July 1, 2020, and July 1, 2023, at a single-site VA medical center. Eligible subjects will include individuals flagged as high risk for suicide. Patients will be excluded if no medication recommendations are made by pharmacy review, if they are admitted to the hospital or a residential program, or if their care is transferred to another facility. The EMR will be utilized for chart review. Collected information will include patient age, gender, race, psychiatric history, reason for flag, and pharmacist-made recommendations. Objectives will be analyzed by using descriptive statistics. **Outcomes:** Outcomes will report the rate of recommendation implementation via reducing days' supply of medications associated with toxicity in overdose and will also evaluate the significance of these interventions.

Impact of Pharmacist Administration of Long-Acting Injectable Antipsychotics in Community Pharmacies

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Type: Work in progress. **Background:** Literature confirms that long-acting injectable antipsychotics (LAIAs) reduce medication burden and improve adherence for patients with severe mental illness. Additionally, LAIAs are shown to improve mortality, quality of life, and reduce rehospitalizations when compared with oral therapies. Despite literature highlighting these benefits, LAIAs are still widely underutilized throughout the United States. In an effort to reduce barriers to care and improve accessibility, institutions have started to explore pharmacist administration of LAIAs in community settings. The aim of this study is to assess the impact of community pharmacist versus nonpharmacist administration of LAIAs on adherence. **Objectives:** The primary objective is to evaluate the adherence rates as determined by the proportion of days covered (PDC) of LAIAs for pharmacist administration compared to nonpharmacist administration. The secondary objectives include determining no-show rates of pharmacist versus nonpharmacist appointments, comparing hospitalizations and emergency department visits between groups, determining if guideline recommended metabolic labs are ordered at appropriate intervals, and assessing if specific social determinants of health factors (SDOH) affect adherence rates. **Methods:** This study will consist of a retrospective chart review of patients receiving at least 1 LAIA injection by a pharmacist from August 1, 2021, through September 30, 2023. A historical control group of patients with an LAIA administered by a nonpharmacist health care provider with matched inclusion criteria, diagnosis codes, age, and sex will be obtained from the electronic medical record as a comparator group within the same time frame. Patients will be included if they are $\geq$18 years old and received at least 1 dose of a LAIA injection within the health system's community pharmacies or other outpatient clinics. Analysis of the primary endpoint, PDC for LAIAs administered at pharmacist versus nonpharmacist appointments, will be assessed using a paired *t* test. Secondary objectives will also utilize a paired *t* test. The secondary objective of the impact of SDOH on adherence rate will be evaluated using a χ^2 test and regression analysis. P-values $<$ .05 will be considered statistically significant. **Outcomes:** We will report the PDC of patients who received an LAIA from a pharmacist versus a nonpharmacist and secondary objectives.

Impact of Pharmacist Intervention on Appropriate Prescribed Stimulant Monitoring Among Veterans

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Veterans Affairs Northern California Health Care System

Type: Work in progress. **Background:** Prescribed stimulants are generally prescribed for attention deficit hyperactivity disorder (ADHD) along with other Food and Drug Administration–approved indications such as narcolepsy and binge eating disorder. The prevalence of ADHD was estimated to be ~4%; however, from 2006 to 2016, prescription stimulants increased by 250%. As of December 14, 2023, only 43.7% of 735 patients with prescribed stimulants were considered appropriately monitored at the Veterans Affairs Northern California Health Care System (VANCHCS). Due to cardiovascular concerns associated with stimulants, patients should be periodically monitored for changes in heart rate or blood pressure. The increase in stimulant prescribing among adults and older adults emphasizes the need for monitoring to ensure patient safety and reduce the risk of adverse outcomes. **Objectives:** The objectives are to (1) identify strategies to improve monitoring for prescribed stimulants and (2) evaluate the impact of pharmacist intervention on prescribed stimulant monitoring practices. **Methods:** This is an institutional review board–exempt, prospective, single-center improvement project evaluating the changes in prescribed stimulant monitoring at VANCHCS from December 14, 2023,

through February 14, 2023. Primary outcome is the change in percentage of patients who required monitoring parameters for prescribed stimulants post the education session. Key secondary outcomes include total number of patients with missing blood pressure readings within the last 6 months and number of missing urine drug screens within the last year. The participants in the preintervention and postintervention will be located through the Psychotropic Drug Safety Initiative dashboard, which identifies actionable patients within VANCHCS. We define actionable patient as someone with an outpatient stimulant prescription who does not have a blood pressure reading within the past 6 months and/or does not have a urine toxicology within the past 12 months documented. Interventions include an in-service(s) highlighting the importance of Rx Stim monitoring and sharing patient lists to providers with the greatest number of actionable patients. **Outcomes:** We will report demographics of patients who have been identified by this dashboard and compare preintervention and postintervention outcome data.

Impact of Pharmacist Led Contingency Management in Patients With Substance Use Disorders

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Type: Work in progress. **Background:** Contingency management (CM) is a type of behavioral treatment that offers rewards to individuals who meet their goals of the treatment program. These programs have gained popularity in the substance use disorder (SUD) population (ie, alcohol use disorder [AUD], opioid use disorder [OUD], stimulant use disorder). CM has proven to be an effective treatment for stimulant use disorder and has aided many patients in achieving abstinence from stimulants. Many providers, including pharmacists, are exploring the utility and efficacy of CM within their clinics and are implementing treatment programs across the country. **Objectives:** The primary objective is to determine the number of patients enrolled in pharmacist-led CM in categories of both abstinence and adherence. Secondary objectives include percentage of completed CM appointments, number of injections completed, type of injection received, number of draws given, dollar amount of vouchers given, and percentage of appropriate urine drug screen results. Descriptive statistics will be utilized to collect information regarding results. **Methods:** This multisite, observational, descriptive study will use data from 3 sites across the health care system and include all patients receiving pharmacist-led CM for the treatment of substance use disorders. Patients receiving both adherence and abstinence CM will be included. Patients excluded include any patient not enrolled in pharmacist-led CM. The time frame for data collection will be November 13, 2017, to December 31, 2023. Patient data collected will include demographic information, indication for treatment, length of time enrolled in clinic, type of CM, length of time in pharmacist-led CM program, type of SUD, and concomitant mental health disorders. Data collection will primarily be done via manual chart review and review of site-specific CM Excel sheets required nationally for each CM program. However, an informatics request will be placed for all pertinent information, such as patient demographics, type of SUD, and concomitant mental health disorders. **Outcomes:** Information reported will include demographic information of patients who were enrolled in a pharmacist-led CM program within the 3 health care sites. Outcomes will be separated depending on if a patient is enrolled in abstinence or adherence CM. Concomitant SUDs and mental health disorders for the patient will also be reported.

Impact of Pharmacist-Driven Intervention to Improve Long-Acting Injectable Paliperidone Palmitate Administration and Ordering

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Type: Work in progress. **Background:** Paliperidone palmitate comes in monthly, 3-month, and 6-month formulations. Monthly paliperidone palmitate initiation involves 2 loading doses that are 7 days apart and both administered in the deltoid. Maintenance dose is initiated 5 weeks after the first loading dose and can be administered in either the gluteus or deltoid. Furthermore, it is renally dosed when creatinine clearance is less than 80 mL/min. An incorrect administration site along with incorrect dosing intervals can alter the pharmacokinetics of the medication and as a result, patient outcomes. Lack of standardized practice in ordering and administrating long-acting injectable antipsychotics is a risk factor for errors, and there is a significant knowledge gap in understanding the extent of medication errors and related problems. **Objectives:** The objective is to assess the frequency of pharmacokinetic-altering medication administration and ordering errors in patients receiving paliperidone palmitate pre and post implementation of a pharmacist-driven education program. **Methods:** This was a single-center, retrospective chart review. Patients were included if they were receiving paliperidone palmitate and had a diagnosis of schizophrenia or schizoaffective disorder. Patients were excluded if they were receiving

paliperidone palmitate for an alternative diagnosis or if the medication was initiated at a different facility than study site. Patients receiving medication from January 1, 2021, through July 31, 2023, were included in preintervention data and patients receiving medication from November 1, 2023, through February 29, 2024, will be included in postintervention data. Intervention consisted of pharmacy led education regarding paliperidone palmitate dosing and administration provided to appropriate nursing staff and providers. Descriptive statistics will be used to compare preintervention and postintervention data. **Outcomes:** The primary outcome is the rate of correct administration site when initiating paliperidone palmitate. Secondary outcomes include number of patients appropriately dose-adjusted based on their renal function and time between first initiation dose and monthly maintenance dose.

Impact of Pharmacist-Led Ambulatory Alcohol Detoxification

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Veterans Affairs Tennessee Valley Healthcare System, Nashville, Tennessee

Type: Work in progress. **Background:** Alcohol withdrawal syndrome (AWS) is a complication of alcohol use disorder commonly encountered. Management of AWS is routinely done in the inpatient setting; however, in a significant number of patients, ambulatory alcohol detoxification is safe, effective, and appropriate. It can improve access to care, improve uptake into addiction treatment services, and save on health care spending, necessitating the need for further awareness and implementation. A standard of practice (SOP) was developed at a health care facility by a multidisciplinary work group, including pharmacists, to expand outpatient alcohol detoxification. Since the inception of the SOP, clinical pharmacist practitioners (CPP) have spearheaded the management of these patients. This project aims to describe pharmacist impact and spread awareness to improve patient access and outcomes. **Objective:** The objective is to quantify the clinical impact of pharmacist-led ambulatory alcohol detoxification by analyzing patient outcomes during and after the detoxification period. **Methods:** This will be a single-centered, retrospective review conducted at a health care system. Patients will be included in the study if they participated in ambulatory alcohol detoxification with a CPP from April 1, 2019, to December 31, 2023. The primary outcome will be the rate of patients who successfully completed ambulatory alcohol detoxification defined as completing all scheduled appointments per facility detoxification protocol and self-reported abstinence from alcohol through the detoxification period. Secondary outcomes will include number of alcohol-related emergency department visits and/or admissions at 1 and 3 months, number of patients that returned to use of alcohol within 1 and 3 months, and retention rate in outpatient addiction treatment at 3 and 6 months from date of initiation of ambulatory detoxification. Medications used for ambulatory detoxification as well as the specific referral routes will be described. For individuals that failed ambulatory alcohol detoxification, reasons for such will be categorized. Further, a cost-avoidance analysis will be conducted. Data will be collected via a combination of warehouse extraction and manual chart review. Descriptive statistics will be utilized. **Outcomes:** For patients who underwent ambulatory alcohol detoxification with a CPP, we will report demographics, success rate, alcohol-related emergency visits, uptake into treatment, medications utilized, reasons for failure, and cost avoidance.

Impact of Pharmacist-Led Intervention in Veteran Patients With Positive Alcohol Use Disorder Identification Test on Access to Care and Clinical Metrics

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Salem Veterans Affairs Health Care System, Salem, Virginia

Type: Work in progress. **Background:** Alcohol use disorder (AUD) is a significant disorder among the veteran population. Factors such as limited health care literacy, awareness, and perceived stigma may limit access to care, and pharmacists are well positioned to bridge this care gap. **Objectives:** To evaluate the impact of pharmacist-led intervention (PLI) via telephone encounter on access to care in veterans with a positive AUD identification test (AUDIT-C) using the Veterans Health Administration academic detailing dashboard for AUD. **Methods:** This quality improvement project will include veterans at least 18 years of age with a positive AUDIT-C screen ($\geq$5) without a completed brief intervention (BI) in the past year. All patients were mailed an educational packet prior to the pharmacist initiating a telephone call, and a note was entered in the patient's chart alerting the provider irrespective of whether the patient answered the telephone call. Demographic information (age, sex, race, height, weight, and body mass index) will be collected. The primary outcome is the proportion of patients who completed BI following PLI. Secondary outcomes were the proportion of patients who completed a referral with a mental health provider for behavioral counseling or pharmacotherapy and the change in mean AUDIT-C score within 90 days in patients with a successful pharmacist telephone encounter. We also aim to evaluate if

factors such as age, sex, rurality, and preexisting comorbidities impact the likelihood of patients to accept referral. Descriptive statistics will be used for reporting baseline demographics, paired *t* test used to assess AUDIT-C score change from baseline, and logistic regression will be used to analyze the association between risk factors and accepted referral. **Outcomes:** Of the 388 patients screened, 267 were included, and 154 answered the pharmacist's call. The median age was 58 years with a majority male population (91.01%). PLI resulted in BI completion in 36.7% (98/267) of patients. Of the 154 patients who answered the pharmacist's call, 40 (25.97%) referrals were initiated (25 behavioral versus 15 pharmacotherapy). Final analysis reported will include the proportion of patients who completed referrals to psychotherapy, pharmacists, those initiating pharmacotherapy, and change in mean AUDIT-C score at 90 days post PLI from baseline.

Impact of the Stimulant Shortage on Prescribing Patterns in a Child and Adolescent Psychiatry Outpatient Clinic

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Type: Work in progress. **Background:** Stimulant medications, including amphetamines and methylphenidate, are the recommended first line pharmacologic therapy for attention deficit hyperactivity disorder (ADHD). The stimulant shortage was first recognized by the Food and Drug Administration in October 2022 and is believed to be the result of decreased manufacturing and increased stimulant prescribing, particularly during the COVID-19 pandemic. Previous studies describe alterations in treatment, medication errors, and adverse effects due to drug shortages. The clinical impact of the stimulant shortage is currently unknown. Additional guidance on appropriate therapeutic substitutions or alternatives to stimulant medications is needed to prevent interruptions in therapy. Compiling this data can help inform best practices and create strategies for future shortages. **Objectives:** The objectives are to (1) evaluate the changes in stimulant prescribing patterns during the shortage and (2) characterize the impacts of the shortage on patient care. **Methods:** This is a retrospective medical record review of children and adolescents seen in an outpatient psychiatry clinic between April 1, 2022, and March 31, 2023. Patients aged 6 to 17 years who are diagnosed with ADHD will be included if they were prescribed a stable dose of mixed amphetamine salts for at least 3 months prior to October 1, 2022, which will be considered the shortage start date. Data from stimulant prescriptions will be collected, including date prescribed, medication, dose, frequency, and receiving pharmacy. Data on newly prescribed nonstimulant medications for ADHD will also be collected as well as any documented communications related to medication availability. **Outcomes:** Patient demographics and the stimulant dose prescribed prior to October 1, 2022, will be reported. The primary endpoint is whether or not patients previously taking a stable dose of mixed amphetamine salts experienced a change in stimulant formulation during the shortage. Changes in formulation include switching between short- and long-acting preparations, starting a different amphetamine salt, or starting any methylphenidate product. Secondary endpoints are to further characterize changes in stimulant dose and formulation, assess the use of nonstimulant medications for ADHD, and describe other impacts of the shortage, such as the number of pharmacies utilized for stimulant prescriptions and clinic communications for lack of product availability.

Implementation and Impact of Psychotropic Stewardship at a Large Academic Medical Center

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Type: Work in progress. **Background:** In 2023, the American Association of Psychiatric Pharmacists published a vision paper on psychotropic stewardship (PS), advocating for every patient with a psychiatric disorder to have medications reviewed, optimized, and managed by a psychiatric pharmacist (PP). By highlighting known opportunities in psychiatric care, including but not limited to transitions of care, patient education, and therapeutic drug monitoring, this paper emphasizes the importance of PP contributions to patient care. Currently, no publications are available to demonstrate implementation of PS at institutions. We set out to perform a quality improvement project at our large academic medical center (AMC) for this purpose. To facilitate implementation and data collection, a PS reporting tool was created and embedded in the electronic medical record. **Objectives:** The objectives are to (1) optimize the new PS tool to minimize false flags, (2) determine the impact of having a PS program on patient care at a large AMC, and (3) assess the personnel requirements needed to maintain the described PS initiatives and services. **Methods:** This quality improvement project included adults who met criteria in the new tool when admitted October 1 to December 1, 2023. Patients in the emergency department, inpatient psychiatric unit, and short-stay units were excluded. Flagging criteria included current order for an antipsychotic, antidepressant, benzodiazepine, or other high risk psychotropic such as carbamazepine, lamotrigine,

lithium, naltrexone, oxcarbazepine, phenobarbital, phenytoin, or valproate. Medication regimens were evaluated for safety based on the patient's previous treatment, organ function, interactions, and drug concentrations. Demographic information was collected in addition to data points such as primary medical service, renal function, need for and nature of intervention, and overall patient outcome. **Outcomes:** The functionality of the tool will be evaluated for efficiency based on the frequency of interventions for each flag (false positives) and for accuracy by comparing with retrospective medication administration reports. Patient outcomes will be evaluated based on completed interventions, changes in patient status postintervention, and potential patient harm in absence of intervention. Time required for stewardship report review and specific interventions will be assessed to determine personnel requirements for maintaining PS. Data analysis will be completed January to February 2024 with project completion by March 2024.

Implementation of a Pharmacist Driven Long-Acting Injectable Antipsychotic Transitions of Care Service

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Type: Work in progress. **Background:** Long-acting injectable antipsychotics (LAIAs) have become a mainstay in the management of psychotic disorders as they are associated with improved adherence compared with oral antipsychotics. However, despite their benefits, many patients fail to receive follow-up doses of LAIAs with discontinuation rates up to 60% due to deficits in transitions in care (TOC). As pharmacists are key players in the TOC process, it is important to determine the exact roles the pharmacist can play in improving LAIA adherence. **Objectives:** The primary objective of this study is to evaluate the outcomes associated with the implementation of a pharmacist-driven TOC service for LAIAs with the goal of improving adherence. **Methods:** This study will be submitted to the institutional review board for approval. Patients who received an LAIA while admitted to the inpatient treatment facility from September 1, 2023, through December 31, 2023, will be entered into the study. Pharmacist-driven TOC interventions will include an "LAI card" for recordkeeping, LAIA counseling, ensuring the LAIA is documented in discharge paperwork, and a courtesy call the week prior to the next LAIA due date. Demographics (age, gender, psychiatric diagnosis, and race), details on the LAIA that was given, and details about outpatient follow-up appointments will be collected. After courtesy calls are placed, additional data will be collected (whether patient was reached, duration of call, documentation of side effects). Finally, after LAIA due dates have passed, chart review will be performed to determine if patients received follow-up LAIs. Outcomes for the group of patients who received all four of the pharmacist-driven TOC interventions described will be compared with patients who did not receive the interventions within the same time frame. **Outcomes:** The primary outcome of the study is the percentage of patients who received a follow-up LAIA after discharge. Per preliminary data, 8% (2/26) patients who received an LAIA during an inpatient admission were confirmed to have received their follow-up dose after discharge. Thus far, a limitation is the lack of patient contact information documented in the electronic medical record (out of service numbers, family members' numbers only, or no contact information).

Implementation of a Pharmacist-Driven Long-Acting Injectable Antipsychotic Stewardship Program at the Veterans Affairs Sierra Nevada Health Care System

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Type: Work in progress. **Background:** When first introduced more than 40 years ago, long-acting injectable antipsychotics (LAIAs) were designed to improve the long-term treatment of schizophrenia. Since then, LAIAs have been well documented in literature to improve tolerability compared with oral formulations in treating schizophrenia and schizoaffective and bipolar disorder. Currently, 11 different formulations are available, each with specific recommendations for dose, interval, administration site, missed dose protocol, and drug-interactions. Variability between products can lead to inappropriate dosing and administration, resulting in adverse outcomes. This project will assess the impact of pharmacist interventions on appropriate LAIA dosing and administration protocols. **Objectives:** The objectives are to (1) evaluate annual metabolic and electrocardiogram monitoring practices, (2) generate note templates to aid in documentation of clinical pharmacist interventions, and (3) identify cost-savings of pharmacist

interventions made for LAIA management. **Methods:** The cohort will include patients with a diagnosis of schizophrenia or schizoaffective or bipolar disorder, who also have an active clinic order for haloperidol, fluphenazine, aripiprazole, risperidone, or paliperidone LAIAs. Next, chart review will be conducted for all patients identified, collecting information about current LAIA regimen, treatment history, and status on completing annual metabolic and electrocardiogram monitoring. In addition, note templates will be generated to aid in clinical decision making and documentation of recommendations, using manufacturer's package inserts and available clinical treatment guidelines. As opportunities for interventions present, including new start patients, the resident or mental health clinical pharmacist will clinically evaluate patients and provide recommendations for appropriate agent, dose, dosing interval, and administration site, also considering drug interactions and renal/hepatic function. Interventions will be tracked throughout the project period and will be used to evaluate the benefit of these resources and interventions in preventing adverse outcomes and their associated costs. Categories for interventions include "dosing recommendations", "administration errors", and "monitoring errors/omissions". **Outcomes:** We will report the percentage of veterans completing annual metabolic and electrocardiogram monitoring as well as evaluate accuracy of LAIA administrations. Last, we will report cost-avoidance as a result of pharmacist interventions in LAIA management.

Implementation of a Pharmacist-Led Mental Health Transitions of Care Clinic for Patients Discharged from a Residential Rehabilitation Treatment Program

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Type: Work in progress. **Background:** Transitions of care (ToC) are challenging for both patients and providers. It is estimated that up to 60% of medication errors occur during ToC. Incomplete or poor communication, lack of follow-up, or low patient engagement are common barriers. Data suggest that pharmacist involvement in ToC improves medication adherence, increases follow-up rate, decreases readmission rates, and reduces medication errors. Our health care system's Mental Health Residential Rehabilitation Treatment Program (MHRRTP) is a voluntary, residential, 45-day program for patients to actively engage in mental health treatment. Upon discharge from the MHRRTP, patients are referred to one of the mental health or substance use disorder clinics within the same health care system. There remains a need for a well-integrated ToC service for these patients. **Objectives:** The objectives are to (1) establish a pharmacist-led mental health ToC clinic for patients discharged from the MHRRTP and (2) assess pharmacist interventions made during the ToC clinic appointments. **Methods:** Between October 17, 2023, and February 27, 2024, patients with scheduled discharges from the MHRRTP will be screened for clinic eligibility and contacted during the week of discharge to schedule a telephone visit within 14 days of discharge if agreeable. Telephone visits will be led by a pharmacy resident specializing in psychiatry. Demographic data will be collected. Additionally, pharmacist intervention data will be collected. Services provided postdischarge will include medication reconciliation, patient education, laboratory monitoring, coordination of care or referrals, and medication management as indicated. All interventions will be documented in the electronic medical record. Descriptive statistics will be performed to evaluate the effect of the ToC clinic on patient outcomes. **Outcomes:** We will report outcomes including compliance with follow-up appointments in the patient's destination clinic, mental health–related readmissions, and pharmacist interventions made during the appointment(s). **Interim Results:** As of November 30, 2023, 30 patients were screened for eligibility for the ToC clinic, 14 of which met criteria. Of those patients, 5 either refused service or were unable to be contacted. There were 9 patients seen as part of the ToC service. The most common interventions were adherence counseling (3), scheduling clarification (3), and medication recommendations to the primary mental health provider (2).

Implementation of a Standardized Buprenorphine/Naloxone Induction Protocol on an Inpatient Psychiatry Unit

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Clement J. Zablocki Veterans Affairs Medical Center, Milwaukee, Wisconsin

Type: Work in progress. **Background:** Veterans may be more susceptible to opioid use disorder (OUD) due to the need for chronic pain management and comorbid mental health conditions/substance use disorder. Medications for OUD, such as buprenorphine/naloxone, have been shown to prevent withdrawal symptoms and reduce cravings. It is imperative to establish a standardized buprenorphine/naloxone induction protocol to increase provider confidence and improve OUD treatment quality and consistency in the inpatient psychiatry unit. **Objectives:** The objectives are to (1) design and implement a standardized buprenorphine/naloxone induction protocol based on current guidelines and evidence-based medicine and (2) assess induction outcomes and provider comfortability and confidence pre/post implementation of the standardized buprenorphine/

naloxone protocol. **Methods:** This quality improvement project from November 1, 2023, through April 1, 2024, will consist of protocol creation and implementation by utilizing current guidelines and collaborating with project stakeholders: substance use disorder physicians, pharmacy leadership, and inpatient psychiatrists. Education to nurses, physicians, and pharmacists regarding OUD and the initiation of the standardized protocol will also take place. Veterans admitted to the inpatient psychiatry unit for OUD and started on buprenorphine/naloxone pre/post protocol implementation will be included for data collection. Veterans who are continuing previously established outpatient buprenorphine/naloxone or who were prematurely discharged prior to complete induction (discharged before at least 2 days of induction dosing) will be excluded. Pertinent data to be collected include Clinical Opiate Withdrawal Scores during induction, use of supportive medications for withdrawal, length of hospital stay, buprenorphine/naloxone dose at discharge, 30-day adherence, and whether outpatient follow-up was placed and completed. A pre/post survey will also be sent to inpatient psychiatrists during the project period to assess comfortability initiating buprenorphine/naloxone. Data analysis will be limited to descriptive statistics performed in Excel to examine factors determining induction success and prescribing confidence.

Implementation of Modified Minnesota Detoxification Scale Monitoring for Alcohol Withdrawal at an Academic Psychiatric Facility

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Type: Work in progress. **Background:** Patients who abruptly stop the consumption of alcohol are at risk of alcohol withdrawal syndrome (AWS). Severe AWS can result in seizures, delirium, and, potentially, death. The 2020 American Society of Addiction Medicine guideline for alcohol withdrawal recommends the use of a validated clinical withdrawal scoring tool to assess the severity of a patient's withdrawal. The Minnesota Detoxification Scale (MINDS) was designed for use in an intensive care unit (ICU) to eliminate the need for patients to respond to questions. The modified MINDS (mMINDS) provides detailed definitions to help guide nursing in objectively scoring patients withdrawal symptoms. The mMINDS tool has been validated in the ICU but has not yet been validated for use in a psychiatric facility. **Objectives:** The primary objective is to determine if use of mMINDS is preferable by nurses and increases confidence in assessing withdrawal symptoms compared with the current standard of care. The secondary objective is to determine if use of mMINDS results in similar rates of administration of as needed benzodiazepines. **Methods:** This study is being conducted at an adult inpatient psychiatric hospital. In October 2023, all nurses were trained on the mMINDS protocol, and it went live October 23, 2023. After 3 months of use of the mMINDS, nurses will complete a survey to assess their preference and confidence with using mMINDS. A retrospective review will also be conducted on all patients, 18 years and older, monitored for AWS both pre (November 1, 2022, to January 31, 2023) and post (November 1, 2023, to January 31, 2024) implementation of mMINDS. Demographics (age, gender, race), cumulative dose of benzodiazepine received, confounding medications administered, time being monitored and initiation of medication for alcohol use disorder will be collected. Descriptive statistics will be performed to assess nursing preference between the tools, confidence, and rates of administration of as-needed benzodiazepines. **Outcomes:** We will report on nursing preference and comfort with using mMINDS to monitor for AWS in psychiatric patients. Additionally, we will review cumulative administration of benzodiazepines in both the pre and post groups to determine if rates are similar between the 2 groups.

Improving the Utilization of Long-Acting Injectable Antipsychotics in Eligible Veterans at a Veterans Affairs Outpatient Health Care System

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Type: Work in progress. **Background:** Mental health disorders are leading causes of disease burden with consequences of relapse, hospitalization, and suicide. Serious mental illnesses (SMI), such as schizophrenia, bipolar I disorder (BPD-I), and related affective disorders, have large medication nonadherence rates, contributing to these consequences. Long-acting injectable antipsychotics (LAIAs), targeting treatment adherence, minimize the negative outcomes from medication noncompliance in patients with SMI. LAIAs can also prevent relapse, decrease hospitalizations and suicide risk, and minimize functional disability. Although LAIAs are available at our Veterans Affairs (VA) facility, 92% of veterans would benefit from an LAIA trial for SMI with >50% of these veterans having a history of medication nonadherence and/or past hospitalizations. **Objective:** The objective is to increase the use of LAIAs in eligible veterans within a VA outpatient clinic for the indication(s) of schizophrenia, BPD-I, or related affective disorders. **Methods:** This retrospective chart review from September 29, 2023, to November 27, 2023, will include adult veterans at a VA outpatient clinic with schizophrenia, BPD-I, or a related affective disorder who have an active

prescription for aripiprazole, paliperidone, or risperidone. The following will be collected: active drug name with dose/route of administration, psychiatric diagnosis, history of relapse(s) and hospitalization(s) within the past 24 months, suicide attempt(s), contraindication(s) to LAIAs, and documentation of patient/provider declining LAIA use. An educational intervention will be provided to psychiatric providers within our VA facility on December 13, 2023, to report chart review findings and provide LAIA education. Postintervention data collection will occur between December 15, 2023, through March 15, 2023. A paired *t* test will compare the preintervention and postintervention difference between the number of veterans with an active LAIA prescription at 90 days postintervention. Descriptive statistics will summarize patient demographic data and measure secondary outcomes. **Outcomes:** The primary outcome reported will include the percentage increase in veterans receiving LAIA treatment with aripiprazole, paliperidone, or risperidone for schizophrenia, BPD-I, or related affective disorders 90 days postintervention. Secondary outcomes include time to initiate LAIA therapy from postintervention, percentage of LAIA therapy initiated for each psychiatric condition, and adverse event(s) related to LAIA therapy reported anytime during the 90 days postintervention.

Improving Veteran No-Show Rates at an Outpatient Mental Health Clinic Through Implementation of Measurement-Based Care Reminders

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Type: Work in progress. **Background:** Appointment no-shows are long-standing issues in health care that are shown to be detrimental to patient health outcomes; resource use; and the quality, operational efficiency, and anticipated revenue of health care services and providers. Reducing no-show rates in mental health remains an especially critical objective as it is estimated that as many as 60% of appointments are not completed due to no-shows. Previous literature shows that text and phone reminders prior to appointments can significantly decrease the risk of no-shows compared with no reminders at all. Measurement-based care (MBC) surveys are a tool frequently used in mental health to assess patients' symptom burden and can be useful in tracking treatment response. This project sought to use MBC surveys as an efficient method of reminding patients of their upcoming mental health appointments to improve the no-show rate in an outpatient mental health clinic. **Objectives:** The objective is to improve the no-show rate of veterans in a hybrid (face-to-face and virtual) Veterans Affairs (VA) outpatient mental health clinic. **Methods:** A series of MBC surveys were sent to veterans who had a face-to-face or VA Video Connect outpatient mental health appointment scheduled between October 1, 2023, and December 31, 2023, within a single Behavioral Health Interdisciplinary Program (BHIP) Clinical Pharmacy Practitioner (CPP) clinic. MBC surveys were sent to patients the morning prior to their scheduled appointment through Behavioral Health Laboratory software with the primary intent of serving as an appointment reminder. Standard of care MBC screeners (Patient Health Questionnaire-9, General Anxiety Disorder-7, PTSD Checklist for DSM-5, Alcohol Use Disorders Identification Test) were sent to assess mood, anxiety, trauma-related symptoms, and alcohol use across all veterans regardless of their clinical diagnoses. Preintervention and postintervention data will then be compared using the Power BI application to assess for improvement in no-show rate between the first quarters of the 2022 and 2023 fiscal years. **Outcomes:** We will report the difference in no-show rate of veterans in a single BHIP CPP hybrid VA outpatient mental health clinic between the first quarters of the 2022 and 2023 fiscal years (October 1, 2022, through December 31, 2022, and October 1, 2023, through December 31, 2023).

Increase Access to Naloxone for Veterans Enrolled in Home-Based Primary Care

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Type: Work in progress. **Background:** Veterans enrolled in home-based primary care (HBPC) tend to be elderly, homebound veterans who receive care through home or virtual visits. The geriatric population carries additional risk factors that may increase the risk for overdose. Per Centers for Disease Control statistics, adults over the age of 65 have shown an increase from 2000 to 2020 in overdose deaths from 2.4 to 8.8 per 100,000 adults, and deaths by synthetic opioids increased by 53%. Despite these trends, patients over the age of 65 were 1.5 times less likely to be prescribed naloxone than their younger counterparts. **Objectives:** The primary objective is to assess net increase in intranasal naloxone distribution from baseline to 3 months. The secondary objective is to review results from nursing survey administered at baseline and 3 months post-education. Identify any reported uses of intranasal naloxone. **Methods:** This is a pilot project for veterans enrolled at the Veterans Affairs HBPC program. Nursing staff will complete a survey at baseline and 3 months after intranasal naloxone education to assess their confidence in locating and administering naloxone in a veteran's residence.

Veterans enrolled in 1 HBPC panel will be screened to ensure all eligible individuals have an active script for naloxone, and those who do not will be ordered 2 doses (1 box) of 4 mg intranasal naloxone. Veterans eligible include those with active opioid prescriptions and a history of substance use disorders (opioids/illicit substances) or those who request it from HBPC staff. A handout will be provided that includes naloxone administration instructions, pictures, and an area to document naloxone location in the residence. **Outcomes:** The outcomes looked at will be presented as descriptive statistics and include number of naloxone kits prescribed, indication for prescribing, if naloxone can or cannot be located in the patient's home at the end of the project period, whether naloxone was administered, and results of nursing surveys.

Influence of Patient Gender on Antipsychotic Selection in an Acute Inpatient Setting

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Type: Work in progress. **Background:** There has been an increase in focus on antipsychotic-induced weight gain and cardiometabolic adverse effects, especially with second generation antipsychotics. It is important to identify if gender affects antipsychotic selection in the inpatient setting. Women tend to be more susceptible to metabolic side effects, which may impact antipsychotic selection for serious mental illness. This may lead to prescribing disparities for men and women potentially resulting in an underutilization of more effective treatment in women leading to poorer treatment outcomes. This may also lead to lower consideration of metabolic side effects and risk factors in men, which can impact overall patient health. **Objective:** The objectives are to (1) determine if there is a difference in antipsychotic selection for men and women diagnosed with schizophrenia, schizoaffective disorder, and/or bipolar disorder in the inpatient setting and (2) compare antipsychotic prescribing patterns for men and women in the inpatient setting controlling for demographic and comorbid conditions. **Methods:** This retrospective chart review will include adult patients started on a new antipsychotic medication in the inpatient setting between January 1, 2019, and December 1, 2023. Antipsychotics will be stratified based on metabolic effect risks. Patients will be excluded if they are on dual antipsychotic therapy, prescribed clozapine, or restarted on their most recent outpatient antipsychotic. Demographic information (age, gender, race, ethnicity, body mass index, pregnancy status, and legal status) will be collected as well as admission diagnosis, number of psychiatric hospitalizations in the previous year, number of previous antipsychotic trials, baseline A1c, lipids, blood pressure, previous adverse drug reactions to antipsychotics, antipsychotic prescriber, and relevant comorbid diagnoses, including hypertension, diabetes, hyperlipidemia, coronary artery disease, PTSD, depression, and substance use disorder. Appropriate statistical tests will be used to determine if there is a significant difference in the metabolic side effect risk of antipsychotics prescribed to women versus men in the acute inpatient psychiatric setting. **Outcomes:** We will report prescribing patterns of antipsychotic medications based on metabolic side effect risk for men and women to identify if women are more likely to be prescribed a lower metabolic risk antipsychotic on the acute psychiatric inpatient unit compared with male patients.

Integration of a Clinical Pharmacist Into the Geriatric Psychiatry Treatment Team Within a Veterans Affairs Health Care System

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Type: Work in progress. **Background:** Within the mental health department of a Veterans Affairs health care system, an interdisciplinary treatment team comprising psychiatrists, social workers, and nurses work collaboratively to optimize care for patients assigned to the facility's geriatric psychiatry outpatient treatment program. The patients within the geriatric psychiatry treatment program are often complex in that they have a number of diagnoses and receive a multitude of medications from various providers. Many patients also reside in nursing homes that prescribe and provide medications to their residents, but rely on outside providers, such as geriatric psychiatrists, for their expertise in managing mental health conditions. Currently, there is no clinical pharmacist assigned to work with this treatment team. **Objectives:** The primary objective of this project is to demonstrate the utility of a clinical pharmacist within the geriatric psychiatry treatment team. A number of outcomes were tracked to assess this utility, including completion of e-consults placed by the geriatric psychiatrist, identification of medication discrepancies prior to and after scheduled appointments, communication with residential facilities to discuss recommended medication changes, and updates made to the medication list to reflect currently prescribed medications. **Methods:** This prospective quality improvement project will be facilitated through collaboration with the providers on the geriatric psychiatry team within a Veterans Affairs health care system. When feasible, attendance at weekly treatment team meetings will allow for identification of areas for pharmacy involvement. Additional areas for pharmacist involvement will be communicated by the geriatric psychiatrist to the clinical pharmacy resident on an ongoing basis. Methods to optimize patient care for the team will include but are not limited to completion of consults, contact with residential facilities,

and collaboration with providers to optimize medication management. **Outcomes:** The results obtained throughout the year for the aforementioned objectives will be outlined through the use of descriptive statistics, and results will be presented at the American Association of Psychiatric Pharmacists annual meeting.

Investigating Presence of Race-Based Prescribing Differences in Hospitalized Patients Starting Buprenorphine Using the Transdermal Patch Microinduction Method

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Type: Work in progress. **Background:** The United States has seen a substantial rise in opioid use and overdose deaths over the past several years. In 2021, there were 80 411 overdose deaths involving opioids. In San Francisco, there were 635 overdose deaths involving an opioid, cocaine/crack, or methamphetamine; 80% of these deaths involved an opioid. Between 2013 and 2022, Black/African Americans had a 5-fold higher overdose rate compared with all race/ethnicity groups. Buprenorphine is a partial opioid agonist that can help prevent opioid deaths because of its ceiling effect with respiratory depression. There are published studies looking at insurance claims data showing that Black/African Americans are less likely to receive buprenorphine for opioid use disorder (OUD). Other published literature shows that Black patients in emergency department settings are less likely to receive buprenorphine. To further add to the published research, our study is interested in examining if there are differences in achievement of a therapeutic buprenorphine dose between White and Black/African American hospitalized patients starting buprenorphine using the transdermal patch method. **Objectives:** The primary outcome is to assess whether there is a difference in achieving a therapeutic buprenorphine dose ($\geq$16 mg daily) between Black/African American and White hospitalized patients starting buprenorphine using the transdermal patch method. **Methods:** A retrospective chart review will be conducted on patients with fentanyl use disorder who started buprenorphine using the transdermal patch method between January 1, 2021, and November 1, 2023, to assess the final therapeutic dose of buprenorphine. Demographic information as well as other psychiatric diagnoses, stimulant use disorder, length of hospital stay, and type of discharge will be collected. Patients will be excluded if they are pregnant or incarcerated. **Results:** Pending data analysis. **Conclusions:** The results from this study will be useful in assessing if hospitalized Black/African American patients are being undertreated for their OUD compared with White patients and guide quality improvement initiatives.

Investigation of the Effects of Medication Adherence on Hospital Admission

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Type: Work in progress. **Background:** The World Health Organization identifies medication nonadherence as the leading cause of preventable morbidity, mortality, and health care costs. The New England Healthcare Institute estimates that nonadherence along with suboptimal drug administration and other adherence-related causes cost the health care system as much as $290 billion per year or 13% of total health care expenditures. It is estimated that from 1992 to 2001 there were 53 million visits to the emergency department (ED) due to a psychiatric chief complaint. Up to 25% of all ED visits are due to psychiatric emergencies. Additionally, numerous studies show persons with at least 1 psychiatric diagnosis are more likely to have physical comorbidities, especially obesity, cardiovascular diseases, and diabetes. The Healthcare Effectiveness Data and Information Set (HEDIS) is a tool US health plans use to measure performance on care and service to decrease expenditures among high-risk patients with respiratory, cardiovascular, diabetes, behavioral health, and substance use disorders. Using HEDIS could identify patients that may benefit from psychiatric pharmacy services to better manage their care before enduring negative health outcomes. **Objectives:** Analyzing risk factors for ED or hospital admission in ambulatory care patients with 1 or more psychiatric, neurologic, common chronic lifestyle diseases, including hypertension, hyperlipidemia, and diabetes, and/or medication compliance concerns. Identifying the highest risk patients for using acute hospital services may aid priority to receive psychiatric pharmacy services, incorporate improved preventative medicine strategies and improve patient management in primary care. **Methods:** This institutional review board–approved retrospective study will include adult patients from a large urban ambulatory care group establishing pharmacy services. Data collected from January 1 to December 31, 2023, will include patients' gender, age, prescribing physician, psychiatric and/or neurologic diagnosis, ED and hospital admissions data, and chronic medication compliance data by insurance payers percent days covered (for renin angiotensin system–antagonists, statins, or noninsulin diabetes medications). Data will be cleaned, coded, and analyzed in Microsoft Excel to identify correlations between psychiatric or neurologic diagnosis, or medication nonadherence as influencing factors for ED and hospital admissions. **Outcomes:** These

findings may help identify high-risk patients, necessitating preventative care measures that psychiatric pharmacist services target to improve health care quality and decrease medical expenditures.

Involvement in Pediatric Psychiatry Pharmacy Intern Shift Improves Self-Efficacy/Comfort

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Type: Work in progress. **Background:** Exposing pharmacy students to patient medication education groups (PMEGs) in inpatient psychiatry settings improves attitudes toward mental health conditions and self-efficacy conducting PMEG. However, literature regarding pharmacy intern levels of comfort interacting with and providing care for youth with mental health conditions and self-efficacy leading PMEGs in adolescent psychiatry is lacking. Pharmacy interns have demonstrated the ability to serve as clinical extenders, affording the opportunity to optimize clinical skills and propose psychotropic medication interventions. In 2019, the psychiatry pharmacy intern shift (PPIS) at Children's Hospital Colorado was created to improve psychotropic medication outcomes among adolescents and provide early clinical psychiatry exposure for pharmacy interns. PPIS is staffed once weekly and includes a 1-hour PMEG in the inpatient adolescent psychiatry unit. During PMEG, medication-themed games (eg, *Jeopardy*) are utilized to discuss psychotropic medications and encourage engagement. Following PMEG, pharmacy interns review medication interventions with psychiatric pharmacists and document interventions in the electronic health record. The goals of PMEG are to provide education regarding treatment options for various mental health conditions, provide education on psychotropic medications, and minimize stigma to empower adolescents to advocate for their mental health care. **Objectives:** The objective is to evaluate the impact of PPIS participation on (1) pharmacy intern comfort providing care for youth with mental health conditions and (2) self-efficacy leading PMEG. **Methods:** Pharmacy interns completed an online survey prior to involvement in PPIS (baseline), posttraining (time point 1), and 1-year post staffing PPIS (time point 2). The online survey consisted of 3 sections: (1) mental health attitudes, stigma, comfort; (2) psychotropic medication knowledge; and (3) PMEG self-efficacy. Anonymous survey data was delivered, stored, and interpreted via RedCap®. **Outcomes:** Descriptive statistics will be used to report demographic data and the impact of pharmacy intern participation in weekly PMEG on (1) pharmacy intern comfort interacting with and providing care for youth with mental health conditions and (2) self-efficacy leading PMEG from time baseline to time point 2.

Medication Use Evaluation of Microinduction of Buprenorphine-Naloxone in a Stepped Care Model

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Type: Work in progress. **Background:** Buprenorphine is a gold-standard medication for opioid use disorder (MOUD) due to the established reductions in mortality and overdose as well as improvements in quality of life and treatment retention. Standard induction of buprenorphine, which is initiated when a patient is already experiencing mild-to-moderate withdrawal symptoms, is a common practice but can be distressing for patients. However, microinduction of buprenorphine is an emerging practice to minimize precipitated withdrawal symptoms and other negative consequences for a patient trying to start MOUD. Our facility offers a walk-in clinic using the Veteran Health Administration's stepped care for opioid use disorder (SCOUTT) model for patients who wish to start MOUD in the outpatient setting and incorporates a microinduction protocol to transition patients from full-agonist opioids who have not yet experienced withdrawal symptoms. **Objectives:** The objective is to evaluate the usage and safety of buprenorphine-naloxone in the setting of outpatient microinduction within the SCOUTT model walk-in clinic. This evaluation will include prescription information, pertinent laboratory values, appropriateness of microinduction, treatment side effects, treatment retention, and 30-day hospitalization or overdose. **Methods:** This institutional review board–exempt retrospective medication use evaluation will assess usage of buprenorphine-naloxone from January 1, 2022, through June 30, 2023. Patients will be included if they are at least 18 years old, have a history of opioid use disorder, and were started on microinduction of buprenorphine-naloxone sublingual films in the stepped care clinic. Demographic data will also be collected, including age, previous history of MOUD, and last opiate use. Descriptive statistics will be performed to analyze both study objectives and demographic data. **Outcomes:** We will report the appropriateness and trends of buprenorphine-naloxone microinduction based on patients' last reported opiate use, withdrawal symptoms, and urine drug screen. Treatment success will be determined by decreased overdose rates and

increased treatment retention. Safety will be reported using patient-reported side effects, liver function tests, and urine drug screen.

Mental Health Care Utilization Among Transgender Individuals in a Community Psychiatric Hospital

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Type: Work in progress. **Background:** Recent guidelines support initiating gender affirming hormone therapy (GAHT) in adolescents as young as 14 years old. Despite current literature generally supporting improved mental health outcomes for individuals receiving gender-affirming care, antitransgender legislation continues to be introduced across the country. Current literature is mostly limited to self-reported improvement, anxiety/depression scoring, and suicidality. It is imperative to assess the use of inpatient behavioral health services and psychotropic medication patterns to provide evidence that gender-affirming care improves many mental health outcomes. **Objectives:** The objectives are to (1) evaluate readmission rates of transgender individuals on GAHT versus those not on GAHT and (2) identify psychotropic medication prescribing patterns in transgender individuals. **Methods:** This institutional review board–approved, retrospective chart review will include patients who are aged 14 years or older, identify as transgender, and were admitted to an inpatient behavioral health unit between May 1, 2019, and June 30, 2023. Patients who are greater than 89 years old, pregnant, incarcerated, on puberty blocker therapy alone, or have undergone gender-affirming surgical procedures will be excluded from the study. Data will be collected via the electronic medical record. Demographic information (age, sex assigned at birth, gender identity, race) will be collected. Other pertinent data to be collected include psychiatric diagnoses, medical comorbidities, length of stay, 30- and 90-day readmission rates, changes made to psychotropic medications during admission, and psychotropic medications on discharge. Descriptive statistics will be utilized to evaluate baseline demographics. A χ^2 or Fisher exact test will be used for nominal data, whereas normally distributed data will be analyzed using parametric tests as appropriate. **Outcomes:** We will report differences in 90-day readmission rates between transgender individuals on GAHT versus those not on GAHT. Secondary outcomes include psychotropic medication utilization, 30-day readmission rates, time to readmission, and hospital length of stay. Psychotropic medication utilization will be evaluated by medication class, number of psychotropic medications on admission versus discharge, and number of psychotropic medication changes.

Overdose Prevention Strategies in High-Risk Youth Populations: Effect of Pharmacist-Driven Intervention and Interprofessional Collaboration

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Type: Work in progress. **Background:** In 2018 and 2019, 18.8% of adolescents aged 12 to 17 years seriously considered attempting suicide, 15.7% made a suicide plan, and 8.9% attempted suicide. Intentional overdoses are on the rise in the United States, especially among the child and adolescent population, and a 94% increase in overdose-related deaths was seen from 2019 to 2020 alone. Much of the current evidence around overdose harm reduction involves opioids or illicit substances with limited data available on prescription, over-the-counter medications or non-drug substances. In addition to public medication disposal bins, the Centers for Disease Control and Prevention has evidence-based strategies for medication safety and opioid overdose prevention, but their use is not well known. **Objectives:** The objectives are to (1) develop and implement pharmacist-driven harm-reduction interventions to reduce overdose harm in high-risk youth and (2) gain insight into the utility and effectiveness of overdose harm-reduction strategies. **Methods:** Pharmacist-driven interventions will be implemented in collaboration with psychiatrists, nurses, and therapists in an outpatient psychiatry clinic for children and adolescents who are at risk for suicidal behavior. A preintervention provider survey will be conducted to assess current harm-reduction practices followed by targeted education on state overdose trends in addition to a review of harm-reduction strategies. The next phase of the intervention includes distribution of overdose harm-reduction kits containing lockboxes and/or medication disposal packets along with written patient/caregiver education on medication safety in the home. Finally, we will administer postintervention provider surveys to assess the impact of the intervention. **Outcomes:** We will assess change in provider awareness regarding overdose trends and harm reduction strategies preintervention and postintervention. In addition, we will assess use and perceived benefit of overdose harm-reduction resources.

Patients Requiring Early Administration of Maintenance Long-Acting Injectable Antipsychotic Dose

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Type: Work in progress. **Background:** There are several long-acting injectable (LAI) antipsychotics available for treatment of schizophrenia and bipolar disorder, each with varying durations of action. Their rates of absorption and metabolism can be affected by many factors. Some patients experience breakthrough symptoms despite compliance with a prescribed medication regimen. Some, including several patients at an outpatient long-acting therapy (LAT) clinic, require more frequent dosing to adequately manage their symptoms. As the number of available LAIs continue to increase, it is important to identify how many patients need more frequent dosing. Additionally, it can be beneficial to identify any commonalities between these patients and if there is any impact on side effect severity. **Objectives:** The primary objective is to identify the number of patients that required early administration of a maintenance LAI dose. The secondary objective is to compare severity of side effects in patients requiring early administration versus those who did not. **Methods:** This retrospective analysis will include all patients who presented to the LAT clinic for their LAI antipsychotic for at least 3 consecutive visits between January 1, 2023, and December 31, 2023. Patients will be excluded if they did not have 3 consecutive visits to the LAT clinic, if any of the 3 consecutive visits fell beyond the recommended manufacturer administration window, or if they received an LAI with a different active ingredient at any of the 3 visits. Demographic information (age, gender, race, weight) will be collected. Additional data include diagnosis, medication name, prescribed frequency, site of administration, concomitant oral antipsychotics, drug interactions, average Glasgow Antipsychotic Side-Effect Scale score, need for hospital admission, whether patient required administration prior to due date, and, if so, reason why. Descriptive statistics will be used to quantify the number of patients who did and did not require early administration of maintenance LAI, and *t* tests will be performed to compare side effect severity between the 2 groups. **Outcomes:** Outcomes to be assessed include the number of patients requiring early administration of maintenance LAI dose and severity of side effects experienced by patients requiring early administration of LAI dose in comparison with those that do not.

Pharmacist Managed Anxiety and Depression Treatment at a Federally Qualified Health Center

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The Centers, Cleveland, Ohio

Type: Work in progress. **Background:** Primary care providers are tasked with providing care for numerous patients and several disease states. While cases of depression and anxiety may be appropriate for primary care treatment, it may be difficult for providers to give adequate attention to these diagnoses. Consequently, behavioral health providers are tasked with seeing patients who may not warrant specialized care. Pharmacists can bridge this gap in care by providing anxiety and depression treatment in collaboration with primary care and behavioral health providers. **Objectives:** (1) Implement a collaborative practice agreement (CPA) for pharmacists to manage depression and/or anxiety in the primary care setting. (2) Increase continuity of care and create a bridge between primary care and psychiatry. (3) Assess CPA effectiveness through retrospective research. **Methods:** A collaborative practice agreement (CPA) will be established between clinical pharmacists and primary care providers. The CPA details specific clinical activities to be completed by pharmacists, and treatment recommendations guided by American Psychological Association and National Institute for Health and Care Excellence guidelines. A Patient Health Questionnare-9 (PHQ-9) and/or Generalized Anxiety Disorder-7 (GAD-7) must be completed upon enrolling into the CPA and at least every six months thereafter. Pharmacists are required to speak to patients at least every eight weeks. Frequent follow-up will allow for titration or adjustment of medications as needed. Pharmacists may manage a maximum of two medications, one for depression and one for anxiety. Patients who may benefit from treatment with greater than two medications are no longer appropriate for treatment through the CPA and are to be referred to psychiatry. Clinical pharmacists, who already work closely with behavioral health providers, could provide a handoff and create smooth transitions to the referred behavioral health providers. Pending IRB-approval retrospective data will be collected to assess CPA effectiveness. **Conclusion:** Available data specifically for this CPA will be reported. This includes number of patients enrolled, patient demographics, entering PHQ-9/GAD-7 scores, medications initiated, and average follow-up time. The number of patients currently established with psychiatry that fit CPA parameters will be reported to assess potential impact of the CPA.

Pharmacist-Led Intervention to Improve Adherence of Antidepressants and Address Potential Barriers Using Population Health Dashboard at a Rural Veterans Hospital

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Salem Veterans Affairs Health Care System, Salem, Virginia

Type: Work in progress. **Background:** About 1 in 8 to 10 veterans have major depression requiring treatment with psychotherapy or antidepressants. Antidepressants are the first line treatment; however, nearly two thirds fail to achieve remission due to associated barriers including nonadherence and medication discontinuation. Pharmacists are well trained to identify and address factors affecting treatment response, such as adverse effects, nonadherence, and social barriers to care. **Objectives:** The objective is to evaluate the impact of pharmacist-led intervention (PLI) via telephone encounter on antidepressant adherence, access to care, and socioeconomic barriers to medication adherence. **Methods:** This quality improvement project will include patients (≥18years) prescribed antidepressants identified for potential nonadherence obtained utilizing the Veterans Affairs Electronic Quality Measures electronic health record system. Nonadherence was defined as a medication possession ratio (MPR) less than 80% within either the effective acute phase treatment (12 weeks) (MDD43h) or effective continuation phase treatment (6 months) (MDD47h). Patients currently followed by a mental health provider were excluded. Pharmacist encounters were initiated via telephone call, and a note was entered in patient charts to alert the prescriber, irrespective of whether the patient answered the call. Demographic information (age, sex, race) will be collected. Other pertinent data to be collected include comorbidities, antidepressants, prescriber specialty, adherence, barriers to care, and referrals accepted. The primary outcome is to evaluate pharmacist intervention on antidepressant adherence as measured by preintervention and postintervention MPR and proportion of patients with in whom antidepressant was refilled within 90 days from PLI. Secondary outcomes include describing socioeconomic barriers to medication adherence, reporting interventions to address identified barriers, and proportion of patients referred to health care providers within 90 days of PLI. Descriptive statistics will be performed for reporting results. **Outcomes:** A total of 57 patients were initially screened, and 33 patients were included after applying the exclusion criteria. Current patient outreach is ongoing. Baseline demographics and outcomes analysis is pending.

Pharmacist-Provided Education on Antipsychotic Monitoring Parameters After the COVID-19 Pandemic

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Type: Work in progress. **Background:** Shifts to telehealth during the COVID-19 pandemic impeded providers' ability to perform recommended metabolic and movement disorder monitoring for antipsychotics. As these monitoring parameters are recommended by national guidelines on the use of these medications, finding methods of improving these monitoring rates in important to improve patient safety. Now that visits are returning to in person, educating providers on the need to reintroduce these monitoring parameters into patient care is required. **Objectives:** The objectives are to (1) determine an effective method of educating providers on the need to perform this monitoring as recommended and (2) compare monitoring rates across 3 time points near the end of the pandemic, after a written educational intervention, and after an educational in-service provided by pharmacists. **Methods:** This institutional review board–approved retrospective review examined the monitoring rates for movement and metabolic disorders for patients receiving antipsychotics from mental health (MH) and primary care (PC) providers at our community health center. Three specific time points were measured: a baseline measurement from June 1, 2021, to June 1, 2022, near the end of the pandemic; a second measurement from October 1, 2022, and February 23, 2023, after distribution of an educational flyer to all providers on October 1, 2022; and a third measurement from February 25, 2023, to November 30, 2023, after an educational in-service to all providers on February 24, 2023. A sample of patients for each provider at each time point was examined, and data on all recommended parameters were recorded, including weight/body mass index, lipid panels, glucose/hemoglobin A1c, Abnormal Involuntary Movement Scale results, and other movement disorder assessments. To ensure appropriate sampling, only providers prescribing antipsychotics to at least 3 to 5 patients were included in the analysis. **Outcomes:** The monitoring rates for each parameter will be compared across time points to determine if either educational intervention was more effective in improving prescriber adherence to recommended guidelines from baseline. Additionally, comparisons of monitoring rates between MH and PC providers will also be performed to determine if either provider population demonstrated greater improvements compared with each other. Patient factors such as age, gender, and race will also be examined for potential impact on monitoring rates.

Pharmacists' Attitudes Toward Psychedelics and Their Use in Therapy

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Type: Work in progress. **Previously Presented:** Vizient at the American Society of Health System Pharmacists, December 2023, Anaheim, California. **Background:** In the 1970s, the psychedelics 3,4-Methylenedioxymethamphetamine (MDMA) and psilocybin were classified as Schedule I drugs, which led to significant regulatory hurdles in continuation in research regarding their therapeutic uses. In

May 2022, the Department of Health and Human Services announced that MDMA for posttraumatic stress disorder and psilocybin for depression and anxiety would potentially receive Food and Drug Administration (FDA) approval in the following 2 years. In June 2023, the FDA published draft guidance to highlight fundamental considerations for researchers investigating the use of psychedelic drugs as potential treatment options. There have been numerous recent studies showing the efficacy and adverse effect profiles of these medications. **Objectives:** There have been studies surrounding psychiatrists' attitudes toward these medications. We hope to assess pharmacists' attitudes about psychedelics, what education pharmacists desire, what role pharmacists envision for themselves in the implementation of these new therapies, and to spread awareness of their potentially upcoming FDA approval. We also aim to provide any correlation between demographics and opinions. **Methods:** A survey on RedCap was sent out to 3 University of Washington pharmacy email listservs and the American Association of Psychiatric Pharmacists email listserv and posted on American Society of Health System Pharmacists' website during September 2023. The survey consists of 5 sets of questions. The first set includes questions on demographics, training, and area of practice. The next 3 sets of questions use a 5-point Likert scale assessing attitudes and beliefs regarding the use of psychedelics in medicine and as related to specific pharmacist activities. The last set consists of 2 open-ended questions asking what education pharmacists desire and what they anticipate their role with these therapies to be. **Outcomes:** Three hundred four participants started the survey, and 285 (93.8%) completed the survey. Mean age of participants was 45.51 years; 70.41% were female, 29.25% male, and 0.34% intersex. A majority of respondents were from Washington (39%) with a total of 39 states represented. Most participants completed a postgraduate year 1 (159), and a majority work inpatient (173) and specifically in psychiatry (101). Full descriptive statistics will be included. Analysis is in process to note differences in demographics and clinical focus in relation to opinions and beliefs.

Pharmacy Students Advancing Mental Health Equity in an Underserved Racial/Ethnic Community

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The Ohio State University, Columbus, Ohio

Type: Work in progress. **Background:** Somali people are an ethnic and racial minority group in the United States that are vulnerable to mental health inequity due to stigma, war trauma, isolation, health illiteracy, and inaccessibility to adequate medical resources. The city of Columbus is home to the second largest Somali community in America. This project presents an opportunity to destigmatize mental health by educating young Somali people in Columbus on understanding mental health issues, providing culturally sensitive resources, and raising mental health advocates. **Objectives:** The objectives are to (1) address mental health disparities by improving access to culturally sensitive mental health support, (2) destigmatize mental health and substance use disorders through training and education for a medically underserved community, and (3) empower students to lead as mental health advocates for the purpose of advancing mental health equity. **Methods:** This study will target Somali-identifying undergraduate college students at The Ohio State University between the ages of 18 and 25. This project received institutional review board approval on April 10, 2023. Up to 20 participants will attend a singular educational training program covering various topics, including mental health first aid, suicide prevention, harm reduction, and naloxone training on November 18, 2023. Two surveys, named the pre and post surveys, will be administered to participants electronically through Qualtrics for this study. The pre survey will evaluate students' knowledge and attitudes on mental health and substance use disorders before the start of the program. The post survey is identical to the pre survey and will be used to measure changes in knowledge and attitudes after completion of the program. Demographic information including age, sex, race, ethnicity, spoken languages, and religious identification will be collected. Responses from participants will be organized as categorical and Likert-scale data. Participants will receive harm-reduction supplies and translated materials and resources after completion of the program. **Outcomes:** The results of this study will help determine the impact a culturally sensitive education and training program has on improving mental health equity in an underserved community. This study may also highlight the impact empowering underserved communities and fostering young mental health advocates has on advancing mental health equity.

Prevalence of Asymptomatic Bacteriuria in Psychiatric Patients at a County Safety Net Hospital

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Type: Work in progress. **Background:** Many individuals are colonized with bacteria in the absence of any signs or symptoms of infection, defined as asymptomatic bacteriuria

(ASB). Psychiatric patients may lack the ability to identify subjective urinary symptoms, often leading to treatment of any bacterial growth in urine culture even in the absence of true infection. There are many risks associated with treating ASB; however, the prevalence of ASB in psychiatric patients is unknown. **Objectives:** The objectives are to (1) determine the prevalence of ASB in psychiatric patients and (2) determine the rate of treatment of ASB and its impact on hospital length of stay. **Methods:** This institutional review board–approved retrospective chart review includes adult psychiatric patients with a positive urine culture from June 1, 2022, through June 30, 2023, at a county hospital. Demographic data, including age, gender, race, ethnicity, and insurance status, will be extracted from the health record from an electronic report. Chart review will be performed to collect characteristics of the urine culture, discharge diagnosis, length of stay, and the objective and subjective symptoms of urinary infection. The total number of admitted patients during study time frame will be extracted from the health record to calculate the prevalence of ASB. The average length of stay will be extracted from the health record to compare the length of stay between patients treated for ASB and the general psychiatric inpatient population. **Outcomes:** We will report the prevalence of ASB in the inpatient psychiatric population and the rate of ASB treatment. The length of stay in patients treated for ASB will be compared with that of all patients admitted during the study time frame. Results will be used to identify initiatives that promote antimicrobial stewardship and psychiatric patient care.

Providing Targeted Outreach for Pharmacogenomic Testing to Actionable Veterans With Posttraumatic Stress Disorder

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Type: Work in progress. **Background:** Approximately 6 out of every 100 people during their lifetime will develop pos-traumatic stress disorder (PTSD) with higher occurrences seen in veterans. The Veterans Affairs and Department of Defense clinical practice guideline for the management of PTSD states that first line pharmacological treatment includes 1 of the following antidepressants: fluoxetine, paroxetine, sertraline, or venlafaxine with insufficient evidence to suggest vortioxetine, mirtazapine, or tricyclic antidepressant use. These agents are utilized in an off-label Food and Drug Administration application. Most antidepressants used in the treatment of PTSD are metabolized by cytochrome P450 2D6 (CYP2D6) and cytochrome P450 2C19 (CYP2C19) enzymes in the liver. Variations in genetics can affect the metabolism, efficacy, and safety of these medications. **Objectives:** The objectives are to (1) analyze the demographic information of veterans who are receiving actionable antidepressants and have a PTSD Checklist for *Diagnostic and Statistical Manual of Mental Disorders* (PCL-5) score of greater than 41 and (2) implement pharmacogenetic-based recommendations as clinically appropriate and after an adequate trial, then reassess with a PCL-5 for clinical efficacy. **Methods:** This institution-based, pharmacy and therapeutics committee–approved project will include chart reviews for patients who have a documented diagnosis of PTSD, are taking a pharmacogenetic actionable antidepressant (sertraline, paroxetine, citalopram, escitalopram, fluoxetine, vortioxetine, venlafaxine, mirtazapine, or tricyclic antidepressants) according to the Clinical Pharmacogenetics Implementation Consortium 2023 guidelines, and had a PCL-5 score greater than 41, indicating severe PTSD. Veterans will be excluded if there is a comorbid diagnosis of bipolar disorder or schizophrenia. The following data will be collected: age, race, and current and previous mental health medication regimens including drug, dose, frequency, and PCL-5 scores within the last 6 months as well as any reported side effects with current regimen, if applicable. Patients identified during the preliminary phase and those agreeing to testing will be referred to a mental health clinical psychiatric pharmacist to order tests and make recommendations based on results. **Outcomes:** We will report the demographics of the veterans, and those agreeing to testing will have their tests ordered, interpreted, and recommendations implemented. A follow up PCL-5 assessment will be sent to assess the efficacy of the regimen and results reported.

Psychotropic Prescribing Patterns Among Forensic Psychiatric Inpatients With and Without Borderline Personality Disorder

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Type: Work in progress. **Background:** Borderline personality disorder (BPD) is associated with psychotropic polypharmacy in both acute inpatient and outpatient settings even when controlling for primary diagnoses, such as schizophrenia or bipolar disorders. Patients with BPD also carry a 37-fold higher risk of suicide compared with the

general population, and the substances seen in intentional overdoses are most often the drugs prescribed by a provider. It is important to evaluate whether overprescribing is also seen in a forensic setting and to appraise the lethality of common drugs prescribed if a patient with BPD were to have an intentional overdose. **Objectives:** The objectives are to (1) compare the mean number of prescribed psychotropic drugs among patients with BPD to patients without BPD, (2) compare the mean number of prescribed psychotropic drugs among patients with and without BPD when controlling for primary diagnoses of psychotic and mood disorders, (3) compare the mean number of prescribed drug and drug classes for medical problems in patients with and without BPD, and (4) assess the safety in overdose of the most common medications prescribed to patients with BPD and at high risk for suicidal behavior. **Methods:** This institutional review board–approved retrospective chart review will include adult inpatients at 2 forensic psychiatric hospitals who were admitted between January 1, 2018, and August 31, 2023. The control group comprises patients without a BPD diagnosis. Patients whose admission status is voluntary by guardian will be excluded from this study. Demographic information (age, gender, level of education, and race) will be collected. Other data collected include comorbid chronic medical problems, psychiatric diagnoses, history of suicidal behavior or ideation, and scheduled medications at hospital discharge or time of data collection. Primary and secondary outcomes will be analyzed with *t* tests and multiple logistic regression. Descriptive statistics will be used to detail the overall patient population and describe differences in groups when applicable. **Outcomes:** We will report the mean number of psychotropic drugs prescribed for patients with BPD compared with the control group. Secondary outcomes will be considered separately and in combination to critically evaluate prescribing patterns in this population at the 2 study sites.

Quality Improvement for Pediatric Opioid, Benzodiazepine, and Alcohol Detoxification Treatment Through Development and Implementation of a Standardized System-Wide Protocol

Nolan Timmons, PharmD; Katherine Ashcroft, PharmD, BCPS, BCPP; Nick Weaver, PharmD, MBA, BCPPS

Type: Work in progress. **Background:** Adolescence is a crucial period during development that involves significant physical, cognitive, emotional, social, and behavioral changes. The use of alcohol or other substances during this period can significantly alter critical processes of brain development, which increases the likelihood of the user having difficulties later in life. Although intoxication rather than withdrawal is more commonly encountered by pediatric health care providers, the physical process of withdrawal or detoxification may be very difficult and involve high rates of relapse. Currently, there is no standardized alcohol, benzodiazepine, or opioid withdrawal protocol for pediatric patients within the health system. Development and implementation of a standardized treatment protocol would have a system-wide effect by improving and standardizing the treatment of patients throughout the health system. **Objectives:** The objectives are to (1) design and implement a standardized treatment protocol for pediatric patients presenting to the pediatric hospital for opioid, benzodiazepine, or alcohol withdrawal and (2) determine what percentage of patients presenting for withdrawal will use the protocol. **Methods:** This institutional review board–exempt quality improvement project involves the development of a standardized treatment protocol based on review of available literature regarding best practices for treatment of substance withdrawal in an adolescent population. To build the protocol, a critical to quality tree was used to identify qualities and requirements needed to fulfill the need of the protocol. Once approved by the pharmacy and therapeutics committee, the protocol will be built and integrated into the electronic health system. Any patient with a qualifying International Classification of Diseases, 10th revision, code will undergo chart review to determine if the standardized treatment protocol was implemented and, if so, to record administered medications associated with the ordered protocol. Other pertinent information to be collected includes length of inpatient stay, age, gender, height, and weight. The percentage of patients who qualify and receive the protocol will then be calculated to determine overall use. **Outcomes:** Percentage of use will be presented with the results of this study. When adequate information becomes available, other outcomes, such as readmission rates and quantity of medications administered, will be evaluated to further determine use and effectiveness of the standard treatment protocol.

Reevaluation of Stimulant Prescribing Patterns of Veterans Affairs Outpatient Mental Health Providers: A 5-Year Follow-Up Study

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Type: Work in progress. **Background:** A 2017 quality improvement project described stimulant prescribing patterns of Veterans Affairs (VA) outpatient mental health providers and focused on improving safety and monitoring of prescription stimulants. Since then, attention deficit hyperactivity disorder (ADHD) specialty clinics were

created within the VA to enhance patient care. Additionally, stimulant prescribing rates increased significantly across the Unites States over the last 5 years, likely due to more patients seeking treatment for ADHD during the COVID-19 pandemic and increased prevalence of ADHD online prescribers. In light of these circumstances, it is unknown how VA stimulant prescribing practices have changed since previously measured. **Objectives:** The objectives are to evaluate the stimulant prescribing patterns of select outpatient mental health providers at a VA Health Care System (HCS) and to determine how these patterns differ from previously documented estimates. **Methods:** A retrospective review will be performed on stimulants prescribed from June 1, 2023, to August 31, 2023, by virtual, face-to-face, and hybrid providers at a VA HCS. Provider and patient data from prescriptions of amphetamine/dextroamphetamine, lisdexamfetamine, methylphenidate, and dexmethylphenidate in all available forms and dosages will be reviewed. The electronic medical record (EMR) will be reviewed to gather patient demographic information, including age, gender, and race/ethnicity. The EMR will also be reviewed for stimulant prescribing patterns, including prescription indications; if stimulant doses were greater than Food and Drug Administration (FDA)–recommended maximums (and if documentation of rationale was present); and if patients had an FDA-labeled indication for stimulants (ie, ADHD, narcolepsy, or binge eating disorder) or a diagnosis of traumatic brain injury in their active problem list. Additional data will include if patients saw their provider via virtual or face-to-face modality; if patients had an appointment with their stimulant prescriber within the last 7 months; if prescribers reviewed the Prescription Drug Monitoring Program in the past 12 months; if patients had a urine drug screening within the last 12 months; and if that urine drug screen was positive for cannabinoids, cocaine, or methamphetamines. **Outcomes:** We will report the absolute percentage and percentage change from 2017 of patient demographic information and stimulant prescribing patterns as described.

Retrospective Review of Patients Receiving Long-Acting Injectables on Inpatient Behavioral Units to Assess the Impact of Pharmacist-Led Administration in Outpatient and Retail Settings

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Type: Work in progress. **Background:** Antipsychotic medications are first line therapy for several behavioral health diagnoses. They are shown to improve clinical outcomes and reduce secondary burden, including relapse, hospitalizations, and emergency department visits. Long-acting injectable antipsychotics (LAIAs) are shown to be equally effective as oral antipsychotics and provide added benefit with adherence rates. An estimated 50% of patients are nonadherent to medications with behavioral health patients having additional illness-related factors, including depression and negative symptoms that further decrease adherence rates. A meta-analysis reported medication nonadherence in bipolar disorder, major depression, and schizophrenia was 44%, 50%, and 56% respectively. Additionally, an estimated 25% of patients with schizophrenia discontinued medications within the first week after discharge. Forty-eight states in the United States allow pharmacists to administer injectable medications, including LAIAs for adult behavioral health patients. Connecticut currently requires a collaborative practice agreement in addition to appropriate injection-, disease-, and manufacturer-specific education. Utilizing pharmacists for LAIA administration may expand access, facilitate medication adherence, and improve patient outcomes. **Objectives:** The objectives are to (1) quantify the number of behavioral health inpatients who have received LAIAs on inpatient psychiatric units within a 5-hospital health care network, (2) review training and billing requirements for pharmacist-led administration of LAIAs in Connecticut, and (3) identify patients who may benefit from pharmacist-led administration of LAIAs. **Methods:** This retrospective review will include inpatient behavioral health patients who have received LAIAs between January 1, 2022, and December 31, 2022. Demographic information, including age, gender, race, behavioral health diagnosis, and insurance type, will be reported. Chart review will be conducted to identify catchment area and discharge planning for follow-up doses to assess the impact of incorporating pharmacists as access points. Geographic information and logistical factors will be considered to determine which outpatient settings (eg, retail pharmacies, mobile pharmacy clinic, outpatient clinic) are the most appropriate for pharmacist-led LAIA administration. **Outcomes:** We will report demographics of patients who received LAIAs, including home zip code, to identify regions of Connecticut that may benefit from pharmacist-led administration.

Standardizing the Inpatient Medication Reconciliation Process for Long-Acting Injectable Antipsychotics

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Type: Work in progress. **Background:** Long-acting injectable (LAI) antipsychotic formulations can improve outcomes related to poor adherence in psychiatric patients, such as reducing risk of relapse of disease and hospital readmissions in comparison with oral antipsychotics. However, continuity across transitions of care is a significant problem with LAIs, and they are known to be high-risk medications that are prone to medication errors. **Objectives:** The objective is to assess the effectiveness of implementation of best practice standards related to LAIs in reducing the risk of medication errors. **Methods:** This study is a quality improvement–focused pre-post study that aims to assess the impact of implementing the following best practice standards related to LAIs: (1) daily pharmacist review of a report that captures all psychiatric inpatients who have previously received LAIs, (2) implementation of physician requirement to confirm the date of the last dose of administered LAI, (3) standardized use of documented interdepartmental pharmacy hand-off notes, (4) adjustment to ordering defaults of LAIs to optimize administration schedules, and (5) provision of education for inpatient psychiatrists on methods to review outpatient medication history. The LAI ordering practices for patients on LAIs who were admitted to the inpatient psychiatric unit of a large academic hospital will be compared between a prechange group (between May 1, 2023, and August 31, 2023) and a postchange group (between December 1, 2023, and March 31, 2024). Data being collected for each patient admission include (1) appropriateness of timing of all LAIs administered to inpatients, (2) omission of LAI doses that were unintentionally not administered, and (3) appropriateness of oral overlap as per manufacturer recommendations. All identified issues will be investigated individually for severity as per the Healthcare Performance Improvement Safety Event Classification. **Outcomes:** We will report frequency and average severity of identified issues related to LAIs in psychiatric inpatients and compare the change between the pre and post groups to identify the effectiveness of the implemented standardizations of LAIs across transitions of care.

Student Perceptions of Relaxation Before and After Exposure to Relaxation Tools and Techniques

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Type: Work in progress. **Background:** Stress hinders students' ability to relax and cope during exams, and it can impede on academic success. To combat stress, our student chapter of the American Association of Psychiatric Pharmacists held a finals relaxation room to provide pharmacy students with a safe space to mitigate stress during finals week. A variety of resources, food, and stress-relieving materials were provided. **Objectives:** The primary objective of this study is to understand trends of the relaxation levels of pharmacy students before and after spending time in the relaxation room and partaking in stress-reducing activities. The secondary objective of this study is to compare stress levels among pharmacy student class years. **Methods:** This was a single-campus, descriptive study. The room was held December 14 to 16, 2024, and on December 18, 2024. Data from December 16, 2024, was omitted due to lack of attendance. Students ranked their relaxation on a scale of 1 to 10 before and after leaving the relaxation room. Students who ranked a "1" were very stressed and unrelaxed, whereas a student who ranked a "10" was very relaxed and lacked stress. Data was collected daily and was stratified by class year. A survey was sent after the conclusion of the room to help gauge students' thoughts and views of the space. **Outcomes:** Forty-nine students visited the room on Thursday, 77 on Friday, and 24 on Monday. For each day and class year, the relaxation rankings were lower when entering the room compared with leaving. The median score when entering ranged from 1.5 to 5, and the median score when leaving ranged from 5 to 9 over the 3-day span. **Conclusions:** Upon preliminary review of data, pharmacy students appear more relaxed after spending time in the relaxation room based on the results of this study. Relaxation rooms may serve a purpose in reducing stress to help pharmacy students to achieve academic success.

The Effect of Montelukast on Suicidal Ideation in the Veteran Population

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Type: Work in progress. **Background:** Montelukast is a selective leukotriene receptor antagonist used primarily in the treatment of asthma and allergic rhinitis. After its Food and Drug Administration (FDA) approval in 1998, there was a consistent amount of neuropsychiatric event reporting into the FDA Adverse Event Reporting System, and in 2020, the FDA released a black box warning for serious neuropsychiatric events. As of May 2019, 82 of these reported cases have resulted in completed suicide with approximately 55% of these cases occurring in patients between the ages of 11 and 24 and 13% occurring in patients with a previous psychiatric history. It is important to identify increased suicidal ideation (SI) and/or hospitalizations following montelukast exposure in the veteran population as this patient population is generally older and has a wider variety and severity of psychiatric illnesses compared with the general population. **Objectives:** The

objectives are to (1) compare incidence of SI and hospitalizations 1 year prior to montelukast exposure to 1 year following montelukast exposure, (2) identify recurrent SI or hospitalizations after discontinuation of montelukast, and (3) analyze antidepressant prescribing patterns. **Methods:** This institutional review board–approved retrospective chart review will include adult patients who were newly prescribed montelukast and were at least 80% adherent to their medication between January 1, 2008, and December 31, 2019. The subjects will be assessed 1 year prior to montelukast exposure (control group) and compared with 1 year following montelukast exposure (intervention group). Patients who were exposed to montelukast within 1 year prior to the new Veterans Affairs prescribed montelukast prescription or had a history of preexisting SI within 5 years of montelukast initiation will be excluded. Demographic information will be collected (age, gender). Other pertinent data to be collected include primary diagnosis per hospitalization, psychiatric history, montelukast prescriptions, SI (measured with International Classification of Diseases, 9th and 10th revision, codes), number of hospitalizations, suicide crisis line calls, and antidepressant prescriptions. Descriptive statistics, paired *t* tests, and McNemar tests will be performed to examine primary and secondary objectives. **Outcomes:** Data collection and analysis will be completed by April 2024. The study outcomes will be presented at the American Association of Psychiatric Pharmacists 2024 Annual Meeting.

The Impact of Long-Acting Injectable Antipsychotic Therapies Versus Oral Antipsychotic Therapies on Adherence and Clinical Outcomes

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Type: Work in progress. **Background:** Schizophrenia is a serious, lifelong psychiatric disorder associated with substantial clinical, personal, and economic burdens. Adherence to antipsychotic medications is central to the effective management of schizophrenia symptoms. Patients with schizophrenia have an estimated nonadherence rate of 40% to 50% for oral antipsychotics. Nonadherence to antipsychotics is associated with potentially severe clinical consequences and high costs. Long-acting injectable antipsychotic (LAIA) development has provided a treatment option that omits daily dosing with the goal to improve antipsychotic adherence. Despite the theoretical advantage of LAIAs to prevent relapse compared with oral antipsychotics, there is little published evidence of the comparison. Due to a paucity of data available, the goal of this project is to compare LAIA versus oral antipsychotic therapy for nonadherence in a veteran population. **Objectives:** The objectives are to (1) review follow-up adherence rates after LAIA initiation or reinitiation compared with oral antipsychotic therapy, (2) evaluate the efficacy of LAIAs on decreasing psychiatric hospitalization rates compared with oral antipsychotic therapy, and (3) compare safety outcomes between oral versus LAIA therapy for patients who discontinued treatment. **Methods:** This retrospective chart review will compare 2 cohorts of patients discharged from an inpatient psychiatric unit between January 1, 2020, and September 30, 2022, on either an LAIA or oral antipsychotic. Data will be collected to calculate adherence and the time to hospitalization 1-year postdischarge. Patients with dementia, cognitive impairment, insufficient diagnoses, and a history of clozapine use and patients who transferred care during the study period will be excluded. Demographic information, including age, gender, ethnicity, and psychiatric comorbidities, will be collected. Other pertinent data to be collected will include antipsychotic name, dose and dosage form, date and documented reason for antipsychotic discontinuation, and hospitalization dates. A clinically relevant difference for adherence between the 2 groups will be defined as 10% or greater. **Outcomes:** We will compare patients who received either an oral antipsychotic or LAIA post psychiatric hospitalization to determine which group had greater adherence, reduced rehospitalizations, and/or more adverse effects.

Transition of Veterans With Mental Health Disorders from Mental Health Clinic to Primary Care Clinic

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Type: Work in progress. **Background:** FLOW is a national Veterans Affairs initiative aimed at transitioning veterans who have achieved mental health stability from the mental health clinic to primary care. Transition of stable patients allows for increased availability of mental health services for those with acute and/or severe mental health needs while practicing a recovery model of care. The purpose of this project is to develop and implement a formalized process to identify patients eligible for transition from mental health to primary care using FLOW. **Objectives:** The objectives are to (1) determine the number of mental health patients eligible for transition from mental health clinic to primary care, (2) assess the number of eligible mental health patients that consent to transition, (3) review provider reasons for declining to transition eligible patients, (4) identify the number of patients that use a primary care mental health integration appointment with a clinical pharmacist during the transition, and (5) compare patient

characteristics associated with transitioning to a lower level of care and declining transition. **Methods:** This quality improvement project utilizes the FLOW population management tool and chart review to identify veterans eligible for transition from mental health to primary care. Potentially eligible veterans are prescribed 2 or fewer scheduled psychotropic medications and have attended a mental health appointment within the past 2 years. Patients prescribed antipsychotics, lithium, medications for the treatment of attention deficit hyperactivity disorder, mood stabilizers with a bipolar or schizoaffective diagnosis, and opioid use disorder pharmacotherapy will be excluded. Additional exclusions include but are not limited to a high-risk flag for suicide, mental health intake in the past 4 months, psychotropic medication change in the past 6 months, psychiatric emergency room visit in the past 12 months, or psychiatric hospitalization in the past 36 months. Mental health prescribers will be sent a list of eligible patients with an upcoming appointment on a weekly basis. If the patient agrees to transition, a discharge note will be documented. Demographics and information, such as mental health diagnoses, psychotropics, hospitalizations, and suicide attempts, will be collected. **Outcomes:** The impact of implementing a formalized process to identify patients eligible for transition from mental health to primary care will be evaluated.

Treatment Engagement of Patients Initiated on Extended-Release Injectable Naltrexone for Alcohol Use Disorder in the Inpatient Setting

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Type: Work in progress. **Background:** Alcohol use disorder (AUD) affects 29.5 million people in the United States aged 12 or older. There are currently 3 Food and Drug Administration–approved medication options for AUD (MAUD): acamprosate, disulfiram, and naltrexone. Naltrexone, an opioid receptor antagonist, is available in a daily oral and a long-acting injectable formulation. Injectable naltrexone is administered every 4 weeks, which could potentially benefit patients with poor medication adherence. There is a lack of evidence comparing medication options for AUD, and head-to-head trials have not consistently established the superiority of one medication over another. In particular, there is currently limited evidence to support the inpatient initiation of intramuscular (IM) naltrexone. **Objectives:** The objectives are to assess the (1) rate of treatment engagement at 30 days postinitiation of IM naltrexone compared with patients initiated on an alternative MAUD, (2) rate of treatment engagement 90 days postinitiation of MAUD, and (3) 90-day emergency department visits and hospital admissions and length of stay if readmitted within 90 days. **Methods:** This is an institutional review board–approved single-center, retrospective cohort study of patients with AUD seen by the addiction medicine team (ACT) from January 1, 2021, to January 1, 2022. Adult patients will be included in this study if they present with a primary problem related to AUD and if the ordered MAUD was a new start to therapy. Eligible MAUDs will include oral naltrexone, IM naltrexone, acamprosate, and disulfiram. New starts to therapy will be defined as having not been on that therapy for at least 6 months prior to initiation. Patients will be excluded if they do not receive an MAUD while hospitalized. Patient records will be reviewed manually to collect data on baseline characteristics, prior therapies, health care follow-up, and readmission rates. Descriptive statistics will be performed for baseline characteristics, and a χ^2 test will be used to analyze nominal data. **Outcomes:** We will report the rate of treatment engagement at 30 and 90 days after the initiation of IM naltrexone compared with patients initiated on an alternative MAUD, including oral naltrexone, acamprosate, or disulfiram, in the inpatient setting. Demographic information including age, race, gender, comorbid mental health disorders, and comorbid substance use disorders will be collected.

Unveiling Stigma in Health Care: An Exploration of Student Pharmacists', Nurses' and Physicians' Attitudes Toward Mental Illness

Colton Jones PharmD Candidate 2026; Abby Shields PharmD Candidate 2026; Sarah T. Thomason, PharmD, BCPP, BCACP; Mary Jo Oliver-Hedrick, MS

Type: Work in progress. **Background:** Many of those living with mental illness face stigma from their peers, friends, family, and community. This stigma has the potential to lead to a decrease in those afflicted seeking medical care and an unnecessary worsening in patient health outcomes overall. However, these individuals may also face stigma from the health care workers caring for them. Mental health stigma in health care is not only an issue in terms of the willingness of individuals to seek help; it can also be dangerous to those receiving treatment. **Objective:** The objective is to assess the stigma associated with those with mental illness in pharmacy, nursing, and medicine students attending affiliated professional colleges within East Tennessee State University (ETSU). **Methods:** A REDCap survey containing the Opening Minds Scale for Healthcare Providers (OMS-HC) will be used to assess stigma toward mental illness in students attending Quillen College of Medicine, ETSU College of Nursing, and Gatton College of Pharmacy in Johnson City, Tennessee. Using the OMS-HC attitude, disclosure and help-seeking, and social distance

subscales, we will compare scores across the 3 groups of health professionals in training. Specifically, we anticipate sampling approximately 320 student physicians, 200 student pharmacists, and 500 student nurses. **Outcomes:** Data collected will be analyzed to understand the general level of stigma of preprofessionals toward mental illness. We hope to achieve a 30% to 40% response rate on the survey from each preprofessional group to compare rates of stigma toward mental illness in each professional program. We intend to use this information to facilitate future educational interventions within each group to address mental illness stigma. Future research using this measure across populations and times should be conducted.

Utility of a Clinical Pharmacist Practitioner in the Deprescribing Of Z-Hypnotics in Older Adults

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Type: Work in progress. **Background:** Z-hypnotic drugs are indicated for insomnia but are generally only appropriate for intermittent or short-term use. Clinical inertia and high turnover rates of primary care providers have contributed to continuation of z-hypnotics in geriatric veterans who may benefit from an evaluation for deprescribing. Continued use of z-hypnotics in older adults increases the likelihood for excessive sedation, delirium, falls, and cognitive impairment. Nonpharmacologic options for insomnia should be offered concurrently with pharmacologic agents. **Objectives:** The objectives are to (1) evaluate the percentage reduction of z-hypnotic use at end of the study compared with baseline and (2) assess change in the insomnia severity index (ISI) score from baseline to the end of study. **Methods:** This institutional review board–exempt quality improvement project will involve the postgraduate year 1 (PGY1) pharmacy resident, a clinical pharmacist practitioner (CPP), and patients 65 years and older who are currently prescribed z-hypnotics. Patients are identified starting October 1, 2023, with a medication use report in the electronic health record targeted to z-hypnotics. Patients who meet the inclusion criteria will then be contacted by the PGY1 pharmacy resident and offered an appointment to taper their z-hypnotic or switch to a preferred alternative (low dose doxepin, mirtazapine). Once the veteran agrees, an appointment will be conducted by phone, in person, or using telehealth modalities based on patient preference with both CPP and PGY1 pharmacy resident. Referral for cognitive behavioral therapy for insomnia will also be offered. Follow up appointments will be conducted similarly per patient preference. Appointments will take place October 1, 2023, through April 30, 2024. During each follow-up, patients will be evaluated for changes in sleep quality via the ISI and subjective report, tolerability of new medications if initiated, and willingness to remain off the z-hypnotic agent. Based on discussion at follow-up appointments, adjustments may be made to the regimen as clinically indicated. **Outcomes:** We will measure the primary outcome by calculating the total percentage dose reduction of z-hypnotic agents from baseline to the end of study. Secondary outcomes will be measured by assessing change in ISI score and percentage of patients no longer using z-hypnotics at the end of study compared with baseline.

Utilizing Therapeutic Drug Monitoring to Optimize Dosing of Antipsychotics on Inpatient Behavioral Health Units

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Type: Work in progress. **Background:** Antipsychotic serum concentrations can provide objective data to guide dosing recommendations for multiple antipsychotics. Patient-specific factors, such as body mass index, pregnancy status, smoking status, genetic factors, and drug-drug interactions, may lead to altered serum drug concentrations; factors such as required use of multiple antipsychotics or frequent as-needed dosing of antipsychotics may indicate that serum concentrations are altered from the anticipated projected level. Alterations can contribute to increased adverse effects, polypharmacy, or receiving medications that are underdosed and not providing sufficient symptom reduction. With current practices, antipsychotic serum concentrations take an average of 7 days to result and are infrequently utilized in this facility. **Objectives:** The objectives are to (1) optimize antipsychotic dosing via increased utilization of antipsychotic serum concentrations and (2) track the total number of interventions by pharmacists to patient antipsychotic regimens as well as the number of missed interventions due to delays in laboratory testing. **Methods:** This institutional review board–approved prospective chart review will include adult patients on inpatient behavioral health units who are identified via an electronic health record system alert between December 13, 2023, and May 1, 2024. Patients who are flagged by created alert rules will have an antipsychotic serum concentration drawn. Data collected includes demographics (age, gender, race, height, weight, body mass index), antipsychotic regimen (drug, total daily dose, duration, last administration time), antipsychotic concentrations (serum concentration, time of draw, date of result), changes recommended by pharmacists, date of patient discharge, and the rule that alerted the pharmacist to the patient. **Outcomes:**

We will report the number of pharmacist interventions that resulted from this rule set in the behavioral health units as well as the number of interventions that were missed due to delays in laboratory testing services. Additionally, we will analyze and report patient-specific factors of the patients whose antipsychotic levels were outside of the desired serum concentrations.

Innovative Practices Abstracts

A Student-Led, Free Clinic Provides Access to Naloxone in an Underserved Population

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Type: Innovative practices. **Objectives:** A student-run free clinic serves the homeless and underserved populations. The clinic offers an interdisciplinary experience for medical, physician assistant, and pharmacy students working as a team, providing quality and compassionate health care. In 2021, 253 people died of a drug overdose in the state, 126 due to opioids. In response, the state department of health issued a standing order to expand naloxone availability to friends, family, and bystanders with immunity to pharmacists. In addition, a grant was provided to increase availability of naloxone at community pharmacies and is administered in partnership with a state pharmacists association at no cost. Naloxone is a medication used to rapidly reverse opioid overdose. By participating in this grant, the clinic is able to provide naloxone to a population that would see significant benefits. **Methods:** The clinic pharmacy was able to partner with a state program through an application process that included educating pharmacists and student pharmacists in the appropriate use of naloxone, agreeing to educate patients on appropriate use, and agreeing to dispense through the pharmacy software that meets the state's monitoring requirements. When naloxone is dispensed, the patient completes an assessment form to determine eligibility. If eligible, the prescription is processed and dispensed with verbal and written education on when and how to use the inhaled naloxone product. **Results:** Currently, there are 125 participating pharmacies across the state. The naloxone is dispensed at no cost to the patient, and the pharmacy receives a dispensing fee of $10.15, which is paid by the grant. The clinic pharmacy began the process of becoming a pharmacy partner September 10, 2022, and was granted partnership March 29, 2023. As of today, 10 naloxone prescriptions have been dispensed. **Conclusions:** The clinic pharmacy has increased the availability of naloxone to the homeless and underserved population of the community. This opportunity empowers students to practice the knowledge and skills learned in the classroom and apply them to a real-world scenario by providing direct patient care and patient counseling as part of an interdisciplinary team. Through the state program, the number of pharmacies participating in this opportunity continues to increase.

A Managed Health Care Integrated Care Program for Severe Mental Illness

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Type: Innovative practices. **Background:** Severe mental illnesses (SMI), which include schizophrenia, schizoaffective disorder, and bipolar disorder, are some of the most difficult and burdensome diseases in the world. Reducing disease burden for SMI often requires a provider-delivered comprehensive care program, such as Assertive Community Treatment (ACT). These programs have led to higher engagement rates, reduced hospitalizations, and lower costs. Opportunities within health insurance exist to support a dedicated care program to improve the health and quality of life for these patients. **Description of Innovative Service:** A comprehensive care program for SMI was designed by a large, commercial health insurance company. This program is being piloted in two Florida counties with a goal of expansion across the state. The design of the program has all the components of a traditional ACT program except for the standard psychiatric services. Psychiatric services are coordinated by or in conjunction with the program, which allows traditional private or group practice psychiatrists to maintain their patient–provider relationship. This is a way to bridge public sector service innovations with standard psychiatric practice. Reimbursement is structured to combine a bundled payment model for care management with traditional fee-for-service psychiatric management. Bundled services include but are not limited to the following: administration of long-acting injectables as needed, crisis intervention, 24/7 on-call coverage, comprehensive assessments, case management, transportation, wellness management and recovery services, and substance use disorder support. **Impact on Patient Care:** A variety of impacts are to be expected. Main goal outcomes are ensuring that patients with SMI receive the appropriate care and are connected to resources that address social determinants of health (SDOH). Additional goals include improving medication adherence, reducing hospitalization and emergency room visits, and connecting individuals with primary care. Preliminary data shows a decrease in hospitalizations and emergency room visits and improvement in functioning. Clothing, food, and shelter assistance mediated some of the positive outcomes. **Conclusions:** Health insurance

companies have a unique opportunity to better serve patients with SMI by supporting traditional public sector assertive community treatment approaches that can ensure patients receive appropriate care and are connected to medical care and that SDOH are addressed.

A Pharmacist-Driven Therapeutic Drug Monitoring Program for Mood Stabilizers

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Type: Innovative practices. **Background:** Mood stabilizers serve as the primary treatment for manic and depressive episodes of bipolar disorder. Certain mood stabilizers require monitoring of serum concentrations to ensure safe and effective use; however, drug concentrations may be misinterpreted, resulting in inappropriate dose adjustment. Psychiatric pharmacists play an important role in ensuring the collection of relevant monitoring parameters for mood stabilizers and accurate interpretation of drug concentrations. **Description of Innovative Service:** Board-certified psychiatric pharmacists at a 300-bed, freestanding psychiatric hospital monitor patients receiving lithium, valproic acid derivatives, and carbamazepine. Serum concentrations are ordered by pharmacists in addition to other guideline-recommended laboratory monitoring parameters in accordance with a protocol approved by the pharmacy and therapeutics committee. Progress notes with pharmacists' interpretations of serum concentrations, including trough estimates calculated using population pharmacokinetics, assessments of additional medication-specific laboratory monitoring parameters, and clinical recommendations are entered into the electronic medical record after each drug concentration result. **Effect on Patient Care:** The program was evaluated from May 1, 2023, through July 31, 2023, using a survey to assess the pharmacists' role in therapeutic drug monitoring (TDM). A total of 313 serum concentrations were recorded from 191 unique patients. The sample reflected predominately lithium ($n = 217$), followed by valproate ($n = 95$), and carbamazepine ($n = 1$) serum concentrations. A third of the drug concentrations were ordered by pharmacists with 27% of serum concentrations marked as having the potential for misinterpretation. The most common reason for misinterpretation was serum concentration not drawn as a trough ($n = 45$). Additionally, 8.6% of serum concentrations had other abnormal labs identified as being due to the TDM drug with 48% of the associated labs ordered by pharmacists. **Conclusion:** Whereas monitoring of certain antibiotics and anticoagulants is a common clinical service provided by inpatient pharmacists, development of a TDM program for mood stabilizers serves as a novel practice area. Through this clinical service, psychiatric pharmacists use their expertise to accurately assess laboratory values and ensure the safe and effective use of mood stabilizers for mental health conditions.

ATLAS—Addiction Treatment: Linking Access & Services Mobile Clinic Reducing Stigma-Related Barriers in Rural North Carolina

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Type: Innovative practices. **Background:** As of January 1, 2023, the North Carolina (NC) 12-month fatal overdose count was more than 4 000 persons, representing a steady increase since 2015. Rural and health care desert counties in NC, such as Robeson County, are at increased risk for overdose deaths, especially for historically marginalized populations (HMP). Per the 2022 US Census, 41.9% Indigenous Lumbee tribe members and 23.8% Black Americans reside in Robeson County. The 5-year rate for fatal overdoses in Lumbee persons increased by 101% from 2015 to 2020 and constitute the highest increase in deaths in NC compared with other HMPs. The lack of providers and dispensing pharmacies due to stigma, minimal implementation of harm reduction strategies, prevalence of fentanyl and analogs in the illicit drug supply, and high fatal overdose rates among Indigenous Lumbee tribe members highlight the urgent need to increase access to medications for opioid use disorder (MOUD). To address this gap in care, the Addiction Treatment: Linking Access & Services (ATLAS) mobile clinic was implemented to improve access via direct prescribing to local community pharmacies and in-person contact with this underserved patient population. **Description of Innovative Practice:** The ATLAS mobile clinic has traveled to Lumberton, NC, weekly since July 1, 2023, to provide addiction medicine services. Patients interact with an interdisciplinary team consisting of an addiction medicine psychiatrist, a pharmacist, social workers, peer support specialists, physician assistants, and volunteers during their visit. The pharmacist's responsibilities include general medication counseling, naloxone distribution, and liaising with community pharmacies to ensure dispensation of MOUD. **Impact:** ATLAS has implemented low barrier access to addiction medicine services and life-saving medications that do not readily get prescribed or dispensed. An average of 14 patients are seen weekly with approximately 20% being new patients. Future expansion of services include access to hepatitis C treatment and

vaccinations. **Conclusion:** ATLAS's longitudinal commitment to providing patient care in a rural, primarily nonwhite NC county makes it uniquely positioned to increase health care access to indigenous and rural patients by prescribing MOUD directly rather than relying on currently resource-strained local health care services to fill the gap in care.

Clinical Pharmacist Efforts to Increase Access to Buprenorphine in Veteran Population

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Type: Innovative practices. **Rationale and Background:** Despite being important tools for pain management, opioids can pose a serious risk to the safety of patients if not used or prescribed appropriately. Risks include opioid overdose, respiratory depression, development of tolerance and dependence, serious drug interactions, and even death. In 2021, a record 80 411 reported overdoses occurred in the United States, a significant increase from 47 600 just 4 years prior. As these numbers continue to rise, access to providers who can provide buprenorphine-based treatment is critical. The purpose of this service is to demonstrate the ability of specialty pharmacist practitioners to safely and effectively manage buprenorphine/naloxone (Suboxone) home inductions for our nation's veterans. **Description of Innovative Service:** The buprenorphine home induction service is an electronic consult offered to providers who request specialty pharmacist management assistance for patients diagnosed with opioid use disorder (OUD). Primary care, pain specialist, and mental health providers are the sources of referrals to the service. If the pharmacist practitioner determines a veteran is an appropriate candidate for a home induction, an introductory phone call is made to each veteran for educational purposes and consent for enrollment into the home induction clinic. After the veteran agrees, the home induction begins at the discretion of the pharmacist practitioner. After successful completion of the home induction, the veteran's care is returned to the referring provider for further management. **Effect on Patient Care:** To date, the home induction consult service has successfully completed 2 Suboxone home induction consultations. For each patient, the pharmacist practitioner completed thorough educational sessions on the induction process and created a personalized induction plan, which included close clinical monitoring via phone call or video chat visits. No adverse reactions occurred during either induction, and both patients were successfully returned to the care of their referring provider following completion. **Conclusion:** The home induction service has already demonstrated success in increasing access to buprenorphine products for our patients. With increased access to Suboxone, patients suffering from OUD have significantly improved chances of sobriety and reduced chances of overdose. The service is scheduled to begin multiple additional veterans on their home induction journey.

Eliminating Drug Cost as Barrier to Medication Access

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Type: Innovative practices. **Background:** Long-acting injectable (LAI) medications allow greater assurance that a patient will receive medication continuously and are shown to reduce symptom relapse in patients with mental health disorders. However, cost may be a barrier to patients having access to these expensive medications. **Description of Innovative Service:** A collaboration was developed between the inpatient pharmacy, outpatient pharmacies, and select ambulatory care clinics in 2018 to reduce LAI costs to outpatients. Outpatients with barriers to LAI medication access (eg, high copays, high deductibles, drug formulary restrictions) were identified and provided their injection through the inpatient pharmacy by billing their medical benefits. Every Sunday, the inpatient pharmacy dispensed the injections for that week and recorded quick charges in the electronic medical record the day following medication administration. The inpatient pharmacy participated in manufacturers' free drug trial programs. This allowed for dispensation of the free drug supply to qualified inpatients with the expectation of offsetting the costs of the dispensations for qualified outpatients. **Effect on Patient Care:** Over 5 years, the inpatient pharmacy dispensed 4 783 LAIs at no cost to select outpatients amounting to a cumulative expense of $2 120 843. Through the collaboration with the outpatient pharmacies, the overall dispensation cost to the inpatient pharmacy decreased from $588 807 in 2018 to $265 333 in 2022 with no interruption in patient care. In 2018, 167 injections were dispensed to qualified inpatients from manufacturer free drug trial programs. By 2022, injections dispensed increased to 577. Cost savings increased from $152 372 in 2018 to $633 430 in 2022. Over 5 years, the inpatient pharmacy achieved a savings of $2 417 877 by actively utilizing manufacturer free drug trial programs. **Conclusion:** The collaboration between the inpatient pharmacy, outpatient pharmacy, and select ambulatory care clinics is ongoing. Dispensing LAI antipsychotics and naltrexone to qualified inpatients

through manufacturer free drug trial programs allows the inpatient pharmacy to counteract the costs of the medications dispensed to outpatients and eliminate medication cost as a barrier to medication access.

Escaping Addiction: Creating a Path to Recovery: A Novel Escape Room Game

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Type: Innovative practices. **Background:** Even with years of schooling and experience, health care professionals are not immune to experiencing stigma toward patients with addiction. According to the Shatterproof Addiction Stigma Index (SASI), only 1 in 4 health care professionals received education on addiction being a chronic disease. They also found that more than 40% of health care professionals held a negative attitude toward medications for opioid use disorder. Health care students and professionals must understand the intricacies of addiction to provide high levels of care and reduce stigma. One way to do this is by creating an engaging learning mechanism effective for team-based learning. A novel escape room was created to strengthen knowledge on addiction and stigma topics. **Description of Innovative Service:** A virtual escape room was created to lead interdisciplinary students and pharmacy preceptors through an example of someone living with a substance use disorder (SUD). The participants meet a college student as the signs and symptoms of addiction begin to emerge and must lead her to recovery. Participants visit different phases of her story while learning about various topics related to addiction and stigma. After each room, participants take small quizzes to collect pieces of the code needed to "unlock" recovery. **Effect on Patient Care:** Presenting an example of someone living with an SUD to health care professionals and students allows them to gain an understanding of addiction to increase empathy and decrease stigma toward patients. Stigma can prevent patients from seeking treatment, so proper education of students and professionals plays a crucial role in supporting these patients. Participants will take an anonymous survey adapted from the SASI and the Opening Minds Provider Attitudes Toward Opioid Use Scale before and 3 to 6 months after the activity to assess any changes in attitude. Presurvey results will be available at the time of poster presentation. **Conclusion:** Stigma is a significant barrier that prevents patients with addiction from seeking treatment. Not only is this tool a skillful way to educate students early in their careers, but it can be easily used by practicing health care professionals to recognize the complexities of addiction and reduce the stigma they may hold toward these patients.

Establishment of Behavioral Health Pharmacy Service Line at a Rural, Critical Access Indian Health Service Hospital System

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Type: Innovative practices. **Background:** The American Indian and Alaskan Native (AIAN) minority group experiences mental health disparities at disproportionately higher rates compared with other racial or ethnic groups in the United States, and the recent COVID-19 pandemic exacerbated mental health concerns. In addition, mental health services are severely understaffed within the Indian Health Service with an estimated number of psychiatrists and psychologists to be one seventh and one sixth of that in the general population, respectively. Prior to initiation of a behavioral health pharmacy service line, the time to first behavioral health appointment at the facility reviewed averaged about 2 months. Establishment of behavioral health pharmacy services is expected to increase access to mental health services, including specialized drug information and medication management, for this underserved population. **Description of Innovative Service:** A behavioral health pharmacy service line was established at a rural, critical access hospital to expand behavioral health services and improve access to care for the AIAN population. Pharmacy behavioral health services are referral-based and include medication management and/or drug information consults. Additionally, the service line collaborates with the facility's behavioral health team to comanage and provide expedited follow-up for complex patient cases. **Effect on Patient Care:** A total of 123 unique consult requests were placed between December 1, 2022, and November 30, 2023. Ninety-five of 123 (77.2%) individuals were scheduled in the pharmacy behavioral health clinic within 8 days (mean 7.5 days) to establish care, and the average time to first appointment was 18 days. Fifty-two of 95 (54.7%) individuals attended their appointment, 32.6% no-showed, 5.3% canceled, and 7.4% had an appointment scheduled past the review period. A total of 15 drug information questions were addressed within 1 week (mean 4 days) of consult request. **Conclusion:** The addition of a behavioral health pharmacy service line increased accessibility at a rural, critical access hospital. Rapid service line establishment within the service unit demonstrated decreased time to follow-up and increased accessibility to specialized drug information. Results suggest that this behavioral health

pharmacy service line is a valuable asset and behavioral health support is highly beneficial and necessary within the AIAN population.

Exploring the Harm Reduction Paradigm: The Role of Board-Certified Psychiatric Pharmacists

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Type: Innovative practices. **Background:** Substance use disorders (SUDs) are chronic disorders characterized by continued drug seeking and use despite negative consequences. These consequences include an increased risk of developing various comorbid disease states, poor overall well-being, and deaths related to SUDs, which continue to rise year after year. Compounding these concerns, stigma surrounding SUDs and treatment remain prevalent. To reduce these risks, clinicians and public health officials advocate for the adoption of a harm reduction (HR) approach. Further, board-certified psychiatric pharmacists (BCPPs) should take an active role in applying HR principles and practices when treating patients with SUDs. **Description of Innovative Service:** HR is well-established as an effective approach in reducing consequences associated with drug use. This project addresses the paucity of guidance describing implementation of HR programs. BCPPs are well-positioned to implement and engage in HR programs, which include the core elements of an HR team, health-system collaboration, strategic program review, accountability, comprehensive services, supportive technology, tracking, and education. Using a plan-do-study-act (PDSA) format based on psychotropic stewardship, a successful HR program can be created and maintained in a variety of practice settings. With increased education, advocacy, and persistence, BCPPs can increase the services available in our communities as trusted harm reductionists. **Effect on Patient Care:** HR is a nonjudgmental philosophy with various benefits on patients that include reduced overdose and infectious disease risk, reduced use amounts, increased treatment engagement and improved well-being. BCPP involvement may further enhance these positive outcomes and increase access to care for patients with SUDs. **Conclusion:** HR embodies compassionate care and includes the goals of saving lives, reducing stigma and mistreatment, and improving outcomes and quality of life for people who use drugs. The PDSA method and core elements of an HR program should serve as an introductory guide and facilitate implementation or improvements to HR services.

Impact of Clinical Pharmacist Intervention on a Neuropsychiatry and Behavioral Neurology Consult Service at a Freestanding Psychiatric Hospital

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Type: Innovative practices. **Background:** Behavioral neurology is a subset of neurology that focuses on the impact of neurological disorders on neuropsychiatric symptoms, cognitive function, and social behavior. There is a growing need for cross-disciplinary education between psychiatry and neurology across all professions. Pharmacists are shown to improve care of patients with neurologic disorders in a variety of settings with no evidence available from a freestanding psychiatric hospital. **Description of Innovative Service:** The neuropsychiatry and behavioral neurology (NBN) service at our institution is composed of neurologists, neuropsychologists, psychiatrists, a clinical pharmacist, and residents or fellows from each discipline. Psychiatrists from inpatient and residential settings may order neurology consults in the electronic medical record (EMR) with specific consult questions. After patient interview, the NBN service publishes a progress note with recommendations for the psychiatrist to review and implement. The clinical pharmacist is a board-certified psychiatric pharmacist (BCPP) who provides recommendations for medication initiation and adjustment, adverse reaction management, therapeutic monitoring, drug-drug interactions, and medication education. Recommendations are documented and captured with an EMR report, which was used to quantify impact from January 1, 2023, until December 31, 2023. The service has expanded to include pharmacy residents and students interested in a neurology-focused rotation. **Impact on Patient Care:** Fifty-four consults were identified. The median age was 54 years (interquartile range [IQR]: 29, 62) with major depressive disorder as the most frequent reason for hospital admission (40.7%). Neurology consults were most frequently ordered for cognitive impairment (27.8%), seizures (18.5%), and traumatic brain injury (14.8%). Numbers of clinical pharmacist interventions were as follows: medication initiation ($n = 31$), medication adjustment ($n = 15$), adverse events recognized

($n = 24$), labs recommended ($n = 11$), and drug-drug interactions identified ($n = 10$). There were 83 documented instances of drug information provided to the NBN service. Percentage of total recommendations incorporated into NBN progress notes and implemented by the ordering psychiatrist were 73.3% (IQR: 72.7%, 75%) and 38.7% (IQR: 20.8%, 60%), respectively. **Conclusion:** The presence of a BCPP is shown to positively impact an NBN consult service at a freestanding psychiatric hospital. Implementation of recommendations by the ordering psychiatrist was identified as an area for continuous quality improvement.

Impact of Mental Health Postgraduate Year 2 Resident Pharmacy Resident Outreach to Veterans With Potentially Untreated Opioid Use Disorder Recently Discharged from the Emergency Department

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Type: Innovative practices. **Previously Presented:** American Association of Psychiatric Pharmacists 2024 Conference in Orlando, Florida. **Background:** The emergency department (ED) serves as a crucial entry point for individuals with substance use disorders (SUD), but low rates of follow-up and engagement serve as barriers to improving health outcomes. The purpose of this quality improvement project was to assess the impact of mental health (MH) post graduate year 2 resident (PGY2) outreach to veterans with potentially untreated opioid use disorder (OUD) recently discharged from the ED. **Description of Innovative Services:** This project evaluated the effectiveness of MH PGY2 outreach to veterans with potentially untreated OUD, who discharged from the ED within the past 90 days. Veterans with no OUD medication and discharge diagnosis related to opioid use or SUD, chronic pain, or suicide-related behaviors between March 1, 2023, and May 12, 2023, were included. The project excluded veterans currently in psychiatric care; with a negative urine drug screen in the past 6 months; not prescribed opioids; and who were hospitalized, incarcerated, or deceased. The MH PGY2 called eligible veterans at most 6 times during the project period to provide education for MH services, medication management, and care coordination; recommendations were provided via chart note for those not reached. The Pharmacist Achieve Results with Medications Documentation (PhARMD) tool was used to record and extract MH PGY2 interventions. Retrospective chart review was conducted 60 days after contact to assess the acceptance and completion of MH PGY2 resident interventions. **Effect on Patient Care:** Of 64 eligible veterans, 13 met inclusion criteria and 3 declined interest. One MH PGY2 made 37 recommendations for 10 veterans: SUD medications (total = 7), naloxone prescription (total = 8), referral to addiction recovery services (total = 8); MH intake (total = 4); MH pharmacy consult (total = 4); primary care (total = 4), and previous MH provider (total = 2). Sixteen (43%) recommendations were accepted by alerted providers with a higher proportion in veterans engaged in discussion compared with those chart reviewed (58%, total = 7 versus 36%, total = 9). Veterans attended 33% of follow-up visits recommended by MH PGY2 within 60 days of contact/chart note (total = 7). **Conclusion:** The MH PGY2 successfully made interventions to improve engagement and optimize comprehensive medication management for veterans with potentially untreated OUD recently discharged from the ED.

Managing Prescription Assistance Program Discontinuation at a Certified Community Behavioral Health Clinic

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Type: Innovative practices. **Background:** Services at the certified community behavioral health clinic (CCBHC), including formulary medications, are available to patients on a sliding scale fee. A variety of programs are utilized to provide these medications including prescription assistance programs (PAPs), which provide medications for free to qualified patients. The PAP for brand name lurasidone was to be discontinued February 23, 2023. As of January 1, 2023, there were 252 patients at the CCBHC who had received lurasidone through PAP in the previous 6 months. Because this medication was on formulary, the CCBHC would incur the cost of the medication once the PAP was discontinued. To address this, pharmacists at the CCBHC developed a plan for this transition using medication adherence data and clinical pharmacy specialist review. **Description of Innovative Service:** Medication possession ratio (MPR) as a measure of medication adherence was calculated for the 252 patients using the pharmacy's dispense data. Clinical pharmacy specialists performed a chart review for each patient who had low medication adherence (MPR <0.8). Prescribers received education on PAP program discontinuation, formulary options for alternative antipsychotics, MPR, and pharmacist review process. Individual prescribers were sent the list of patients who received lurasidone through PAP and their MPR with a recommendation to consider an alternative antipsychotic for those with low medication adherence. **Effect on Patient Care:** Of the 252 patients, 74 no longer received lurasidone

through PAP. Of the remaining 178, 119 had MPR >0.8 and 59 had MPR <0.8. Patient information and MPR was sent to prescribers January 20, 2023. On February 27, 2023, the generic lurasidone became available at a lower than anticipated cost, and on April 6, 2023, the prescribers were informed that they could continue to prescribe lurasidone without restrictions. **Conclusion:** Although the generic lurasidone cost was less than anticipated and the formulary restrictions were not needed, this project provided a framework for using medication adherence to inform prescribing practices. This is the first time that medication adherence has been provided to prescribers at the CCBHC on a large scale. Additionally, the pharmacy department gained insight into challenges and opportunities with adding formulary restrictions.

Naloxone Education Program Initiative in the Federal Medical Center, Devens

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Type: Innovative practices. **Background:** The escalating prevalence of opioid misuse and related overdoses presents a significant public health concern. The risk of overdose due to opioid misuse is of particular concern among those releasing from prison. Incarcerated individuals have been estimated to have a 40 to 100 times greater risk of death from drug overdose in the first 2 weeks after release from prison compared with those with opioid use disorder in the community. The Health Service Division of the Federal Bureau of Prisons provides health care to adults in custody, including treatment and education of opioid use disorder and harm reduction strategies. **Description of Innovative Service:** In July 2023, the pharmacy participated in a facility-wide health fair. Pharmacists provided education with an emphasis on harm reduction, specifically focusing on educating about the use of naloxone and promoting awareness of overdose prevention. A total of 169 offenders engaged in the health fair with 129 participating in pharmacy education sessions. Notably, 85 formally requested prescriptions, indicating their intention to receive naloxone upon release into the community. The focused emphasis on naloxone education contributes not only to immediate harm reduction within prison settings, but also to the long-term well-being of the broader community. **Effect on Patient Care:** The implementation of the naloxone education program at Federal Medical Center Devens will empower offenders with the knowledge and skills to respond effectively to opioid overdoses. By providing education on naloxone, offenders will become active participants in their own health and safety. This will not only mitigate the immediate impact of overdoses within the confined environment, but also to equip individuals for a safer reintegration into the community upon their release. **Conclusion:** By prioritizing education and equipping offenders with the tools to respond to emergencies, the program has the potential to save lives and enhance overall health. Educational programs such as this one are an integral component of public health efforts within correctional facilities, aligning with a comprehensive and compassionate approach to offender's well-being.

Pharmacist Run Pharmacotherapy Clinic Utilizing Behavioral Health Intervention Billing

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Type: Innovative practices. **Background/rationale:** Clozapine is a highly efficacious antipsychotic that benefits many patients; however, the required monitoring, side effects, and drug interactions remain a barrier for many patients and providers to use clozapine. Point-of-care testing is now available for absolute neutrophil counts (ANC) for clozapine as a means of reducing monitoring barrier. Pharmacist involvement in a clozapine clinic has been shown to improve patient outcomes; however, the lack of provider status for pharmacists presents a barrier. **Description of the Innovative Service:** This poster will describe the creation of a pharmacotherapy clinic at the primary author's practice site as well as the current billing model. The clinic was started with patients on clozapine with hopes of future expansion. For the clozapine patients, the primary author is performing point-of-care ANC monitoring for clozapine using the Athelas One ANC testing device. In addition to ANC monitoring, comprehensive medication management is performed as part of the pharmacotherapy visits. **Effect on Patient Care/Institution:** The first patients enrolled in the clinic are Medicare patients, and billing for the service has been done using Behavioral Health Integration (BHI) code 99484. An American Association of Psychiatric Pharmacists Practice Expansion Toolkit is currently available; however, no psychiatric pharmacists using this code have been identified by the primary author. In 2017, the Centers for Medicare and Medicaid Services approved payment for services to patients with behavioral health disorders who were cared for as part of a collaborative care program with primary care or receiving BHI. In addition to a description of the clinic and the billing model, the poster will report the rating scales used during each visit as required by the BHI code. **Conclusion:** The poster will describe the development of a pharmacist-involved clozapine clinic using point-of-care testing as well as the employed billing model using BHI.

Role of Board-Certified Psychiatric Pharmacists in Child and Adolescent Psychiatry

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Type: Innovative practices. **Previously Presented:** Published in the *Journal of the American College of Clinical Pharmacy*, July 2023. **Background:** In the context of ongoing workforce shortages, rising symptom severity, and increased rates of psychotropic prescribing, the 2021 declaration of a national emergency in child and adolescent psychiatry (CAP) has highlighted the need for innovative strategies to address access to quality care. As valued members of the interdisciplinary team, board-certified psychiatric pharmacists (BCPPs) in CAP are well positioned to address these needs as they are integrated across various settings (eg, ambulatory clinics, psychiatric hospitals) and have expertise in psychiatric and neurodevelopmental disorders (NDDs). The American Association of Psychiatric Pharmacists initiated this exploration of the role of BCPPs in CAP, and a general literature search was completed by the author group. **Description of Innovative Service:** The authors describe the role of BCPPs in CAP, unique patient populations served, childhood conditions treated, and Joint Commission regulatory standards that BCPPs in CAP can support. Knowing that we are currently experiencing a national emergency in CAP, we offer that highlighting the role of BCPPs in CAP is timely and necessary. **Effect on Patient Care:** BCPP collaboration with child and adolescent psychiatrists has been reported to improve outcomes (eg, reduced hospital stays and reduced emergency department visits), quality of care (eg, improved patient engagement/adherence), and patient safety (eg, prevented adverse events). The authors expect the effect on patient care to specifically include (1) optimizing pediatric-specific hospital based inpatient psychiatric services measure sets (eg, atypical antipsychotic metabolic monitoring, antipsychotic prescribing, attention deficit hyperactivity disorder medication follow-up), (2) enhancing the patient/family experience through education and collaborative decision making, and 3) improving prescribing practices in at-risk youth (eg, foster care, NDDs) through use of comprehensive medication management and psychotropic stewardship. **Conclusion:** As educators and advocates for evidence-based psychotropic medication management, BCPPs in CAP decrease polypharmacy, increase medication adherence and knowledge, and enhance patient outcomes. Given the need for interdisciplinary collaboration among BCPPs, child and adolescent psychiatrists, and primary care providers, it is crucial for pharmacy administrators to respond and recognize the necessity of integrating pharmacy services into CAP and integrating BCPPs into pharmacy departments.

Utilization of Lidocaine/Epinephrine to Minimize Injection Site Pain for Patients Receiving Subcutaneous Extended-Release Buprenorphine

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Type: Innovative practices. **Background:** Subcutaneous buprenorphine extended-release (ER) injection is a first line treatment modality for patients with opioid use disorder. Its once monthly dosing interval allows for increased medication adherence and consistent serum drug concentrations, which has demonstrated improved treatment retention and outcomes. However, injection site–related pain, itching, and burning that can occur during and after subcutaneous administration has been documented with an incidence of up to 10% in the literature, which can lend itself to a patient's lack of interest in a trial or discontinuation from this regimen. Currently, there are no practice guideline nor manufacturer recommended approaches to mitigating these symptoms, but providers have advocated for the use of either topical or injectable lidocaine products. We are interested in studying the effects of subcutaneous lidocaine injection prior to buprenorphine ER subcutaneous injection on decreased pain severity and increased treatment retention. **Description of Innovative Service:** Our interdisciplinary outpatient team developed a procedure for the provision and administration of lidocaine products prior to subcutaneous ER buprenorphine injection in August 2023. Nursing created a required training competency for the injection technique of subcutaneous lidocaine. Pharmacy built an order set for both lidocaine products in our health system's electronic medical record and procured inventory for storage in the clinic's medication dispensing cabinet. Behavioral health providers offered lidocaine products to patients already receiving subcutaneous ER buprenorphine who endorsed injection site–related discomfort and discussed it as an option with all patients who were newly initiated on this regimen. **Effect on Patient Care:** Approximately 20 patients were receiving subcutaneous ER buprenorphine as outpatients at our

institution in August 2023. Eleven patients elected to receive lidocaine prior to their injection; 6 patients subsequently received subcutaneous injectable lidocaine due to continued discomfort with use of topical lidocaine ointment. In January 2024, 4 of the 6 patients continued to receive subcutaneous injectable lidocaine prior to each subcutaneous ER buprenorphine injection. **Conclusion:** Minimizing barriers to medication for opioid use disorder are an important aspect of a patient's treatment. The provision of lidocaine products has a high potential for utilization and represents an opportunity to quantify specific outcomes related to treatment retention.

Therapeutic Case Report Abstracts

Acute Suicidal Ideation and Thoughts of Self-Harm With Valbenazine

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Type: Therapeutic case report. **Background:** Vesicular monoamine transporter 2 (VMAT2) inhibitors are commonly used for movement-related disorders, such as Huntington disease and tardive dyskinesia (TD). Tetrabenazine is associated with an increased risk of suicidal thoughts and behaviors and a worsening of depressive symptoms in Huntington disease, likely due to the VMAT2 inhibitor's monoamine-depleting action. This has led to a US Food and Drug Administration boxed warning for all medications in this class. However, newer agents in this class, including valbenazine, have not appeared to have the same association with increased risk of suicidal thoughts or behaviors to date. **Patient/History:** A 50-year-old male diagnosed with schizophrenia and TD was prescribed valbenazine for abnormal involuntary movements. Scheduled medications at that time included oral loxapine 10 mg twice daily, vitamin D3 50 mcg daily, benztropine 1 mg 3 times daily, and tamsulosin that was increased from 0.4 to 0.8 mg once daily on day 1 of the valbenzaine trial. Patient had a history of suicidality but was psychiatrically stable with no suicidal ideations reported for a significant duration prior to the trial of the VMAT2 inhibitor. Valbenazine 40 mg by mouth daily was administered for 4 days. On day 5, the patient began to report thoughts of suicide and self-harm with a plan and a dramatic decline in mood from happy to hopeless and frustrated. Valbenazine was discontinued immediately, and the patient returned to baseline within 1 week with complete resolution of suicidality/self-harm. **Review of Literature:** Current literature does not report a significant association between valbenazine use and an increase in suicidal thoughts or behaviors compared with that of placebo. Although listed at a class boxed warning and, therefore, recommended with caution in patients with history of depression and/or suicidality, there have been no cases that we know of reporting a link between valbenazine use and suicidal thoughts and behaviors and/or self-harm. **Conclusion:** This is the first case, that we know of, reported for acute suicidal ideation and thoughts of self-harm associated with valbenazine. Clinicians should be advised to use valbenazine with caution and monitor for thoughts of suicide or self-harm closely.

Alice in Wonderland Syndrome Associated With Topiramate

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Type: Therapeutic case report. **Background:** Alice in Wonderland Syndrome (AIWS) involves visual distortions that are differentiated from hallucinations. Since it was first characterized in the 1950s, more than 60 different symptoms associated with AIWS have been described. Most notable, given the name of the syndrome, are macro- or micro-somatognosia, which is experiencing the whole or part of the body being larger or smaller, respectively, than it truly is. Other symptoms may include distortions of color, objects, time, and space. Although many cases may have no identified underlying cause, a common comorbidity may be migraine headaches. Other associated illnesses are often neurologic or infectious. Some medications are also rarely associated, including montelukast, methylphenidate, and topiramate. **Patient History:** A 40-year-old woman was admitted to a 3-week pain rehabilitation program to address an approximate 10-year history of migraines. Other medical history included Sjogren syndrome, persistent postural perceptual dizziness, and generalized anxiety disorder. AIWS was noted in the chart the year before admission and first thought to be associated with migraines. However, the patient reported the onset and worsening of macro-somatognosia following dose escalation of topiramate to 150 mg daily. Based on this information and given the lack of benefit for migraines, topiramate was tapered and discontinued. She reported complete resolution of perceptual distortions without return during the remaining 11 days of the program. There were no other changes to the patient's migraine regimen, and migraines did not worsen over this period. **Review of Literature:** AIWS is reported in patients with migraine headaches, making the association between topiramate challenging. Three cases from the literature report patients with a migraine history of suspected topiramate-associated AIWS. In each case, discontinuation of topiramate was associated with resolution of symptoms. The pathophysiology of topiramate-associated AIWS is unknown, but the medication may modulate the visual system within the

central nervous system. **Conclusion:** There was a temporal relationship between the patient's recollection of worsening of visual distortions and topiramate dose escalation. More clearly, there was resolution of these symptoms after topiramate discontinuation. Although AIWS is associated with migraine headaches, clinicians should be aware of the association with topiramate.

Antipsychotic-Induced Muscle-Specific Tyrosine Kinase Antibody–Positive Myasthenia Gravis

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Type: Therapeutic case report. **Background:** Myasthenia gravis (MG) is caused by antibodies against acetylcholine receptors (ACHRs) in the neuromuscular junction. Muscle-specific kinase (MuSK) MG is a more severe subtype of MG that presents with bulbar symptoms in 80% of patients, including dysarthria, dysphonia, and dysphagia. Approximately 40% of ACHR seronegative MG patients are positive for MuSK antibodies. **Patient History:** The patient is a 49-year-old female brought into the hospital for bizarre behaviors and inability to care for herself. She had inappropriate affect, disorganized behaviors, and paranoid delusions. Other notable symptoms included dysphonia; dysarthria; a soft, hoarse voice; refusal to eat; and a body mass index of 15. She had no past psychiatric history or psychiatric hospitalizations. She was diagnosed with schizophrenia, started on paliperidone 3 mg daily, and took 3 doses. The dose was increased to 6 mg daily, and she took 1 dose. That evening, she complained of shortness of breath and difficulty swallowing. Overnight, she experienced acute hypoxic hypercapnic respiratory failure. Patient was intubated and sent to the intensive care unit (ICU). Myasthenia gravis was suspected, and ACHRs were ordered, but the results were negative. Patient was found to be MuSK positive, diagnosed with MG, and treated with corticosteroids and pyridostigmine. Once stable, the patient was sent to the step-down unit where psychiatry decided to reintroduce antipsychotics and ordered olanzapine 2.5 mg daily. The patient took 1 dose and later that night was found to have agonal breathing and was in respiratory failure. She was intubated, readmitted to ICU, and stabilized. Pyridostigmine was ordered, but the patient was paranoid and frequently refused it. This case was complicated by the inability to treat psychosis with antipsychotics due to MG. **Review of Literature:** A MEDLINE search revealed only 1 case report of risperidone long-acting injectable–induced MG, but no cases of olanzapine-induced MG. **Conclusion:** Our case describes MuSK antibody–positive MG exacerbated by olanzapine and possibly paliperidone. There are no similar cases in the literature, and many MG patients with psychiatric symptoms have been safely treated with antipsychotics. Clinicians must be aware of the potential risks of antipsychotic use in patients with MG.

Antipsychotic-Induced Tics in Autism Spectrum Disorder

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Type: Therapeutic case report. **Background:** The *Diagnostic and Statistical Manual of Mental Disorders*, fifth edition, text revision, describes tics as "sudden, rapid, recurrent, nonrhythmic motor movement or vocalization." Tics are initially categorized by their type (motor or vocal) with common vocal tics including throat clearing and coughing. Tics may be distinguished from motor stereotypies, compulsions, repetitive behaviors, and dystonia based on cognitive drive and context of worsening or improvement. A PUBMED search of "antipsychotics" + "tics" revealed most studies focused on the treatment of tics or Tourette disorder with antipsychotics; however, a few case reports and a French pharmacovigilance study suggest antipsychotic-induced tics may also be possible. **Patient History:** The patient is a 19-year-old white male with a past medical history of autism and generalized anxiety disorder prescribed citalopram and aripiprazole. He previously tolerated aripiprazole 2 mg/day for approximately 3 years before the dose was increased to 3 mg/day for continued symptoms of irritability and aggression associated with autism. One month after dose increase, the patient exhibited new onset tics of throat clearing and cough. Tics occurred every 2 to 3 minutes across multiple settings and were bothersome to the patient. Given no other identifiable causes, aripiprazole dose was decreased to 2 mg/day. Two weeks after dose reduction, tics reduced to once every 30 minutes but were still bothersome to the patient. At this time, aripiprazole was discontinued, and tics resolved completely 2 weeks after discontinuation. Ziprasidone was then trialed at 20 mg/day for 2 weeks but discontinued due to caregiver reports of eye rolling and development of facial tics. Tics resolved without recurrence following all antipsychotic discontinuation. **Conclusion:** This case report describes onset of vocal tics after increasing the dose of aripiprazole classified as a "definite" adverse drug reaction with a Naranjo score of 9. A subsequent trial of ziprasidone resulted in eye rolling and facial tics, demonstrating a "probable" adverse drug reaction with a Naranjo score of 5. Given that the existing literature predominantly describes antipsychotics being used to treat tics, clinicians should be aware of this rare but potential adverse effect of antipsychotics that necessitates dose reduction and/or discontinuation. Future research should focus on characterizing prevalence and risk factors for antipsychotic-induced tics.

Clozapine-Induced Neutropenia in the Management of Treatment-Resistant Schizophrenia: A Case Report

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Type: Therapeutic case report. **Background:** Clozapine is considered first line in the management of treatment-resistant schizophrenia. However, its use is associated with a rare but life-threatening adverse effect: neutropenia. Severe neutropenia is characterized by an absolute neutrophil count (ANC) of less than 500 cells/mm^3. Management of clozapine-induced neutropenia involves immediate discontinuation of the drug, supportive care, and close hematologic monitoring. Clozapine-induced neutropenia remains a critical concern in clinical practice despite its efficacy in schizophrenia. **Patient History:** A 49-year-old Caucasian male with a diagnosis of schizophrenia was admitted for disorganized behavior. The patient had 1 hospital admission within the past 12 months, and he was treated with aripiprazole monohydrate 400 mg monthly and haloperidol 10 mg. Currently, the patient did not respond to 40 mg/day of aripiprazole. Aripiprazole was augmented with clozapine and titrated to 300 mg nightly. On day 79 of clozapine augmentation, clozapine and aripiprazole were discontinued due to severe neutropenia and leukopenia with an ANC of 280 cells/microliter and a white blood cell count of 1.4 cells/microliter. The patient was transferred to the medical service, and a hematology consult was requested. Hematology recommended daily filgrastim 480 mcg injections and empiric treatment with intravenous immunoglobulin 70 g/day and methylprednisolone 125 mg/day for 2 days. The patient was asymptomatic except for developing a fever up to 102.9°F, requiring treatment with broad-spectrum antibiotics. After 14 days and discontinuation of antipsychotics, the complete blood count returned to normal, and the patient was discharged. **Review of Literature:** The risk of severe neutropenia peaks in the initial 6 months of clozapine treatment, gradually decreasing over time, and may not significantly differ from the risk associated with other antipsychotics. Significant and independent factors associated with clozapine-related neutropenia are female sex, older age, and use of concomitant medications. Clozapine-induced neutropenia does not appear to be dose related. **Conclusion:** Clozapine-induced neutropenia remains a rare yet critical concern in schizophrenia treatment, emphasizing the necessity for vigilant monitoring, immediate intervention upon detection, and ongoing research to refine management strategies and understand underlying risk factors. Heightened awareness among clinicians is imperative to ensure the safe use of clozapine in treatment-resistant cases.

Impact of Paroxetine 2D6 Inhibition in a Patient Transitioned From Oral Risperidone to Paliperidone Palmitate: A Case Report

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Type: Therapeutic case report. **Background:** Risperidone in a Food and Drug Administration–approved treatment for irritability associated with autism spectrum disorder (ASD) in children. Clinicians may extrapolate this approval for use in adults with ASD. Paliperidone, the active metabolite of risperidone, does not possess this approval; however, paliperidone palmitate is often considered an equivalent long-acting injectable (LAI) treatment to risperidone. **Patient History:** A 28-year-old male with ASD presented to initiate LAI treatment in March 2023. He had been stabilized on risperidone 5 mg for irritability related to ASD since 2021 and paroxetine 30 mg daily since 2020 for obsessive compulsive disorder. He was referred for LAI to reduce pill burden. He initially completed a standard loading series of paliperidone palmitate 234 mg on day 0, 156 mg on day 7 followed by a 156-mg monthly maintenance dose. After the second maintenance injection, his mother reported restlessness and aggressive outbursts at his day program leading to suspension. There was clinical concern for akathisia versus subtherapeutic LAI dosing in the setting of paroxetine CYP2D6 inhibition not impacting paliperidone palmitate. Following a negative akathisia assessment, he transitioned to a risperidone extended-release suspension 120 mg monthly to mimic the original CYP2D6 inhibition. He has been treated with risperidone extended-release 120 mg for 6 months with symptom resolution and has re-enrolled in his day program. **Review of Literature:** Risperidone is a major substrate of CYP2D6, which paroxetine is known to inhibit. The studied increase of risperidone concentrations ranges from 1.45-fold to 9-fold. Dosing recommendations suggest not exceeding 8 mg daily in the setting of this interaction. The package insert for the risperidone LAI in this case provides dosing suggestions when adding a strong CYP2D6 inhibitor with no recommendations for patients already on an inhibitor when starting LAI treatment. Paliperidone is not a substrate of CYP2D6 and is not impacted by this interaction. **Conclusion:** This case report highlights the importance of considering interactions when transitioning from oral treatment to equivalent LAI products of differing active ingredients. With increased availability of various LAI risperidone products, it may be beneficial to convert oral

risperidone to a risperidone containing LAI when drug interactions are present.

Impacts of COVID-19 Events on Clozapine Therapeutics: A Case Report

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Type: Therapeutic case report. **Background:** Clozapine is an atypical antipsychotic well-known for its superior efficacy in patients with treatment-refractory schizophrenia. Plasma concentrations of clozapine and active metabolite norclozapine are routinely measured throughout therapy. Clozapine is mainly metabolized by CYP1A2. There are limited studies theorizing that COVID-19 vaccination can lead to CYP1A2 inhibition and downregulation via inflammatory mechanisms. **Patient History:** JC is a 30-year-old male with an unknown past medical history. He was diagnosed with schizophrenia after admission to an inpatient psychiatry unit in 2022 and placed under conservatorship. After trials of risperidone and olanzapine with little to no alleviation of psychotic symptoms, he was switched to clozapine in May 2022. The dose was titrated up to a range of 425 to 475 mg by early July 2022 with corresponding clozapine plasma concentrations residing in the subtherapeutic range of 225 to 250 ng/mL. In late July 2022, the patient received the first dose of Pfizer's mRNA COVID-19 vaccine, which resulted in a spike in clozapine serum concentrations to 475 to 490 ng/mL within the following weeks. In the following months, the dose was further titrated up to 675 mg, resulting in plasma concentrations in the range of 172 to 353 ng/mL. In November 2022, the second COVID-19 vaccination was administered, and the subsequent clozapine concentration measured 568 ng/mL. One week later, the patient tested positive for COVID-19, resulting in a clozapine concentration of 736 ng/mL. One month following infection, the clozapine dose remained the same, but plasma concentrations stabilized back to a lower level of 283 to 347 ng/mL. Genetic testing revealed the patient is a normal CYP1A2 metabolizer. **Review of Literature:** A PubMed search reveals limited literature detailing a similar situation as described, in which a patient had elevated clozapine levels after receipt of the COVID-19 vaccine. This case report can contribute to a greater understanding of the impacts of COVID-19 infection and immunization on clozapine metabolism. **Conclusion:** In our case report, there are 3 instances of COVID-19 events linked to a rise in clozapine plasma concentrations. Clinicians should be aware of the possibility of COVID-19 vaccination and infection potentially raising clozapine concentrations through CYP1A2 interactions.

Kratom: A Veteran's Ally or Adversary?

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Type: Therapeutic case report. **Background:** Mitragyna speciosa, predominately known to the western world as Kratom, has been used for both medicinal and traditional purposes in Southeast Asia for centuries. As Kratom found its way into the global market, its use moved into the recreational realm. It is now being used by an estimated 1.7 million Americans greater than 12 years of age with adults aged 26 and older accounting for 1.4 million people. It is generally used to self-treat pain, opioid withdrawal, and opioid use disorder. **Veteran History:** Three Caucasian, male veterans with an average age of 36 years reported using Kratom powder for at least 1 year with the longest duration being 14 years. Two veterans began using Kratom to avoid opioid withdrawals. One veteran began chewing Kratom leaves when on deployment in Thailand. The amount used per day ranged from 5 to 90 g. The most common withdrawal symptoms reported were sweating and flu-like symptoms. Each veteran received buprenorphine-naloxone induction with 8 mg/2 mg 3 times daily and demonstrated varying clearance of Kratom via urine drug screening. **Review of Literature:** Limited data exist for kratom use case reports. A MEDLINE search yielded 13 cases of Kratom use disorder that were published from 2010 to 2023, one of which is the veteran population. In all cases, pharmacotherapy was initiated, and in 4 of these cases, buprenorphine-naloxone was the treatment of choice. **Conclusion:** We describe buprenorphine-naloxone's safe and efficacious role in treating Kratom use disorder. Additionally, this case series demonstrates the reality of Kratom's not so innocuous use as an opioid or as a means to self-treat a present opioid use disorder.

Treatment-Resistant Priapism in a 61-year-Old Male After Combined Use of Trazodone, Quetiapine, and Fluoxetine

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Type: Therapeutic case report. **Background:** Trazodone, originally approved as an antidepressant for depression, is now frequently used off-label for the treatment of insomnia. Trazodone may cause priapism due to its alpha-blocking activity. **Patient History:** Here, we present an elderly

patient who experienced treatment-resistant priapism for 3 weeks despite multiple pharmacological and surgical interventions. Medications involved in this case include trazodone, quetiapine, fluoxetine, and hydroxyzine. The patient was a 61-year-old homeless male whose psychiatric history included bipolar disorder and substance use disorder (methamphetamine 5 to 6 times a week). His home medications were fluoxetine 60 mg and quetiapine 400 mg daily. The patient admitted to our hospital for suicidal ideation and began experiencing priapism on day 2 of admission. Upon patient interview, he confessed to consuming trazodone received from a friend just prior to admission. He also reported a 2-time history of priapism that resolved quickly without treatment following use of trazadone in the past. The patient was transferred twice to the emergency department of an outside hospital when he was hospitalized at our institution. He continued to have priapism for 3 weeks despite completion of multiple treatments, including aspirations and use of pseudoephedrine. Drug-drug interaction between fluoxetine, trazodone, and quetiapine may have played a role in this case through inhibition of cytochrome P450 3A4 and 2D6 and alpha-blocking synergism. **Review of Literature:** There are numerous case reports already published on trazodone-induced priapism; however, the majority have documented this occurring in patients who are young or middle-aged (20 to 40 years old) and whose condition resolved in a matter of days to a week. Additionally, antipsychotics are also implicated in priapism case reports. **Conclusion:** This case is unique due to several factors: (1) The patient was an older patient compared with published case reports. (2) The condition lasted for an extended period of time (approximately 3 weeks). (3) The patient did not respond to multiple interventions despite a history of self-limiting priapism. (4) The patient continued to take quetiapine and fluoxetine, which possibly played a role in the persistence of priapism. Clinicians should be cautious in rechallenging patients with trazodone who had a history of self-limiting priapism.

Encore Presentation Abstracts

Anticholinergics are Not Appropriate Treatments for Tardive Dyskinesia: Insights From an Expert Panel of Psychiatry and Neurology Health Care Professionals

Nora Vanegas-Arroyave, MD[1]; Dawn Vanderhoef, PhD, DNP, PMHNP-BC, FAANP[2]; Rachel Manahan, PhD[2]; Diane Darling, PharmD[2]; Samantha Cicero, PhD[2]

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Type: Encore presentation. **Previously Presented:** NEI 2022, Psych Congress 2022.

Baseline Demographics and Clinical Characteristics From OASIS: Observational Study of Long-Acting Injectables in Schizophrenia

Lauren N. Strand, PhD, MS[1]; Michael J. Doane, PhD[1]; Christina Arevalo, MS[1]; James A. McGrory, PhD[1]; Peter J. Weiden, MD[2]; Eric D. Achtyes, MD, MS[3]; Phillip D. Harvey, PhD[4]; John M. Kane, MD[5]; Stephen R. Saklad, PharmD, BCPP[6]; Jeffrey Trotter, MBA[7]; Dawn I. Velligan, PhD[8]

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Type: Encore presentation. **Previously Presented:** US Psych 2023; NEI 2023.

Clinical Pharmacogenetics Implementation Consortium Guideline for CYP2D6, CYP2C19, CYP2B6, SLC6A4, and HTR2A Genotypes and Serotonin Reuptake Inhibitor Antidepressants

Chad A. Bousman[1]; James M. Stevenson[2]; Laura B. Ramsey[3,4]; Katrin Sangkuhl[5]; J. Kevin Hicks[6]; Jeffrey R. Strawn[3]; Ajeet B. Singh[7]; Gualberto Ruaño[8,9]; Daniel J. Mueller[10,11]; Evangelia Eirini Tsermpini[12]; Jacob T. Brown[13]; Gillian C. Bell[14]; J. Steven Leeder[15,16]; Andrea Gaedigk[15,16]; Stuart A. Scott[5]; Teri E. Klein[5]; Kelly E. Caudle[23]; Jeffrey R. Bishop[24,25]

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Type: Encore Presentation. **Previously Presented:** Presented at the 2023 Pharmacogenomics Global Research

Network Conference, Memphis, Tennessee; published Clin Pharmacol Ther. Jul 2023 PMID: 37032427.

Comparing Buprenorphine Prescription Patterns for Opioid Use Disorder Before and After the Drug Addiction Treatment Act Waiver Removal at a Hospital Health Care System

Vanessa Clergeau, PharmD; Brittney Romer, PharmD; Samantha Sotelo, PharmD, BCPP; Alberto Augsten, PharmD, MS, BCPP, DABAT
Memorial Healthcare System, Hollywood, Florida

Type: Encore presentation.

Database Analysis for the Concomitant Use of an Immediate-Release Stimulant With an Extended-Release Stimulant for the Treatment of Attention Deficit Hyperactivity Disorder

Keith Nguyen, PharmD; David Fam, PharmD; Payal Naik, MPH; Chris Pfeffer; Jim Potenziano, PhD
Tris Pharma, Monmouth Junction, New Jersey

Type: Encore presentation. **Previously Presented:** The American Professional Society of ADHD and Related Disorders, January 2024, Orlando, Florida.

Efficacy of KarXT (Xanomeline and Trospium) in Schizophrenia: Pooled Results from the Randomized, Double-Blind, Placebo-Controlled EMERGENT Trials

Inder Kaul, MD, MPH[1]; Leslie Citrome, MD, MPH[2]; Sharon Sawchak, RN[1]; Judith Kando, PharmD[1]; Steven M. Paul, MD[1]; Stephen K. Brannan, MD[1]
[1] Karuna Therapeutics, Boston, Massachusetts; [2] New York Medical College, Valhalla, New York

Type: Encore presentation. **Previously Presented:** Neuroscience Education Institute 2023, CNS Summit 2023, American College of Neuropsychopharmacology 2023, NPA 2024.

Efficacy of Lumateperone in Pooled Short-Term Late-Phase Clinical Trials for Treatment of Major Depressive Episodes Associated With Bipolar II Disorder

Suresh Durgam, MD[1]; Hassan Lakkis, PhD[1]; Susan G. Kozauer, MD[1]; Changzheng Chen, PhD[1]; Bradford Loo, PharmD[1]; Roger S. McIntyre, MD[2]
[1] Intra-Cellular Therapies, Inc., New York, New York; [2] University of Toronto, Toronto, Ontario, Canada

Type: Encore presentation. **Previously Presented:** American College of Neuropsychopharmacology, December 5, 2022, Tampa, Florida; International College of Neuropsychopharmacology, May 9, 2023, Montreal, Canada; Psychiatry Summit: May 11–13, 2023, Virtual; American Society of Consultant Pharmacists, June 1, 2023, Miami, Florida; International Society for Bipolar Disorders, June 24, 2023, Chicago, Illinois; Psych Congress: September 9, 2023, Nashville, Tennessee; European College of Neuropsychopharmacology, October 8, 2023, Barcelona, Spain; Neuroscience Education Institute, November 10, 2023, Colorado Springs, Colorado.

Efficacy, Tolerability, and Safety of AXS-05, a Novel Oral Antidepressant: Data From 3 Clinical Trials

Craig Chepke[1]; Candace Andersson[2]; Caroline Streicher[2]; Doug Boggs[2]; Herriot Tabuteau[2]; Andrew Muzyk[3]; Maurizio Fava[4]; Dan Iosifescu[5]
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Type: Encore presentation. **Previously Presented:** Anxiety and Depression Association of America 2024

Emergency Room Visits Among Opioid Use Disorder Patients

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Type: Encore presentation. **Previously Presented:** This research was a platform presentation at the American College of Emergency Physicians in Philadelphia, Pennsylvania (October 9, 2023).

Formation of a Working Alliance and Efficacy of a Digital Therapeutic to Treat Experiential Negative Symptoms of Schizophrenia

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Type: Encore presentation. **Previously Presented:** Original: ECNP 2023 European College of Neuropsychopharmacology - 36th Congress, presented October 10, 2023; Encore: CNS Summit 2023, presented November 9.

Health Care Resource Utilization Following 6 Months of Treatment With Olanzapine/Samidorphan: Real-World Assessment of Patients With Schizophrenia or Bipolar I Disorder

Andrew J. Cutler, MD[1]; Hemangi R. Panchmatia, MSc[2]; Alejandro G. Hughes, MPH[3]; Noah S. Webb, MS[3]; Michael J. Doane, PhD[2]; Rakesh Jain, MD[4]

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Type: Encore presentation. **Previously Presented:** US Psych, September 6-10, 2023; Neuroscience Education Institute, November 9-12, 2023.

Impact of AXS-05, an Oral NMDA Receptor Antagonist and Sigma-1 Receptor Agonist, on Anhedonic Symptoms in Major Depressive Disorder

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Type: Encore presentation. **Previously Presented:** American Society of Clinical Psychopharmacology 2022.

Impact of Viloxazine Extended-Release Capsules on Self-Rated Executive Function in a Long-Term, Phase 3, Open-Label Extension Trial of Adult Attention Deficit Hyperactivity Disorder

Lenard A. Adler, MD[1]; Stephen V. Faraone, PhD[2]; Robert M. Roth, PhD[3]; Peter Isquith, PhD[3]; Himanshu P. Upadhyaya, MD[4]; Peibing Qin, PhD[4]; Christian Teter, PharmD, BCPP[4]; Jennifer Koch, PhD[4]; Jami Earnest, PharmD, BCPP[4]; Jonathan Rubin, MD[4]

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Type: Encore presentation. **Previously Presented:** American Professional Society for ADHD and Related Disorders 2024.

Long-Term Metabolic Outcomes Associated With KarXT (Xanomeline and Trospium): Interim Results From Pooled, Long-Term Safety Studies EMERGENT-4 and EMERGENT-5

Amy Claxton, PhD[1]; George Konis, MD[2]; Inder Kaul, MD, MPH[1]; Stephen K. Brannan, MD[1]; Ron Marcus, MD[1]

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Type: Encore presentation. **Previously Presented:** Schizophrenia International Research Society 2024.

Lumateperone Treatment for Major Depressive Episodes With Mixed Features in Major Depressive Disorder and Bipolar I or Bipolar II Disorder

Suresh Durgam, MD[1]; Susan G. Kozauer, MD[1]; Willie R. Earley, MD[1]; Changzheng Chen, PhD[1]; Jason Huo, PhD[1]; Bradford Loo, PharmD[1]; Stephen Stahl, MD, PhD[2]; Roger S. McIntyre, MD[3]

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Type: Encore presentation. **Previously Presented:** Psych Congress: September 9, 2023, Nashville, Tennessee; European College of Neuropsychopharmacology, October 8, 2023, Barcelona, Spain; CNS Summit: November 10, 2023, Boston, Massachusetts; Neuroscience Education Institute, November 10, 2023; Colorado Springs, Colorado; American College of Neuropsychopharmacology, December 4, 2022, Tampa, Florida.

Real-World Clinical Experience of Dexmedetomidine Sublingual Film for Agitation in Adults With Schizophrenia or Bipolar Disorder

Sonja Hokett, PharmD, MS, MSc; Michael A. Hooks, PharmD, BCPS, FCCP; Mae Kwong, PharmD

Bioxceltherapeutics New Haven, Connecticut

Type: Encore presentation. **Previously Presented:** Previously presented at National Update on Behavioral Emergencies meeting, December 2023.

Safety and Tolerability of KarXT (Xanomeline and Trospium): Pooled Results From the Randomized, Double-Blind, Placebo-Controlled EMERGENT Trials

Stephen K. Brannan, MD[1]; Andrew J. Cutler, MD[2]; Sharon Sawchak, RN[1]; Judith Kando, PharmD[1]; Amy Claxton, PhD[1]; Steven M. Paul, MD[1]; Inder Kaul, MD, MPH[1]

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Type: Encore presentation. **Previously Presented:** Neuroscience Education Institute 2023, CNS Summit 2023, American College of Neuropsychopharmacology 2023, NPA 2024.

Switching Patients with Schizophrenia to TV-46000, an Intramuscular Long-Acting Subcutaneous Antipsychotic, From Risperidone Microspheres (R064766): An Exploration of Population Pharmacokinetic–Based Strategies

Itay Perlstein[1]; Jonathan Meyer[2]; Ziqi Yue[3]; Joel Owen[3]; Vijay Ivaturi[3]; Kelli R. Franzenburg[4]; Mark Suett[5]; Rolf Hansen[6]; Avia Merenlender Wagner[7]; Rajendra Singh[4]

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Type: Encore presentation. **Previously Presented:** Schizophrenia International Research Society 2024 (abstract submitted).

The Importance of Incorporating Drug-Drug Interactions and Lifestyle Factors in Pharmacogenomics-Guided Medication Management for Patients With Major Depressive Disorder in a Randomized Controlled Trial

Feng Cao, PhD; Andrea E. Hanson, PhD; Raymond A. Lorenz, PharmD, BCPP; Kyle R. Covington, PhD; Robert W. Cook, PhD

Castle Biosciences, Friendswood, Texas

Type: Encore presentation. **Previously Presented:** Psych Congress September 2023.

Treatment and Economic Challenges When Treating Patients with Agitation Associated With Schizophrenia or Bipolar Disorder in the Emergency Department

Sonja Hokett, PharmD, MS, MSc; Mae Kwong, PharmD

Bioxceltherapeutics, New Haven Connecticut

Type: Encore presentation. **Previously Presented:** Previously presented at National Update on Behavioral Emergencies meeting December 2023.

Treatment Patterns and Outcomes From OASIS: Observational Study of Long-Acting Injectables in Schizophrenia

Lauren N. Strand, PhD, MS[1]; Michael J. Doane, PhD[1]; Christina Arevalo, MS[1]; James A. McGrory, PhD[1]; Peter J. Weiden, MD[2]; Eric D. Achtyes, MD, MS[3]; Phillip D. Harvey, PhD[4]; John M. Kane, MD[5]; Stephen R. Saklad, PharmD, BCPP[6]; Jeffrey Trotter, MBA[7]; Dawn I. Velligan, PhD[8]

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Type: Encore presentation. **Previously Presented:** Academy of Managed Care Pharmacy 2024.

Viloxazine Extended-Release Administered With Psychostimulants in Children and Adolescents With Attention Deficit Hyperactivity Disorder: Results of a Phase IV Safety Trial

Ann Childress, MD[1]; Kimberley Hayman, BS[2]; Kobby Asubonteng, PhD[2]; Ilmiya Yarullina, MD[2]; Jami Earnest, PharmD, BCPP[2]; Jonathan Rubin, MD[2]

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Type: Encore presentation. **Previously Presented:** Psych Congress 2023, Neuroscience Education Institute 2023, American Professional Society of ADHD and Related Disorders 2024, NPA 2024.