

# A-PRIME

## Research Newsletter



Fall 2024  
Edition

**Welcome** to the TPMG/DARE  
*Addiction and Psychiatric Research  
Initiative and Mentorship Network (A-  
PRIME) Newsletter!*

Here, we present current or recently completed research projects led by clinician researchers as well as ongoing studies led by investigators at the Division of Research (DOR) that involve our clinician researchers.

Conducting research to improve care is important to many KPNC TPMG clinicians and DARE is proud to provide our physicians with research collaboration opportunities through several [DARE funding mechanisms](#).

In this issue, we will provide you with updates regarding research interests among TPMG clinicians and a list of the incredible recently published research.



## A Deeper Look Inside This Update:

- EQI Psychology Lab
- Research Highlights
- Upcoming events  
& funding
- Specialty Announcements
- Active and recent research projects
- Recent peer reviewed publications

# A Fresh Approach for the Next Generation

## The EQI Psychology Lab:

*A Coordinated Scholarly Inquiry Effort by the MHTP*



The Mental Health Training Program (MHTP) is embarking on a new adventure this fall. When psychology trainees arrive to start their training year, they will have the opportunity to join the Evaluation and Quality Improvement (EQI) Psychology Lab. Those familiar with our training program know that Doctoral Interns and Postdoctoral Fellows have been conducting program evaluations and needs assessments at local medical centers for the past 20 years. The EQI Lab is an effort to centralize the scholarly inquiry being conducted by Kaiser's psychology trainees across Northern California.

Through weekly meetings and mentorship, Doctoral Interns and Postdoctoral Fellows will contribute to ongoing projects focused on improving mental health care in our clinics and medical centers. Trainees will receive didactics in ethical research, program evaluation models, and approaches to quality improvement. We are hoping that by collaborating in small teams on topics they are interested in, they will build the research comradery that we have all found in A-PRIME.

To ensure that the investigations are relevant to the clinical work being conducted at Kaiser Permanente, we have included several staff clinicians as Subject Matter Experts in the areas of Health Psychology, Trauma Treatment, Training in Psychology, Diversity Equity and Inclusion, and Outcomes Measurement. Initial aims include identifying factors impacting attendance/drop out and treatment adherence, creating measurements of fidelity, assessing patient outcomes and long-term effects of treatment, improving workflows, and identifying needs for future interventions.

We hope that by facilitating trainees collaborating as a team and engaging staff clinicians who are interested in research as well, we will expand upon scholarly inquiry training goals, improve the quality of our work, disseminate findings more widely, and continue to build on existing projects year after year. Collaboration with the Graduate Medical Education Scholarly Inquiry Program, Division of Research, DARE, and A-PRIME has been integral in getting this project off the ground. We are excited to introduce these trainees to the wonderful research community that Kaiser Permanente has created!

# Research Highlights

## Changes in Service Use After Participation in an Intensive Outpatient Program Among Adults With Posttraumatic Stress Disorder

Brittany M Abeldt, MD Kathryn H Brown, MD, MBA h Julia Wei, MPH, Nirmala D Ramalingam, MPP and Matthew E Hirschtritt, MD, MPH  
PMCID: PMC11404658 DOI: 10.7812/TPP/24.019

### Abstract

**Introduction:** Intensive outpatient programs (IOPs) have been shown to reduce posttraumatic stress disorder (PTSD) symptoms in veteran populations. The aim of this study was to examine the association between IOP participation and inpatient psychiatric and mental health-related emergency department (ED) encounters among patients with PTSD.

**Methods:** This is a retrospective cohort study among 258 adults with PTSD who participated in the IOP at Kaiser Permanente Oakland Medical Center between January 1, 2017, and December 31, 2018. The authors compared changes in inpatient psychiatric hospitalizations and mental health-related ED encounters from the year before vs after the first IOP engagement. Bivariate analyses comparing ED and inpatient utilization pre- and post-IOP engagement, stratified by sociodemographic variables were conducted using paired *t*-tests and McNemar's test. Conditional multivariable logistic regression was performed to assess the odds of psychiatric utilization.

**Results:** Participants were more likely to have  $\geq 1$  inpatient psychiatric encounter (28.7% vs 15.9%;  $p < 0.01$ ) and  $\geq 1$  mental health-related ED encounter (24.8% vs 18.2%;  $p = 0.04$ ) pre-IOP vs post-IOP. The authors' multivariable analysis demonstrated that patients experienced a 56% reduction in the odds of inpatient psychiatric encounters (adjusted odds ratio = 0.42, 95% confidence interval: 0.26-0.68,  $p < 0.01$ ) and a 35% reduction in mental health-related ED encounters (adjusted odds ratio = 0.63, 95% confidence interval: 0.40-1.00,  $p = 0.05$ ) post-IOP vs pre-IOP.

**Discussion:** This study demonstrated a significant reduction in inpatient psychiatric hospitalizations and mental health-related ED visits among patients with PTSD in the year following participation in an IOP.

**Conclusion:** These findings support the use of IOPs for patients with PTSD to reduce the likelihood of intensive service use.

## Telehealth Collaborative Care Led by Clinical Pharmacists for People With Psychosis or Bipolar Disorder: A Propensity Weighted Comparison With Usual Psychiatric Care

Esti Iturralde, PhD; Lisa Fazzolari, DO; Natalie E. Slama, MPH; Stacey E. Alexeeff, PhD; Stacy A. Sterling, MSW, DrPH; Sameer Awsare, MD; Maria T. Koshy, MD; and Macy Shia, PharmD  
PMCID: PMC10868914 (available on 2025-01-29) DOI: 10.4088/JCP.23m14917

### Abstract

**Objective:** People with psychosis or bipolar disorder (severe and persistent mental illness [SPMI]) are at high risk for poor psychiatric and chronic illness outcomes, which could be ameliorated through improved health care quality. This study assessed whether a telehealth, collaborative care program managed by psychiatric clinical pharmacists (SPMI Population Care) was associated with improved health care quality for adults with SPMI in a large California health system.

**Methods:** This retrospective cohort study used electronic health record data to compare 968 program enrollees at 6 demonstration sites (Population Care) to 8,339 contemporaneous patients with SPMI at 6 non-program sites (Usual Care). SPMI diagnoses were based on ICD-10-CM diagnostic codes. Primary outcomes were optimal psychotropic medication adherence, guideline-recommended glycemic screening, annual psychiatrist visit, and emergency department use. Difference-in-difference analyses assessed change in outcomes from 12 months pre- to 12 months post-enrollment using overlap weighting with high dimensional propensity scores to balance participant characteristics across groups. Participant data were collected from January 1, 2020, to June 30, 2022.

**Results:** From pre- to post-enrollment, Population Care was associated with greater achievement of psychotropic medication adherence and glycemic screening (+6 and +9 percentage points), but unexpectedly with a decrease in annual psychiatrist visits (−6 percentage points) and no significant change in emergency department use, relative to Usual Care. More than 75% of Population Care participants attended an intake and ≥ 1 follow-up visits. Participants with psychosis (26% of sample) had similar results as those with bipolar disorder.

**Conclusions:** Clinical pharmacist-led telehealth collaborative care has potential to improve psychopharmacologic treatment adherence and recommended disease preventive screening for people with psychosis or bipolar disorder.

## Validation of a Multivariable Model to Predict Suicide Attempt in a Mental Health Intake Sample

Santiago Papini, PhD<sup>1,2</sup>; Honor Hsin, MD, PhD<sup>3</sup>; Patricia Kipnis, PhD<sup>1</sup>; Vincent X. Liu, MD, MS<sup>1</sup>; Yun Lu, MD, MPH<sup>1</sup>; Kristine Girard, MD<sup>3</sup>; Stacy A. Sterling, DrPH, MSW, MPH<sup>1</sup>; Esti M. Iturralde, PhD<sup>1</sup>

PMCID: PMC10974695 (available on 2025-03-27) DOI: 10.1001/jamapsychiatry.2024.0189

### Abstract

**Importance:** Given that suicide rates have been increasing over the past decade and the demand for mental health care is at an all-time high, targeted prevention efforts are needed to identify individuals seeking to initiate mental health outpatient services who are at high risk for suicide. Suicide prediction models have been developed using outpatient mental health encounters, but their performance among intake appointments has not been directly examined.

**Objective:** To assess the performance of a predictive model of suicide attempts among individuals seeking to initiate an episode of outpatient mental health care.

**Design, Setting, and Participants:** This prognostic study tested the performance of a previously developed machine learning model designed to predict suicide attempts within 90 days of any mental health outpatient visit. All mental health intake appointments scheduled between January 1, 2012, and April 1, 2022, at Kaiser Permanente Northern California, a large integrated health care delivery system serving over 4.5 million patients, were included. Data were extracted and analyzed from August 9, 2022, to July 31, 2023.

**Main Outcome and Measures:** Suicide attempts (including completed suicides) within 90 days of the appointment, determined by diagnostic codes and government databases. All predictors were extracted from electronic health records.

**Results:** The study included 1 623 232 scheduled appointments from 835 616 unique patients. There were 2800 scheduled appointments (0.17%) followed by a suicide attempt within 90 days. The mean (SD) age across appointments was 39.7 (15.8) years, and most appointments were for women (1 103 184 [68.0%]). The model had an area under the receiver operating characteristic curve of 0.77 (95% CI, 0.76-0.78), an area under the precision-recall curve of 0.02 (95% CI, 0.02-0.02), an expected calibration error of 0.0012 (95% CI, 0.0011-0.0013), and sensitivities of 37.2% (95% CI, 35.5%-38.9%) and 18.8% (95% CI, 17.3%-20.2%) at specificities of 95% and 99%, respectively. The 10% of appointments at the highest risk level accounted for 48.8% (95% CI, 47.0%-50.6%) of the appointments followed by a suicide attempt.

**Conclusions and Relevance:** In this prognostic study involving mental health intakes, a previously developed machine learning model of suicide attempts showed good overall classification performance. Implementation research is needed to determine appropriate thresholds and interventions for applying the model in an intake setting to target high-risk cases in a manner that is acceptable to patients and clinicians.

# Annual Events

## ASAM Annual Conference

**Dates:** April 24-27, 2025

**Location:** Denver, CO

**For more information:** [ASAM - American Society of Addiction Medicine](#)

## SOBP Annual Meeting

**Dates:** April 24-26, 2025

**Location:** Toronto, Canada

**For more information:** [2024 SOBP Annual Meeting | Society of Biological Psychiatry](#)

## APA Annual Meeting

**Dates:** May 17-21, 2025

**Location:** Los Angeles, CA

**For more information:** [Psychiatry.org - 2024 Annual Meeting](#)

## CSAM Conference

**Dates:** August 22<sup>nd</sup>, 2024 - August 24<sup>th</sup>, 2024

**Place:** San Francisco, CA

**For More Information:** [State of the Art Addiction Medicine Conference](#)

## APA Health Services Conference

**Dates:** September 26-28, 2024

**Location:** Baltimore, MD

**For more information:** Visit [psychiatry.org](#)

## AACAP Annual Meeting

**Dates:** October 14<sup>th</sup>, 2024 - October 19<sup>th</sup>, 2024

**Location:** Seattle, WA

**For more information:** [AACAP's 71th Annual Meeting](#)

## Annual AMERSA Conference

**Dates:** November 13<sup>TH</sup>, 2024 - November 16<sup>th</sup>, 2024

**Location:** Chicago, IL

**For more information:** [Welcome to AMERSA - AMERSA](#)

## Annual CHADD Meeting

**Dates:** November 14-16, 2024

**Location:** Anaheim, CA

**For more information:** Visit [chadd.org](#)

# Internal Funding & Research Resources



**General Funding Opportunities**



**Delivery Science and Applied Research**



**Specialty Research Networks**



**Getting Started with Research**



**Division of Research**

# Announcements



Mark your calendars for the next A-PRIME quarterly meeting!

01/17/2025 (Friday) from 12:30pm - 1:30pm

To be added to the calendar invite list please email [A-PRIMESTEERINGCOMMITTEE@kp.org](mailto:A-PRIMESTEERINGCOMMITTEE@kp.org) and request to be added.

We invite readers to consider presenting a brief “work-in-progress” during an upcoming A-PRIME meeting, which can take the form of a very brief set of slides with a research idea, a current project, or a completed project that you’d like to share with the group. The A-PRIME Steering Committee ([A-PRIMESTEERINGCOMMITTEE@kp.org](mailto:A-PRIMESTEERINGCOMMITTEE@kp.org)) is happy to help any member with this brief, very informal presentation.

To learn more about DARE funding opportunities and application deadlines visit [DARE funding mechanisms](#).

## 2024 Quarterly Meeting Works in Progress

Friday 1/19/24

- Antidepressants and COVID-19, Greg Mazzie
- Regional Mental Health Training Program, Ana Zdravkovic

Friday 7/19/24

- Addiction Medicine Mobile Health App, Natalia Van Doren
- Mental Health Research Priorities, Maria Koshy

Wednesday 4/24/24

- Introduction to Regional Mental Health Quality Improvement initiatives, Honor Hsin

Wed 10/23/2024

- TPMG/DOR Restructuring and DARE Funding, Doug Corley
- CPT Evaluation, Amanda Devane

## Recently funded Research Projects and Collaborations (2022-2024)

1. **A mixed-methods, longitudinal analysis of a novel telepsychiatry assessment, brief treatment, and referral clinic model**  
Matthew Hirschtritt, Stacy Sterling, Andrea Altschuler and Esti Iturralde | PRP | Ongoing
2. **Demographic, Clinical, and Service Utilization Factors Associated with Follow up after Discharge from Residential Treatment for Substance Use Disorders**  
Ninad Athale | CH | Ongoing
3. **Development of a scalable and adaptable clinical workflow for machine learning (ML)-based suicide prevention in mental health care**  
Honor Hsin, Esti Iturralde, Vincent Liu, Stacy Sterling and Kristine Girard | DSGP | Ongoing

4. **Evaluating delivery of a centralized LINKAGE telehealth modality to engage Addiction Medicine and Recovery Services patients across Northern California with their medical providers**  
Verena Metz | CH | Ongoing
5. **Evaluation of the EmbrACE Intervention for Adults with a History of Adverse Childhood Experiences**  
Kathryn Erickson-Ridout, Lyndsay Avalos | DSGP | Ongoing
6. **Health care service use, costs, and family functioning among family members of individuals engaged in coordinated specialty care for early psychosis**  
Matthew Hirschtritt | PRP | Ongoing
7. **Naturalistic longitudinal examination of electroconvulsive therapy, transcranial magnetic stimulation, and intravenous ketamine for treatment-resistant depression in a large integrated healthcare system**  
Kevin Li , Esti Iturralde | DSGP | Ongoing
8. **Optimization of a team-based care model for depression in psychiatry and evaluation of the Achieving Depression and Anxiety Patient-Centered Treatment (ADAPT PLUS) program as a model for immediate care delivery to outpatients with depression and anxiety**  
Kathryn Erickson-Ridout, Constance Weisner, Esti Iturralde | PRP | Ongoing
9. **Population management for schizophrenia, schizoaffective disorder, and bipolar disorder utilizing trained psychiatric pharmacists**  
Lisa Fazzolari, Esti Iturralde | DSGP | Ongoing
10. **Post-Traumatic Stress Disorder Prevalence and Healthcare Utilization in a Large, Integrated Healthcare System**  
Kelly Young-Wolff, Barney Vaughan | TAP | Ongoing
11. **Strategies to Tailor Existing Interventions for Depression During Pregnancy**  
Kathryn Erickson-Ridout | PRP | Ongoing



# Peer Reviewed Publications (2022-2024)

1. Adams MJ, Thorp JG, Jermy BS, Kwong ASF, Köiv K, Grotzinger AD, et al. Genetic structure of major depression symptoms across clinical and community cohorts. medRxiv. 2023. Epub 20230707. doi: 10.1101/2023.07.05.23292214. PubMed PMID: 37461564; PubMed Central PMCID: PMC10350129.
2. Binder RL, Gandhi T, Menon M, Audu A, Nesbit A, Ridout KK, et al. Considerations for the Writing of Certification Letters Endorsing Use of Emotional Support Animals. *Psychiatr Serv*. 2023;74(9):963-9. Epub 20230329. doi: 10.1176/appi.ps.20220487. PubMed PMID: 36987706.
3. Brown KH, Bal B, Plauche JL, Sung D, Hirschtritt ME. Burnout Among Psychiatry Residents and One Program's Approach to Creating a Culture of Wellness. *Perm J*. 2023;27(2):137-41. Epub 20230522. doi: 10.7812/tpp/23.012. PubMed PMID: 37211881; PubMed Central PMCID: PMC10266849.
4. Folmsbee SS, Medina M, Tran H, Nguyen P, Bajestan S. Investigating the Use of Virtual Reality Technology for Psychiatric Neuroimaging Education. *Acad Psychiatry*. 2024;48(2):209-10. Epub 20240130. doi: 10.1007/s40596-024-01937-3. PubMed PMID: 38291314.
5. Fusunyan M, Medina M, Giambarberi L, Bajestan S. A Web-Based Educational Module Using Clinical Neuroscience to Deliver the Diagnosis of Functional Neurological Disorder. *J Neuropsychiatry Clin Neurosci*. 2024;36(2):166-71. Epub 20240123. doi: 10.1176/appi.neuropsych.20230060. PubMed PMID: 38258378.
6. Garzón M, Angal S, Rana M. Letter to the Editor: Stiffness, Parkinsonism, and Fatigue on a Case of Poor Elimination of Risperidone. *J Child Adolesc Psychopharmacol*. 2022;32(9):498-9. doi: 10.1089/cap.2021.0135. PubMed PMID: 36383097.
7. Gurrera RJ, Gearin PF, Love J, Li KJ, Xu A, Donaghey FH, Gerace MR. Recognition and management of clozapine adverse effects: A systematic review and qualitative synthesis. *Acta Psychiatr Scand*. 2022;145(5):423-41. Epub 20220316. doi: 10.1111/acps.13406. PubMed PMID: 35178700.
8. Hirschtritt ME, Howard CA, Simon GE. Fulfilling the Goals of 988 Through Crisis Stabilization Care. *Psychiatr Serv*. 2023;74(8):889-91. Epub 20230131. doi: 10.1176/appi.ps.20220503. PubMed PMID: 36718601.
9. Hirschtritt ME, Mathews CA. Exploring the Complex Associations Between Prenatal and Early-Life Infections and Obsessive-Compulsive and Tic-Related Disorders. *Biol Psychiatry*. 2023;93(11):959-61. doi: 10.1016/j.biopsych.2023.03.003. PubMed PMID: 37197834.
10. Hirschtritt ME, Rodgers CRR. What Will It Take to Meet Adolescents' Mental Health Needs? *J Adolesc Health*. 2023;72(2):175-6. doi: 10.1016/j.jadohealth.2022.11.001. PubMed PMID: 36604011.
11. Isaac L, Sutton T, Kahlon J, Pathania PS, Wolf BL, Pearce R, et al. Child-adolescent emergency psychiatry: addressing false positive admissions. *Front Psychiatry*. 2024;15:1321702. Epub

20240131. doi: 10.3389/fpsyt.2024.1321702. PubMed PMID: 38356914; PubMed Central PMCID: PMC10864456.

12. Iturralde E, Fazzolari L, Shia M, Slama N, Leang J, Awsare S, Nguyen LT. Closing the care gap for people with severe and persistent mental illness: collaborative care, telehealth, and clinical pharmacy. *NEJM Catal Innov Care Deliv*. 2022 May;3(5). doi: 10.1056/CAT.21.0417. PubMed PMID: 36569369; PubMed Central PMCID: PMC9788801.
13. Iturralde E, Fazzolari L, Slama NE, Alexeeff SE, Sterling SA, Awsare S, Koshy MT, Shia M. Telehealth collaborative care led by clinical pharmacists for people with psychosis or bipolar disorder: a propensity weighted comparison with usual psychiatric care. *J Clin Psychiatry*. 2024 Jan 29;85(1). doi: 10.4088/JCP.23m14917. PubMed PMID: 38301189; PubMed Central PMCID: PMC10868914.
14. Kroenke K, Hirschtritt ME. Walking the Benzodiazepine High Wire. *Psychiatr Serv*. 2023;74(1):73-5. Epub 20221102. doi: 10.1176/appi.ps.202100671. PubMed PMID: 36321316.
15. Li KJ, Slama NE, Hirschtritt ME, Anshu P, Iturralde E. Electroconvulsive Therapy Anesthetic Choice and Clinical Outcomes. *J ECT*. 2023 Jun 1;39(2):102-105. doi: 10.1097/YCT.0000000000000895. Epub 2022 Dec 9. PubMed PMID: 36729716; PubMed Central PMCID: PMC10578333.
16. Liuzzi MT, Harb F, Petranu K, Huggins AA, Webb EK, Fitzgerald JM, et al. The Dichotomy of Threat and Deprivation as Subtypes of Childhood Maltreatment: Differential Functional Connectivity Patterns of Threat and Reward Circuits in an Adult Trauma Sample. *Biol Psychiatry Cogn Neurosci Neuroimaging*. 2024;9(2):227-34. Epub 20231021. doi: 10.1016/j.bpsc.2023.10.001. PubMed PMID: 37871776; PubMed Central PMCID: PMC10922968.
17. Patel R, Ramalingam ND, Pal A, Tran HN, Hirschtritt ME. Improving Internal Medicine Residents' Comfort Managing Psychiatric Conditions Through an Interactive, Case-Based Workshop. *Acad Psychiatry*. 2023;47(4):450-1. Epub 20230518. doi: 10.1007/s40596-023-01796-4. PubMed PMID: 37202596; PubMed Central PMCID: PMC10195129.
18. Papini S, Hsin H, Kipnis P, Liu VX, Lu Y, Girard K, Sterling SA, Iturralde EM. Validation of a multivariable model to predict suicide attempt in a mental health intake sample. *JAMA Psychiatry*. 2024 Jul 1;81(7):700-707. doi: 10.1001/jamapsychiatry.2024.0189. PubMed PMID: 38536187; PubMed Central PMCID: PMC10974695.
19. Papini S, Hsin H, Kipnis P, Liu VX, Lu Y, Sterling SA, Iturralde E. Performance of a prediction model of suicide attempts across race and ethnicity. *JAMA Psychiatry*. 2023 Apr 1;80(4):399-400. doi: 10.1001/jamapsychiatry.2022.5063. PubMed PMID: 36790780; PubMed Central PMCID: PMC9932941.
20. Ridout KK, Alavi M, Lee C, Fazzolari L, Ridout SJ, Koshy MT, Harris B, Awsare S, Weisner CM, Iturralde E. Virtual collaborative care versus specialty psychiatry treatment for depression or anxiety. *J Clin Psychiatry*. 2024 Sep 4;85(3). doi: 10.4088/JCP.24m15332. PubMed PMID: 39240697.
21. Ridout KK, Ridout SJ, Alavi M, Koshy MT, Harris B, Awsare S, Fazzolari L, Weisner CM, Iturralde E. Evaluating implementation and outcomes of the achieving depression and anxiety patient-centered treatment collaborative care program in a large, integrated health care system: a mixed methods observational study protocol. *Perm J*. 2022 Dec 19;26(4):39-48. doi:

- 10.7812/TPP/22.050. Epub 2022 Nov 10. PubMed PMID: 36351884; PubMed Central PMCID: PMC9761276.
22. Shastri VG, Erney EJ. Psychosocial and Financial Issues Affecting LGBTQ+ Older Adults. *Clin Geriatr Med.* 2024;40(2):309-20. Epub 20231107. doi: 10.1016/j.cger.2023.10.004. PubMed PMID: 38521601.
23. Silverberg ND, Iverson GL, Cogan A, Dams OCK, Delmonico R, Graf MJP, et al. The American Congress of Rehabilitation Medicine Diagnostic Criteria for Mild Traumatic Brain Injury. *Arch Phys Med Rehabil.* 2023;104(8):1343-55. Epub 20230519. doi: 10.1016/j.apmr.2023.03.036. PubMed PMID: 37211140.
24. Stadnick NA, Penalosa MG, Martinez K, Brookman-Frazee L, Gizzo DP, Sahms T, et al. Pre-Implementation Organizational Environment Associated with Pediatric Integrated Care Readiness in Primary Care. *Evid Based Pract Child Adolesc Ment Health.* 2022;7(1):5-11. Epub 20210205. doi: 10.1080/23794925.2021.1875344. PubMed PMID: 35284636; PubMed Central PMCID: PMC8916715.
25. Weiner S, Lingafelter N, Ali M, Wu J, Walia H, Wasser T, Hirschtritt ME. A Brief Course on Forensic Psychiatry Principles. *Acad Psychiatry.* 2023;47(1):107-8. Epub 20220719. doi: 10.1007/s40596-022-01687-0. PubMed PMID: 35854173.