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A missed opportunity: a retrospective cohort study of alcohol use disorder pharmacotherapy in hospitalized patients

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Abstract

Introduction: **Alcohol use disorder (AUD) poses a significant public health challenge. Despite the availability of effective pharmacological treatments, their use during hospitalization remains limited. This study aimed to evaluate the prevalence of medication for AUD (MAUD) during inpatient admissions and assess its association with subsequent emergency department (ED) visits and hospital readmissions.**

Materials and Methods: **We conducted a retrospective cohort study using electronic health records from Stanford Health Care (SHC) between 2015 and 2023. Hospitalized adults with a documented diagnosis of AUD ($n = 7560$) were categorized based on whether they received acamprosate, naltrexone, or disulfiram during admission. Outcomes included ED visits and hospital readmissions at 3- and 12-month follow-up. High-dimensional propensity score (HdPS) matching was used to control for baseline confounders.**

Results: **Only 3% of patients with AUD received pharmacotherapy during hospitalization. After HdPS matching, we compared 131 patients who received MAUD to 131 patients who did not. No statistically significant differences were found in ED visits within 3 months (OR = .83; 95% CI: .45, 1.51) or 12 months (OR = .66; 95% CI: .39, 1.14), nor in hospital readmissions at 3 months (OR = .87; 95% CI: .47, 1.59) or 12 months (OR = .81; 95% CI: .58, 1.12).**

Conclusions: **MAUD was rarely administered during hospitalization, representing a critical missed opportunity for intervention. While effect estimates favored treated patients, limited sample size precluded definitive conclusions. Efforts to improve implementation of AUD pharmacotherapy in inpatient settings are warranted.**

Keywords alcohol, alcohol use disorder, pharmacotherapy

Introduction

Alcohol use is a leading contributor to global disease burden, ranking as the seventh leading risk factor for disabilities and fatalities worldwide and the leading cause of premature deaths among people aged 15 to 49 years (Griswold et al. 2018). In the United States, alcohol use contributes to ~78 000 deaths annually (Substance Abuse and Mental Health Services Administration 2020). Nearly one-quarter of American adults engaging in binge drinking, defined as consuming five or more drinks for men or four or more drinks for women on a single occasion. Over 29 million people in the country meet the criteria for alcohol use disorders (AUD), characterized by a problematic pattern of alcohol use leading to clinically significant impairment or distress (Substance Abuse and Mental Health Services Administration 2020). The economic toll is substantial, with alcohol-related healthcare costs estimated at $26 billion annually (Centers for Disease Control and Prevention (CDC) 2024). In the ED, 10%–18% of visits are alcohol-related (Mullins

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et al. 2017, White et al. 2018), and among hospitalized patients, AUD prevalence ranges from 11% to 32% (Doering-Silveira et al. 2014).

Treatment significantly improves AUD remission outcomes, with a recent 2023 meta-analysis of 118 trials demonstrating that first-line pharmacotherapies like naltrexone and acamprosate significantly reduce alcohol consumption compared to placebo (McPheeters et al. 2023). However, despite the availability of these evidence-based treatments, MAUD remains significantly underutilized. The three current Food and Drug Administration–approved medications work through distinct mechanisms: naltrexone, an opioid receptor antagonist, reduces alcohol's rewarding effects and craving; acamprosate modulates glutamate and GABA neurotransmitter systems to maintain abstinence; and disulfiram creates an aversive reaction when alcohol is consumed by inhibiting aldehyde dehydrogenase (Agabio et al. 2024, Haber 2025, Minozzi et al. 2025, Nieto and Ray 2025, Soyka and Rösner 2025). Despite these recognized treatment options, only 1.6% of adults with AUD report receiving such medications (Han et al. 2021). Moreover, despite the availability of effective treatments, the majority of people with AUD worldwide do not receive any form of treatment (Rehm et al. 2025). System-level barriers, including limited provider training, stigma toward addiction, lack of hospital protocols, and uneven integration of addiction services across specialties, contribute to this treatment gap (Rehm et al. 2025; Tomlinson et al. 2025; Kaur 2024, Reus et al. 2018; Ashford, Brown, and Curtis, 2018).

International data illustrate the feasibility and impact of broader implementation. In Sweden, 25.6% of patients with AUD receive pharmacotherapy, and treatment has been associated with reductions in hospitalizations and healthcare utilization (Heikkinen et al. 2021). These findings suggest that broader implementation of pharmacotherapy is achievable and may yield measurable benefits. This aligns with chronic care and implementation science models, which emphasize systematic intervention at critical care transition points, such as hospitalization (Damschroder et al. 2009).

Hospitalization often represents a critical window for initiating treatment, particularly for patients with limited outpatient engagement. However, the real-world impact of initiating MAUD during inpatient stays on long-term outcomes in the US remains unclear. While several studies have examined outcomes following inpatient MAUD initiation, most have focused on short-term outcomes at 30 days or evaluated protocol implementations in specialized settings (Wei et al. 2015, Stephens et al. 2018, Bernstein et al. 2024). This retrospective cohort study addresses two objectives: (i) to assess the prevalence of MAUD during hospitalization at a large tertiary care center between 2015 and 2023, and (ii) to evaluate the association between pharmacotherapy and subsequent ED visits and hospital readmissions at 3- and 12-months post-discharge. Better understanding long-term outcomes of in-patient MAUD prescription is especially relevant as health systems face increasing pressure to optimize resource utilization and manage ED overcrowding (Abir et al. 2019).

Materials and methods

Study design

We conducted a retrospective new-user cohort study using electronic health records (EHR) from the SHC between 2015 and 2023. SHC is a tertiary care hospital that serves a diverse population of 3.1 million patients with insurance coverage including Medicare, Medicaid/MediCal, employer-based, and private plans, representative of the San Francisco Bay Area. SHC offers in-patient consultation-liaison psychiatric services and outpatient addiction care, but lacks a dedicated detoxification unit or intensive outpatient treatment settings.

Clinical data were mapped to the Observational Medical Outcomes Partnership (OMOP) Common Data Model (CDM) version 5.3, enabling the use of standardized vocabularies such as the Anatomical Therapeutic Chemical (ATC) classification system, RxNorm, the International Classification of Diseases (ICD-9 and ICD-10), and LOINC. The Stanford Institutional Review Board reviewed the study protocol and granted a waiver of informed consent for analysis of de-identified EHR data. The study was not pre-registered.

We structured the study design following a target trial emulation framework (Hernán et al. 2025) to improve transparency and mitigate common biases. Specifically, eligibility criteria included hospitalized adults with $\geq$90 days of documented AUD prior to admission; treatment strategies compared initiation of acamprosate, naltrexone, or disulfiram during hospitalization versus no pharmacotherapy; time zero was defined as hospital discharge and that eligibility required survival to discharge, with follow up beginning at that point and follow-up extended to 3 and 12 months for the occurrence of ED visits or hospital readmissions at SHC.

Study population

We included hospitalized patients with a documented history of AUD identified using standardized diagnostic codes (see Supplement S1). Patients were eligible if they had a primary admission diagnosis of AUD or a secondary admission diagnosis of AUD accompanied by a primary diagnosis of an AUD-related condition. All patients had at least 90 days of documented AUD history prior to admission. The treatment group included patients who received acamprosate, naltrexone (including oral and long-acting injectable formulations), or disulfiram during the index hospitalization and/or as a prescription provided at the time of discharge. This ensured that both inpatient initiation or continuation of MAUD were captured as part of the treatment group. The control group comprised patients who did not receive any of these medications at their discharge. Patients were followed for outcomes during two non-overlapping timeframes: early follow-up (0–3 months post-discharge) and late follow-up (3–12 months post-discharge). Outcomes included ED visits and hospital readmissions for any reason at SHC. Time to first ED visit and first rehospitalization at SHC were also evaluated.

Statistical analysis

Odds ratios (ORs) were calculated to compare ED visits and hospital readmissions between treated and untreated patients. Time-to-event analyses were conducted using Cox proportional hazards regression, with patients followed from discharge to the occurrence of the event or to right-censoring at the end of available data. A two-sided *P*-value of $<$.05 was considered statistically significant. All analyses were performed using R version 4.2 on the Atropos Health platform.

Table 1 Baseline demographic and clinical characteristics among patients with AUD receiving or not receiving MAUD.

	Total patients $n = 7560$	**Did not receive MAUD** $n = 7301$ (96.6%)	**Received MAUD** $n = 259$ (3.4%)
Female, n (%)	2399 (31.7%)	2303 (31.5%)	96 (37.1%)
Male, n (%)	5161 (68.2%)	4998 (68.5%)	163 (62.9%)
Mean age, year (sd)	56 (15.3)	57 (15.3)	48 (14.3)
Race[a], n (%)			
White	4839 (64.0%)	4684 (64.2%)	155 (59.8%)
Other	1791 (23.7%)	1710 (23.4%)	81 (31.3%)
Black	511 (6.8%)	497 (6.8%)	14 (5.4%)
Asian	419 (5.5%)	410 (5.6%)	9 (3.5%)
Hispanic, n (%)	1604 (21.2%)	1529 (20.9%)	75 (29%)
Index year (%)			
2010–2014	1008 (13.3%)	999 (13.7%)	9 (3.5%)
2015–2019	3258 (43.1%)	3188 (43.7%)	70 (27%)
2020-present	3924 (43.6%)	3114 (42.7%)	180 (69.5%)
Mean pre-index days (sd)[b]	3039 (2362)	3044 (2362)	2903.4 (2350)
Mean follow up days (sd)[c]	1349 (1012)	1362.7 (1017)	950.4 (737)
Charlson comorbidity score (sd)[d]	4.8 (3.8)	4.9 (4)	2.6 (2)
Selected comorbidities, n (%)[e]			
Malignancy	1498 (19.8%)	1481 (20.3%)	17 (6.6%)
Diabetes	1614 (21.3%)	1585 (21.7%)	29 (11.2%)
Cerebrovascular disease	1078 (14.2%)	1060 (14.5%)	18 (6.9%)
Congestive heart failure	1268 (16.8%)	1248 (17.1%)	20 (7.7%)
Myocardial infarction	602 (8.0%)	590 (8.1%)	12 (4.6%)
Dementia	191 (2.5%)	190 (2.6%)	1 (.4%)
Chronic pulmonary disease	1869 (24.7%)	1831 (25.1%)	38 (14.7%)
Severe liver disease	1671 (22.1%)	1621 (22.2%)	50 (19.3%)
Renal disease	1406 (18.6)	1395 (19.11%)	11 (4.2%)

ED: Emergency Department; MAUD: Medication for alcohol use disorder; sd: standard deviation. [a]Self-reported and imputed race and ethnicity. [b]Defined by the average number of days each cohort had prior to index; the "follow up" is the amount of data after (marker of utilization that is corrected for in the propensity score match). [c]Defined by the average number of days each cohort had after the index date (marker of utilization that is corrected for in the propensity score match). [d]Validated score that is a weighted sum of 17 comorbidities, factoring the number and severity of comorbidities and age such that the final score provides a way to stratify mortality risk. [e]Defined by the International Classification of Diseases10th Revision [ICD-10] codes.

Baseline covariates, including demographics, Charlson comorbidities (Quan et al. 2005), diagnostic, medication codes, and prior healthcare utilization, were assessed during the 90 days preceding the index hospitalization ("pre-index period"). Outcomes were measured during two post-discharge intervals ("follow-up periods"): 0–3 months and 3–12 months after discharge. These intervals refer to periods of observation before and after the index hospitalization, not to the duration of the hospital stay itself. To adjust for confounding, we applied 1:1 high-dimensional propensity score (HdPS) matching (Schneeweiss et al. 2009) using all listed baseline covariates. HdPS variables were derived from ICD, CPT, and RxNorm codes. Propensity scores were estimated using logistic regression with LASSO regularization, which penalizes low-weight variables to reduce overfitting in high-dimensional data (Franklin et al. 2015, Low et al. 2016). The regularization hyperparameter was selected via five-fold cross-validation using the one-standard-error rule (Hastie et al. 2009). A caliper of .25 was used to ensure adequate covariate balance (Austin 2011). Post-matching balance was evaluated by calculating standardized mean differences (SMD) for all baseline covariates, with values $<.1$ considered indicative of good balance. E-values were calculated for each outcome to assess the minimum strength of unmeasured confounding required to explain away observed associations (Haneuse et al. 2019).

Results

The cohort included 7560 patients with a documented history of AUD, of whom 259 (3%) received acamprosate, naltrexone (oral or long-acting injectable), or disulfiram during their index hospitalization. The remaining 7301 patients (97%) did not receive pharmacotherapy and comprised the control group. The overall sample was 32% female and 36% non-white, with a mean age of 56.4 years (SD = 15.3) (Table 1). Following HdPS matching, 131 treated patients were matched to 131 untreated patients. Balance was achieved on most baseline covariates, except for race (SMD: White .37; Black: .35) and select comorbidities (i.e. congestive heart failure (SMD: .31), severe liver disease (SMD: .15), and malignancy (SMD .15) (Table 2).

In the matched cohort, there was no statistically significant difference in ED visits within three months of discharge (OR = .83; 95% CI: .45, 1.51; $P = .54$) or within 12 months of discharge

Table 2 Baseline demographic and clinical characteristics with SMD among patients with AUD receiving or not receiving MAUD following HdPS matching.

	Total patients ($n = 262$)	Received MAUD ($n = 131$)	Did not receive MAUD ($n = 131$)	SMD
Female, n (%)	109 (41.6%)	55 (42%)	54 (41.2%)	0.02
Mean age, year (sd)	48.0 (15)	47.4 (16)	48.6 (15)	0.08
Race[a], n (%)				
White	159 (60.7%)	68 (51.9%)	91 (69.5%)	0.37
Other	67 (25.6%)	37 (28.3%)	30 (22.9%)	0.12
Black	20 (7.6%)	16 (12.2%)	4 (3.0%)	0.35
Asian	16 (6.1%)	10 (7.6%)	6 (4.6%)	0.13
Hispanic, n (%)	62 (23.7%)	30 (22.9%)	32 (24.4%)	0.04
Index year (%)				
2010–2014	18 (6.9%)	9 (6.9%)	9 (6.9%)	0
2015–2019	103 (39.3%)	53 (40.5%)	50 (38.2%)	0.05
2020-present	141 (53.8%)	69 (52.7%)	72 (55%)	0.05
Mean pre-index days (sd)[b]	2963 (2321)	2943 (2378)	2983 (2263)	0.02
Mean follow up days (sd)[c]	1212 (875)	1209 (892)	1214 (858)	0.01
Charlson comorbidity score (sd)[d]	2.6 (2.8)	2.6 (3.1)	2.6 (2.4)	0.02
Selected comorbidities, n (%)[e]				
Malignancy	19 (7.3%)	12 (9.2%)	7 (5.3%)	0.15
Diabetes	36 (13.7%)	19 (14.5%)	17 (13.0%)	0.04
Cerebrovascular disease	21 (8.0%)	12 (9.2%)	9 (6.9%)	0.08
Congestive heart failure	18 (6.9%)	4 (3.1%)	14 (10.7%)	0.31
Myocardial infarction	16 (6.1%)	8 (6.1%)	8 (6.1%)	0.09
Dementia	3 (1.1%)	2 (1.5%)	1 (.8%)	0.07
Chronic pulmonary disease	44 (16.8%)	22 (16.8%)	22 (16.8%)	0.0
Severe liver disease	28 (10.7%)	11 (8.4%)	17 (13.0%)	0.15
Renal disease	17 (6.5%)	9 (6.9%)	8 (6.1%)	0.03

[a]Self-reported and imputed race and ethnicity. [b]Defined by the average number of days each cohort had prior to index; the "follow up" is the amount of data after (marker of utilization that is corrected for in the propensity score match). [c]Defined by the average number of days each cohort had after the index date (marker of utilization that is corrected for in the propensity score match). [d]Validated score that is a weighted sum of 17 comorbidities, factoring the number and severity of comorbidities and age such that the final score provides a way to stratify mortality risk. [e]Defined by the International Classification of Diseases10th Revision [ICD-10] codes.

(OR = .66; 95% CI: .39, 1.14; $P = .13$) between the treatment and control groups (Table 3). Similarly, no significant difference was observed in hospital readmissions within three months (OR = .87; 95% CI: .47, 1.59; $P = .64$) or within twelve months (OR = .81; 95% CI: .58, 1.12; $P = .88$) (Table 4). Time-to-event analyses also showed no significant differences in the matched cohort. For time to first ED visit, the hazard ratio (HR) was .77 (95% CI: .54, 1.09; $P = .10$), and for time to first hospitalization, the HR was .92 (95% CI: .75, 1.13; $P = .40$) (Table 5). Restricted mean survival time (RMST) estimates indicated similar patterns, with no evidence of differential timing of events between the treated and untreated group. Despite ORs and HRs favoring the treated group across all outcomes, the confidence intervals (CIs) were wide and crossed the null, precluding definitive conclusions.

Discussion

This study examined the prevalence of MAUD during hospitalization and its association with subsequent healthcare utilization. Two key findings emerged. First, only 3% of patients with a documented history of AUD received pharmacotherapy during their hospital stay. Second, we found no statistically significant reductions in ED visits or hospital readmissions at three or twelve months post-discharge, although all effect estimates favored the treated group.

The absence of statistically significant findings should be interpreted cautiously, as it may primarily reflect the limited number of treated patients in this dataset rather than an absence of clinical effect. Additionally, while low prescribing rates reflect implementation barriers, our findings highlight a limitation inherent to single-site observational data. We cannot determine whether underutilization perpetuates reduced prescribing. This emphasizes the need for larger, multi-center evaluations to establish treatment effectiveness.

Recent national and international studies largely reflecting outpatient or cumulative use across care settings provide valuable context for our findings. Prescription rates of MAUD remain low across various healthcare systems: <2% in the US (Han et al. 2021), <1% in Canada (Spithoff et al. 2017), <3% in Australia (Quintrell et al. 2024), and ~7% in the UK (Manca et al. 2024). This study focuses specifically on hospital-based initiation of MAUD, a distinct and particularly underutilized point of intervention despite evidence showing that MAUD is associated with favorable outcomes when prescribed in this context. In a large Medicare cohort

Table 3 Early (0–3 months) and late (3–12 months) ED visit following discharge among patients with AUD receiving or not receiving MAUD in Matched population ($n = 262$).

	No	Yes	OR (95% CI)	*P* value	E value
ED visit within 3 months of discharge					
Unmatched ($n = 7560$)					
Did not receive MAUD	6135	1166	1 (1, 1)	NA	NA
Received MAUD	216	43	1.05 (.75, 1.46)	0.79	-
HdPS matched ($n = 262$)					
Did not receive MAUD	102	29	1 (1, 1)	NA	NA
Received MAUD	106	25	0.83 (.46, 1.51)	0.54	-
ED visit 3–12 months after discharge					
Unmatched ($n = 7560$)					
Did not receive MAUD	5856	1445	1 (1, 1)	NA	NA
Received MAUD	204	55	1.09 (.81, 1.48)	0.57	NA
HdPS matched ($n = 262$)					
Did not receive MAUD	88	43	1 (1, 1)	NA	NA
Received MAUD	99	32	0.66 (.39, 1.14)	0.13	NA

NA: not applicable.

Table 4 Early (0–3 months) and late (3–12 months) hospitalization following discharge among patients with AUD receiving or not receiving MAUD in matched population ($n = 262$).

	No	Yes	OR (95% CI)	*P* value	E value
Hospitalization within 3 months of discharge					
Unmatched ($n = 7560$)					
Did not receive AUD pharmacotx	5882	1419	1 (1, 1)	NA	NA
Received AUD pharmacotx	212	47	0.92 (.67, 1.27)	0.61	NA
HdPS matched ($n = 262$)					
Did not receive AUD pharmacotx	103	28	1 (1, 1)	NA	NA
Received AUD pharmacotx	106	25	0.87 (.47, 1.59)	0.64	NA
Hospitalization 3–12 months after discharge					
Unmatched ($n = 7560$)					
Did not receive AUD pharmacotx	5825	1476	1 (1, 1)	NA	NA
Received AUD pharmacotx	215	44	0.81 (.58, 1.12)	0.2	NA
HdPS matched ($n = 262$)					
Did not receive AUD pharmacotx	101	30	1 (1, 1)	NA	NA
Received AUD pharmacotx	100	31	1.04 (.59, 1.85)	0.88	NA

hospitalized for AUD-related conditions, the 2% of patients who received MAUD at discharge experienced a 42% reduction in 30-day mortality or return to hospital compared with matched controls (Bernstein et al. 2024).

The potential for broader implementation of MAUD is illustrated notably by Sweden, where a nationwide study of 125 556 patients found that pharmacotherapy, particularly naltrexone alone or in combination, was associated with significant reductions in hospitalizations (Heikkinen et al. 2021). In that study, 25.6% of patients had received MAUD, far exceeding rates observed in other countries and illustrating the opportunity for improved implementation in US settings.

One reason for underutilization in the US may be that MAUD is more likely to be initiated when patients are admitted to psychiatry or addiction medicine services, where prescribers are more familiar with these treatments (Bernstein et al. 2023). In contrast, general medical providers may lack experience or confidence in initiating these medications. However, targeted interventions can bridge this gap. A study implementing a standardized inpatient naltrexone protocol saw prescription rates increase from 1.6% to 28.1% (Stephens et al. 2018). Another study demonstrated that a structured discharge planning protocol increased medication-assisted treatment rates from 0% to 64% and reduced 30-day readmissions from 23% to

Table 5 Time to first ED visit and time to first hospitalization following discharge among patients with AUD receiving or not receiving MAUD in Matched population ($n = 262$).

	N	Events	HR (95% CI)	RMST (95% CI), days	*P* value	E value
Time to first ED visit after discharge						
Unmatched ($n = 7560$)						
Did not receive MAUD	7278	2970	NA	2009.5 (1973.4, 2045.7)	NA	NA
Received MAUD	258	103	1.15 (.94, 1.39)	2006.7 (1815.1, 2198.2)	0.18	NA
HdPS matched ($n = 262$)						
Did not receive MAUD	131	70	NA	1578.5 (1326.8, 1830.2)	NA	NA
Received MAUD	130	56	0.77 (.54, 1.09)	2105.1 (1835.5, 2374.7)	0.14	NA
Time to first hospitalization after discharge						
Unmatched ($n = 7560$)						
Did not receive MAUD	7278	3273	NA	1845.3 (1808.5, 1882.1)	NA	NA
Received MAUD	258	98	0.92 (.75, 1.13)	2035.7 (1830.6, 2240.9)	0.43	NA
HdPS marched ($n = 262$)						
Did not receive MAUD	131	62	NA	1813.8 (1537.4, 2090.2)	NA	NA
Received MAUD	130	55	0.86 (.6, 1.23)	2061.4 (1769.8, 2353)	0.4	NA

8% (Wei et al. 2015) These findings illustrate that system-level changes, including decision support tools and clinician education, can significantly improve prescribing in general medical settings.

Hospitalization represents a critical window for initiating treatment, particularly for patients with limited outpatient engagement. Prescribing MAUD at discharge has been identified as a quality-of-care measure (Joint Commission National Quality Measures 2025), and hospitalization may be among the most impactful encounters a patient has with the healthcare system (Bernstein et al. 2023). However, medication initiation alone may be insufficient. A multicenter Veteran Affairs study found that while 50% of patients admitted for alcohol withdrawal received MAUD, neither medications nor routine outpatient follow-up predicted improved outcomes at six months. Instead, discharge to residential treatment was the strongest predictor of reduced readmissions and sustained abstinence (Allaudeen et al. 2024), suggesting that treatment may be most effective when integrated with appropriate, individualized post-discharge support, tailored to patient severity, preferences, and available resources.

Our study used real-world clinical data from a large, sociodemographically diverse cohort and applied a rigorous methodological approach that included HdPS matching, standardized outcome definitions, and time-to-event modeling with right-censoring. Nonetheless, several limitations must be considered. In regard to cohort selection, our ICD-based identification of AUD may have included some patients in remission, as measures of active alcohol consumption such as the Alcohol Use Disorders Identification Test–Consumption *(*AUDIT-C) scores were not consistently available in the EHR during the study period. Moreover, because outcomes were derived from a single-site EHR system, ED visits or readmissions that occurred outside SHC could not be captured. Additionally, "eligibility criteria for the emulated target trial were operationalized using clinical variables that could be reliably captured in the EHR. As a result, we could not fully reproduce all exclusion criteria that would typically be applied in a randomized trial, particularly those based on clinical judgment regarding appropriateness or feasibility of treatment initiation (e.g. factors indicating that a patient is not a candidate for MAUD initiation). Consequently, residual selection bias may remain if unmeasured indicators of clinical ineligibility or prognosis influenced treatment assignment in routine care". As with all observational research, unmeasured confounding remains possible. Factors such as treatment readiness, social support, and clinician-level variation in prescribing behavior were not captured in our data. Finally, our outcome of hospital utilization events may not reflect important benefits such as relapse prevention, abstinence, or quality-of-life improvements.

As research on AUD management continues to grow, future studies focused on hospital-based initiation of pharmacotherapy could incorporate patient-reported outcomes, functional assessments, or biomarkers to better capture its impact beyond healthcare utilization. Investigating system-level barriers to inpatient prescribing, including stigma and institutional constraints, will also be essential (Ashford et al. 2018). Understanding and addressing these barriers will be critical to ensure more equitable and effective delivery of AUD treatment in hospital settings.

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Author contributions

Michka Nazon (Conceptualization [lead], Methodology [lead], Project administration [lead], Resources [lead], Visualization [lead], Writing—original draft [lead]), Paola Lavin (Investigation [equal], Project administration [equal], Validation [equal], Visualization [equal], Writing—original draft [equal]), C. William Pike (Data curation [supporting], Formal analysis [lead], Methodology

[equal], Visualization [equal], Writing—review & editing [equal]), Kyle T. Greenway (Methodology [equal], Validation [equal], Writing—review & editing [equal]), Jérémie Richard (Investigation [equal], Visualization [equal], Writing—review & editing [equal]), Paul L'Espérance (Investigation [equal], Methodology [equal], Resources [equal], Supervision [supporting], Writing—review & editing [supporting]), Steven D. Tate (Investigation [equal], Methodology [equal], Writing—review & editing [equal]), Anna Lembke (Conceptualization [lead], Funding acquisition [lead], Methodology [supporting], Project administration [equal], Resources [lead], Supervision [lead], Validation [lead], Writing—review & editing [lead]), and Nicolas Garel (Conceptualization [lead], Data curation [equal], Formal analysis [equal], Funding acquisition [supporting], Investigation [lead], Methodology [lead], Project administration [lead], Resources [lead], Supervision [lead], Validation [equal], Visualization [equal], Writing—review & editing [lead])

Supplementary data

Supplementary data is available at *Alcohol and Alcoholism* online.

Conflict of interest

Nicolas Garel, Michka Nazon, Paola Lavin, Kyle T. Greenway, C. William Pike, Rebecca Hyde, Jérémie Richard, Anna Lembke and Steven Tate declare no conflict of interest.

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Data availability

The data that support the findings of this study are not publicly available due to privacy and confidentiality restrictions. De-identified data may be made available from the corresponding author upon reasonable request, subject to evaluation and approval by the study team and in accordance with institutional policies and applicable regulations.

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