emergency care and medicine

MDPI

Article

Implementation of a Telehealth Model for Real-Time Addiction Care in Veterans Health Administration Acute Care Facilities

Manuel Celedon [1,2,*], Allan Enriquez [3], Jennifer Diaz [4], Zahir Basrai [1,2], Hemang Acharya [1,2], Cynthia Koh [1,2], Francis Cullen Averill [5], David Lawrence [1,4], Nathalie Dieujuste [6] and Comilla Sasson [1,2,*]

1 Veterans Affairs Greater Los Angeles Healthcare System, 11301 Wilshire Blvd, Los Angeles, CA 90073, USA; zahir.basrai@va.gov (Z.B.); hemang.acharya@va.gov (H.A.); cynthia.koh@va.gov (C.K.); david.lawrence3@va.gov (D.L.)
2 Department of Emergency Medicine, David Geffen School of Medicine at UCLA, 10833 Le Conte Avenue, Los Angeles, CA 90095, USA
3 Weill Cornell Medical College, 1300 York Avenue, New York, NY 10065, USA; aze4001@alumni.weill.cornell.edu
4 David Geffen School of Medicine at UCLA, 10833 Le Conte Avenue, Los Angeles, CA 90095, USA
5 Veterans Affairs Loma Linda Healthcare System, 11201 Benton Street, Loma Linda, CA 92357, USA; francis.averill@va.gov
6 University of Colorado Anschutz, 13001 East 17th Place, Aurora, CO 80045, USA
* Correspondence: manuel.celedon@va.gov (M.C.); comilla.sasson@va.gov (C.S.)

Abstract

Background/Objectives: The VA Emergency Medicine Addiction Hotline (VEMAH) is a real-time telehealth addiction consult service for Veterans Health Administration (VHA) providers in acute-care settings. **Methods:** This descriptive report used the program's case tracker and VHA Emergency Department Opioid Safety Initiative (ED OSI) dashboard data. VEMAH launched in May 2023 as an eight-facility pilot in Veterans Integrated Service Network 22 (VISN 22) and expanded to 17 VHA sites; all analyses are limited to the eight pilot sites. **Results**: Over 38 months, the eight VISN 22 sites recorded 2154 encounters (not unique patients), including e-consults, direct patient tele-care, care coordination, proactive tele-outreach, and provider education. Common indications were opioid-related (41.9%) and alcohol-related (34.1%) concerns; pain-related concerns accounted for 11.3%. Most encounters (64.8%) were initiated by VEMAH clinicians. ED OSI naloxone and buprenorphine scores rose in VISN 22 after launch, but slopes were similar to or shallower than elsewhere in VHA, and the naloxone increase came in steps at launch and at the Phoenix site. **Conclusions**: In the eight-facility pilot, VEMAH brought real-time addiction expertise to acute-care clinicians, most often through proactive outreach by VEMAH clinicians. The service has since expanded within VHA; this report covers the pilot only, and effects and feasibility were not evaluated.

Keywords: addiction; telehealth; emergency medicine; opioid; alcohol; stimulants; naloxone; buprenorphine; veteran; substance use disorders; chronic pain; opioid safety

Check for updates

Academic Editor: Theodore C. Chan

Received: 17 September 2026
Revised: 31 October 2026
Accepted: 1 November 2026
Published: 18 November 2026

Copyright: © 2026 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license.

1. Introduction

Drug overdose remains a leading public health concern in the United States. Overdose deaths increased substantially over the past two decades, reaching an estimated peak of about 108,000 annual deaths in 2022 [1]. Although overdose mortality has since begun to decline, the burden remains considerable. Preliminary data from the Centers for Disease Control and Prevention still predict over 65,000 drug overdose deaths during the 12-month

period ending in February 2026 [2], highlighting the need for access to evidence-based substance use disorder treatment and overdose prevention services.

The shortage of addiction specialists and several social determinants of health (e.g., unstable housing, economic insecurity and income disparity, food insecurity, violent crime, neighborhood disinvestment, and being in a healthcare access desert) are key contributors to the ongoing overdose crisis in the United States. Veterans are disproportionately affected by accidental opioid-related overdose compared with the general population [3].

The VHA is a major stakeholder in efforts to respond to the opioid epidemic among Veterans and has pioneered several initiatives intended to reduce opioid-related morbidity and mortality [4]. In 2014, VHA became the first national health care system to implement opioid overdose education and naloxone distribution programs throughout its clinical sites [5]. However, uptake of naloxone distribution practices has remained variable within VHA emergency departments (EDs), and many Veterans at risk for opioid overdose do not receive naloxone during an acute-care encounter [6].

In addition to naloxone, the medications for opioid use disorder (MOUD) buprenorphine and methadone are associated with substantially lower drug-related and all-cause mortality [7]. EDs hold an important position in the care of patients with untreated opioid use disorder (OUD) and provide an opportunity to initiate MOUD at a critical point in the patient's treatment trajectory. In a randomized trial, patients who started buprenorphine in the ED were more likely to be engaged in addiction treatment 30 days later than patients who received referral alone or a brief intervention (78% vs. 37% and 45%) [8]. Despite longstanding Department of Veterans Affairs and Department of Defense clinical practice guidelines recommending MOUD as first-line treatment for OUD, they remain underused within VHA acute-care settings [6].

Prior research examining barriers and facilitators to MOUD initiation and naloxone distribution among clinicians in VHA EDs and urgent care centers identified several barriers, including the perception that initiating OUD treatment falls outside the traditional scope of emergency care, staffing concerns, educational gaps, limited follow-up infrastructure, and uncertainty regarding which clinician should assume responsibility for prescribing [6]. Clinicians generally viewed MOUD as an effective treatment; however, many reported that educational interventions alone did not provide sufficient real-time support when evaluating and treating individual patients with OUD. These findings suggested a need for clinical support systems that could provide addiction expertise at the point of care. Specifically, a real-time addiction consultation model could address educational barriers and uncertainty about treatment decisions for complex patients for providers with limited access to local addiction expertise during acute-care encounters.

These barriers may be particularly important during evenings, nights, and weekends, when local addiction treatment resources are less readily available. Several real-time SUD consultation models exist outside of VA and informed VEMAH's design. Telephone lines such as the UCSF National Clinician Consultation Center's Substance Use Warmline and the OHSU Addiction Consult Line offer free, real-time SUD guidance, but both are limited to weekday business hours and operate outside the VA electronic medical record [9]. Programs like the BridgetoTreatment.org (formerly CA Bridge) have developed SUD-focused clinical resources for emergency and inpatient settings and promoted improved care coordination through their SUD Navigator Program [10]. However, they do not provide real-time consultations, and the resources are not VHA-specific.

VEMAH adapted the UCSF and OHSU consultation model, added a care coordination arm inspired by the Bridge SUD navigator program, and tailored both specifically for VHA. What distinguishes VEMAH from other available resources is the combination of providers familiar with VA-specific clinical workflows, access to a patient's VA medical record during

the encounter, and direct work with VA facilities to build durable referral pathways from acute care to outpatient SUD care.

In May 2023, VEMAH was implemented as a proposed solution to address these identified gaps in acute-care settings. VEMAH was designed to provide EDs and inpatient units with real-time access to an addiction specialist for assistance with the evaluation and management of substance use disorders, focusing on SUD pharmacotherapy interventions. This descriptive implementation report describes the development and clinical activities of the VEMAH pilot at eight VISN 22 facilities and presents descriptive trends in naloxone distribution and buprenorphine initiation following implementation. It does not evaluate the feasibility, acceptability, or effectiveness of the program.

2. Materials and Methods

2.1. VEMAH Implementation

From January to May 2023, a 5-month pre-implementation plan for the VEMAH Pilot Program was conducted. The service launched on 7 May 2023, corresponding with the third quarter of the U.S. government fiscal year 2023 (Q3FY23). We organized this planning process using the Implementation Mapping framework, which structures implementation strategy development across five tasks: (1) conducting a needs assessment; (2) identifying implementers and specifying objectives; (3) selecting implementation strategies; (4) producing implementation protocols and materials; and (5) planning for evaluation [11].

2.2. Conduct a Needs Assessment

To identify barriers and facilitators to SUD treatment in EDs, we drew on a published study of barriers and facilitators to implementing MOUD and naloxone distribution in VA emergency departments [6]. Although that study focused on opioid use disorder, its findings were deemed applicable to other SUDs. The barrier and facilitator themes adapted from that study are listed in Table 1.

Table 1. Barriers and Facilitators Informing VEMAH Implementation (Adapted from Sasson et al. [6]).

Category	Theme	Description
Barrier	Perceived scope	ED providers view treatment of OUD as outside the traditional scope of emergency care.
Barrier	Lack of protocols	Limited standardized workflows for acute withdrawal management and ED-MOUD.
Barrier	Staffing constraints	Insufficient staffing or specialty support to manage OUD.
Barrier	Educational gaps	Limited clinician familiarity with opioid withdrawal management, and MOUD.
Barrier	Stigma	Persistent stigma toward patients with SUD and addiction treatment.
Barrier	System-level barriers	Challenges related to timely SUD follow-up and care coordination with outpatient SUD services.
Facilitator	Support systems	Availability of social work, peer support, and other integrated SUD services.
Facilitator	Technology	Use of electronic order sets, clinical decision-support tools, and telehealth platforms.
Facilitator	Training availability	Access to ED-specific SUD education and continuing professional development.

2.3. Identifying Implementers and Specify Objectives

Stakeholder buy-in for VEMAH was coordinated by three ED physicians with an addiction background (MC, CS, ZB). Key stakeholders for each of the eight facilities in VISN 22 were identified, including the medical center director, chief of staff, ED chief,

mental health or SUD chief, ED social worker lead, and ED pharmacist lead, along with other staff who directly interact with patients facing SUD issues. These stakeholders were engaged throughout planning and implementation to provide input on local workflow and guide VEMAH's integration into existing clinical processes. Following the initial stakeholder meeting, local champions at each site completed a questionnaire outlining available local SUD infrastructure and mapped the patient journey from initial ED check-in to discharge or hospitalization, including the initial assessment, provider interventions, disposition decision-making, and post-discharge care arrangements. This process facilitated a tailored VEMAH implementation addressing perceived gaps in care and synergizing with existing workflows.

2.4. Select Implementation Strategies

The needs assessment identified barrier and facilitator themes that guided our selection of six implementation strategies to develop the VEMAH pilot: (1) expanding the ED scope of practice through low-barrier access to an addiction specialist; (2) providing access to standardized treatment protocols; (3) augmenting on-site staffing through a telemedicine hub-and-spoke model; (4) creating VHA ED-specific addiction resources; (5) normalizing SUD treatment as a component of ED care to reduce stigma; and (6) leveraging secure-messaging technology for improved care coordination between VHA providers.

2.5. Produce Implementation Protocols and Materials

We developed implementation protocols and materials to support the VEMAH pilot, which included template standard operating procedures (SOPs), electronic medical record (EMR) order menus, VHA telehealth resources, SUD treatment protocols, patient and provider education materials, and clinical decision-support tools. A dedicated Teams channel served as the central repository for all these implementation protocols and materials, providing VISN 22 clinicians with a single point of access. Microsoft Teams' end-to-end encryption capabilities facilitated the exchange of protected health information (PHI) among VHA clinicians. Dedicated group chats with ED providers from each participating VISN 22 facility were established on the Teams platform, connecting on-site clinicians directly with the on-call addiction hotline provider and eliminating the need for a physical pager.

VEMAH operated daily from 1:00 p.m. to 9:00 p.m. Pacific Time. Staffing totaled 1.35 full-time equivalents (FTE) across five VEMAH providers, supplemented by a sixth provider (Loma Linda) who volunteered approximately two shifts per month. During operating hours, the expected response time was within 15 min of a request; requests received outside operating hours were expected to be answered the next day. Actual response times were not tracked.

To reduce variability in ordering practices, a barrier identified in our needs assessment, we developed templated clinical workflows and SUD order sets. At several facilities, these order sets were embedded directly into local EMR builds to ease the ordering burden on clinicians and promote a standardized approach to SUD care across VISN 22 facilities. All facilities received the example ED order menus and standard operating procedures. Five VISN 22 facilities implemented the order menus (Phoenix, Greater Los Angeles, San Diego, Long Beach, and Loma Linda), each within the first one to two months after launch. Northern California, a VEMAH expansion site and not a VISN 22 facility, also implemented an adapted menu. The other VISN 22 facilities did not implement the menu because of limited informatics support or limited administrative support. The menus did not offer naloxone with opioid prescriptions; they made the naloxone-at-discharge order more visible and accessible.

Outside of individual case consultations, VEMAH aimed to build broader clinician comfort in acute SUD care through two parallel processes. First, VEMAH promoted education-only encounters, allowing clinicians to contact the hotline with general addiction-related questions even without a specific patient in mind. Second, VEMAH providers helped develop clinically focused, enduring educational content. This enduring content was developed in partnership with the VHA Addiction Scholars Program [12], which produced accredited material integrated into the Veterans Affairs Talent Management System (VA TMS) for asynchronous access. VEMAH providers promoted the Addiction Scholars Program through the Teams channels and shared links to the enduring content alongside the daily pearls. The daily "addiction pearls," consisted of brief, practical posts on managing acute-care SUD issues that could be reviewed during a busy shift, with links to longer-form material for independent learning (https://www.blog.numose.com/vemah-pearls-blog; accessed on 28 October 2026).

2.6. Plan for Evaluation

Implementation outcomes, including encounter volume, clinical indications, and prescribing trends, are reported in the Results section.

2.7. VEMAH Workflow

The initial VEMAH implementation plan focused on supporting EDs (Figure 1). Patients were identified through the Emergency Department Information System (EDIS) patient-tracker software, referral from an on-site ED clinician, or review of existing dashboards identifying ED patients with possible untreated opioid use disorder. After evaluating the patient, the on-site clinician determined whether an acute SUD-related need was present and whether input from VEMAH was needed. To request a consultation, the frontline clinician contacted the VEMAH provider to discuss the case and develop a treatment plan. The VEMAH provider documented the consultation and recommendations in the EMR, while the frontline clinician decided whether to follow the recommendations and was responsible for entering orders.

VEMAH also provided direct-to-patient telehealth care, including through telephone-based follow-up after acute-care encounters. As the service matured, direct patient care expanded beyond follow-up originating from ED encounters to include proactive outreach to Veterans with possible untreated OUD identified through the ED OSI dashboard or referred through the Virtual Outreach Low-Threshold (VOLT) Clinic, an initiative at one VEMAH facility that identified cases of potential untreated OUD [13]. Beyond these referral-based leads, VEMAH providers also proactively identified patients by scanning the EDIS patient-tracker board, and initiated encounters based on leads referred by local VHA providers outside a formal consultation request. Together, these proactively initiated encounters, alongside on-site clinician-initiated consultations, comprised the two primary pathways by which VEMAH engaged with patients. In direct patient telehealth care, the VEMAH provider entered orders when possible and otherwise referred the patient to an on-site primary care or SUD provider, with referral to the ED reserved as a last resort.

As VEMAH's reach through these pathways grew, participating facilities were given the option to extend services to hospitalists and outpatient clinicians. The goal of extending VEMAH services across care settings was to support continuity of SUD treatment beyond the index ED visit.

Although VEMAH used a standardized core workflow, services were adapted to fit local facility needs in collaboration with on-site stakeholders. In general, VEMAH integrated into existing outpatient SUD services at each site, providing real-time support and expertise

as needed. At the Greater Los Angeles (GLA) site, for example, this meant integrating with the VOLT Clinic to support proactive outreach to Veterans with possible untreated OUD.

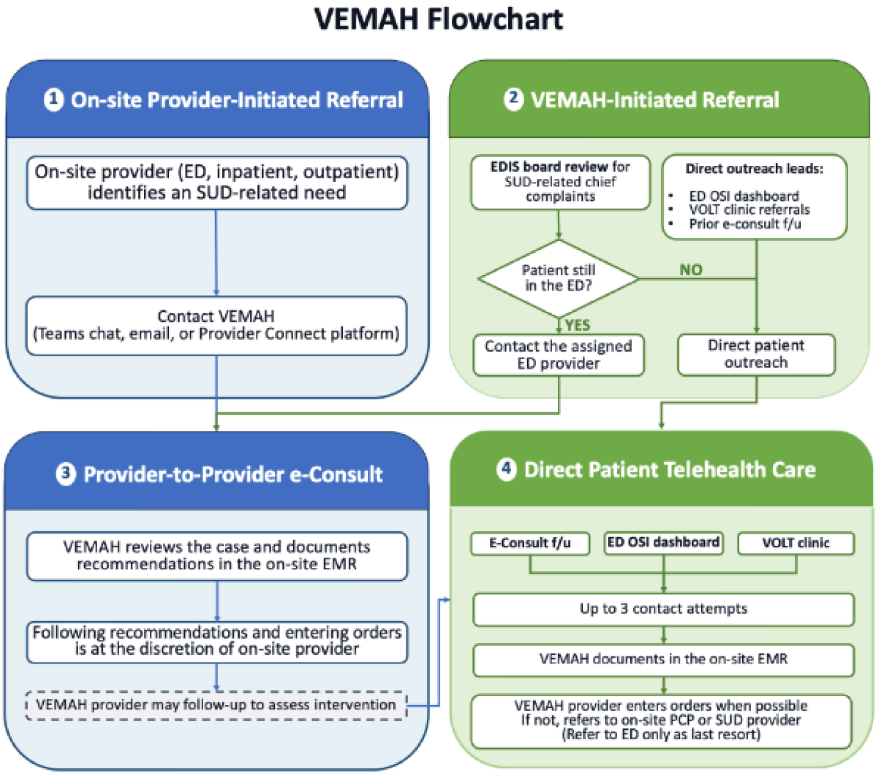


Figure 1. VEMAH Flowchart. Note: In provider-to-provider e-consults (3), the on-site clinician decides whether to follow recommendations and enters orders. In direct patient telehealth care (4), the VEMAH provider enters orders when possible.

2.8. Descriptive Evaluation Methods

We conducted a descriptive evaluation of the VEMAH pilot from its initial launch on 7 May 2023, through 23 July 2026. VEMAH launched in May 2023 as Phase 1, an eight-facility pilot across VISN 22, with these sites launching simultaneously. VEMAH later expanded to 17 total VHA sites over 3 years through a staggered Phase 2 rollout, in which facilities adopted varying degrees of VEMAH services; this expansion phase is outside the scope of the present report. This report therefore focuses on the eight VISN 22 facilities that comprised the Phase 1 pilot, restricting the descriptive analysis to avoid conflating the two implementation phases.

2.9. Measures

Encounter data: VEMAH encounter data were obtained from the program's operational case tracker, which was maintained by VEMAH providers for quality-improvement monitoring. Encounters were categorized as initial acute-care encounters, follow-up encounters, proactive outreach, or other. An encounter was defined as one entry in the case tracker for a VEMAH contact, whether a clinical consultation, direct patient care, care coordination, outreach, chart review, or education. Repeat or follow-up contacts about the same patient were entered as separate encounters, so the number of unique Veterans cannot be determined. Proactive outreach included Veterans identified through the VHA ED OSI dashboard and outreach conducted in collaboration with the VOLT Clinic. Education-only encounters did not involve a specific patient and provided general clinical guidance on a SUD topic. Education-only encounters were flagged separately in the tracker. They are

included in the encounter type, initiator, and primary indication categories in Tables 4 and 5 and are not shown as a separate row. Primary encounter indications were categorized by type of chief concern reported by on-site provider, obtained from ED OSI dashboard, or chart review. Medication initiations and dispositions (Tables 6–8) were recorded by the on-call VEMAH provider and include prescriptions entered either by the on-site clinician (e-consults) or by the VEMAH provider (direct patient care); the tracker did not record which clinician entered each order. The VEMAH director periodically reviewed the tracker for completeness and asked providers to follow up on their own cases to complete missing entries. When a variable was unknown, providers were instructed to leave it blank or enter N/A. At the twice-monthly VEMAH team meetings, two to three cases were presented for peer review, which served as an informal check on tracker entries, including verification of medication initiation. Cases in which a medication was recommended but not ordered by the on-site provider were verified by chart review.

Naloxone distribution and buprenorphine initiation data: quarterly facility-level numerators and denominators were obtained from the VA Emergency Department Opioid Safety Initiative (ED OSI) dashboard for fiscal year (FY) 2022 Q1 through FY2026 Q3. The dashboard is built from the Corporate Data Warehouse (CDW) and uses Emergency Department Information System (EDIS) visit records; scores are calculated per fiscal quarter on unique patients, and non-VA care is not captured. ED OSI dashboard measure definitions have not changed since they were last revised in 2019.

The naloxone measure is the number of unique at-risk patients prescribed naloxone in the emergency department or urgent care divided by the number of unique at-risk patients who visited. Patients are defined as at-risk if they had no naloxone in the prior year, met at least one dashboard risk criterion (for example, an OUD diagnosis, use of buprenorphine or naltrexone for OUD, a daily morphine-equivalent dose of 50 mg or more, concurrent opioid and benzodiazepine use, chronic opioid therapy, or an opioid-related or intoxication discharge diagnosis), and were discharged to an eligible disposition (home, pharmacy, police custody, or non-VA skilled nursing or long-term care). Patients who receive a naloxone prescription from the emergency department are also counted as at-risk, independent of these criteria; this is intended to capture patients who needed another naloxone supply within a year, or whose risk factors could not be identified from CDW data, but for whom the emergency department clinician recognized an opportunity.

The buprenorphine measure is the number of unique patients with untreated OUD who were initiated on MOUD (referred to as medication assisted treatment, or MAT on the dashboard) in the emergency department or urgent care divided by the number of unique patients with untreated OUD. Patients are defined as untreated if they had no active buprenorphine coverage, no naltrexone injection in the prior 30 days, and no opioid treatment program visit within 3 days of arrival, together with an indicator of OUD and an eligible disposition. MAT initiation was defined as a buprenorphine or injectable naltrexone prescription or administration during the visit, or an opioid treatment program visit within 3 days of departure.

We examined these facility-level prescribing trends because VEMAH implementation extended beyond specific patient encounters and included ED faculty presentations, daily addiction medicine "pearls," and repeated exposure to acute addiction care practices, which we hypothesized could influence the hidden curriculum around addiction care.

Analysis: Encounter characteristics and selected clinical activities were summarized using frequencies and percentages. For the ED OSI measures, VISN 22 comprised eight facilities: Albuquerque, Phoenix, San Diego, Long Beach, Loma Linda, Greater Los Angeles, Prescott (Northern Arizona), and Tucson (Southern Arizona). National comprised all other facilities reported by the dashboard. Group scores were calculated by summing facility

numerators and denominators before dividing. National is used as a contextual comparison for secular trends and is not a matched or randomized control; it includes the eight VEMAH expansion sites that report to the dashboard (listed in Table 10; Ann Arbor does not report as a separate facility), and a sensitivity analysis excluded them.

The pre-period was FY22 Q1 to FY23 Q2 (6 quarters) and the post-period was FY23 Q3 to FY26 Q3 (13 quarters). The hotline launched on 7 May 2023, so FY23 Q3 was partially exposed; a sensitivity analysis omitted it. Separate linear trends were fitted to each period by ordinary least squares and are reported as the change in score in percentage points per quarter with 95% confidence intervals from the t distribution. The analysis is descriptive and was not designed to estimate causal effects. Because a step change in the naloxone measure was observed at Phoenix in FY24 Q1, VISN 22 naloxone results are also presented excluding that facility.

This project was conducted as a quality improvement initiative and was determined to constitute non-research activity by the VHA Specialty Care Program Office (SCPO) and the Greater Los Angeles Institutional Review Board; ethical review and approval were therefore waived.

3. Results

3.1. VEMAH Implementation

On 7 May 2023, VEMAH launched across eight VISN 22 facilities: Albuquerque, Greater Los Angeles, Loma Linda, Long Beach, Phoenix, Prescott, San Diego, and Tucson. VEMAH expanded in phases, with Eastern Colorado and Ann Arbor launching in January 2024, Pittsburgh in April 2024, and Chicago (Jesse Brown VA) in October 2024. Additional sites launched in Oklahoma City, Omaha, Manchester, Northern California, and Columbia, South Carolina, between January and May 2025. Encounters at the expansion sites are not included in this report (Table 2).

Table 2. Phased Implementation of VEMAH Across VHA Facilities.

Facility	Formal Launch Date	Implementation Phase
Albuquerque	7 May 2023	Initial VISN 22
Greater Los Angeles	7 May 2023	Initial VISN 22
Loma Linda	7 May 2023	Initial VISN 22
Long Beach	7 May 2023	Initial VISN 22
Phoenix	7 May 2023	Initial VISN 22
Prescott	7 May 2023	Initial VISN 22
San Diego	7 May 2023	Initial VISN 22
Tucson	7 May 2023	Initial VISN 22
Eastern Colorado	24 January 2024	Expansion site
Ann Arbor	25 January 2024	Expansion site
Pittsburgh	1 April 2024	Expansion site
Chicago (Jesse Brown)	22 October 2024	Expansion site
Oklahoma City	13 January 2025	Expansion site
Omaha	22 January 2025	Expansion site
Manchester (Urgent Care)	22 January 2025	Expansion site
Northern California	7 March 2025	Expansion site
Columbia (South Carolina)	8 May 2025	Expansion site

Note: Encounters at expansion sites are not included in this report.

As VEMAH expanded beyond VISN 22, participating facilities were able to adapt the service to local needs. This included expanding referrals to hospitalists and outpatient clinicians at selected sites.

3.2. Encounter Volume and Facility Engagement

From 7 May 2023, through 23 July 2026, VEMAH recorded 2154 encounters within VISN 22 facilities.

Among VISN 22 facilities, GLA accounted for the largest number of encounters (n = 775; 36.0%), followed by San Diego (n = 318; 14.8%), Long Beach (n = 282; 13.1%), Tucson (n = 214; 9.9%), Loma Linda (n = 201; 9.3%), Phoenix (n = 151; 7.0%), Prescott (n = 119; 5.5%), and Albuquerque (n = 94; 4.4%) (Table 3).

Table 3. Distribution of VEMAH Encounters Across VISN 22 Facilities.

VISN 22 Facility	*n* (%)
Greater Los Angeles	775 (36.0%)
San Diego	318 (14.8%)
Long Beach	282 (13.1%)
Tucson	214 (9.9%)
Loma Linda	201 (9.3%)
Phoenix	151 (7.0%)
Prescott	119 (5.5%)
Albuquerque	94 (4.4%)
Total	**2154 (100%)**

Most VEMAH encounters were initial consultations occurring during an acute-care episode in an emergency department or inpatient setting (n = 1469; 68.2%). Follow-up encounters occurring after the index acute-care visit accounted for 452 encounters (21.0%). Proactive outreach of patients not in acute-care settings accounted for 204 encounters (9.5%), comprising 96 ED OSI dashboard outreach encounters and 108 outreach encounters conducted in collaboration with the VOLT Clinic, and the remaining 29 encounters (1.3%) were categorized as other encounter types (Table 4).

Table 4. Characteristics of VEMAH Encounters in VISN 22 (7 May 2023–23 July 2026).

Characteristic	*N* (%)
Facility group	
VISN 22 facilities	2154 (100%)
Encounter type	
Initial acute-care encounter	1469 (68.2%)
Follow-up encounter	452 (21.0%)
ED OSI or VOLT outreach	204 (9.5%)
Other	29 (1.3%)
Encounter initiator	
VEMAH addiction hotline provider	1396 (64.8%)
On-site ED provider	649 (30.1%)
Outpatient non-SUD provider	45 (2.1%)
On-site hospitalist	36 (1.7%)
Outpatient SUD provider	28 (1.3%)

Note: The 91 education-only encounters (4.2%) are included in the categories above.

3.3. Encounter Initiator and Educational Activities

Most encounters were proactively initiated (n = 1396; 64.8%) by VEMAH addiction hotline clinicians (e.g., ED OSI/VOLT leads, EDIS patient-tracker leads, follow-up encounters, etc.). On-site ED clinicians initiated the second-most encounters (n = 649; 30.1%), followed by outpatient non-SUD clinicians (n = 45; 2.1%), on-site hospitalists (n = 36; 1.7%), and outpatient SUD clinicians (n = 28; 1.3%).

Of the 2154 encounters, 91 (4.2%) were education-only interactions that did not involve direct evaluation or treatment of a specific patient; these are counted within the categories in Tables 4 and 5.

3.4. Primary Encounter Indications

The most common primary encounter indications were opioid-related ($n = 902$; 41.9%) and alcohol-related concerns ($n = 734$; 34.1%). Pain-related concerns accounted for 243 encounters (11.3%), while few consultations were for stimulant-related concerns ($n = 89$; 4.1%). The remaining encounters included encounters in which a primary indication was not documented or could not be determined ($n = 109$; 5.1%), including 16 unsuccessful outreach attempts; proactive chart review resulting in no intervention ($n = 38$; 1.8%); sedative-hypnotic-related concerns ($n = 19$; 0.9%); and other concerns ($n = 20$; 0.9%).

The other category included cannabis-related concerns ($n = 8$; 0.4%); ketamine-, diphenhydramine-, or psychiatric-related concerns without an active SUD treatment need ($n = 8$; 0.4%); nicotine-related concerns ($n = 4$; 0.2%) (Table 5).

Table 5. Primary Indication for VEMAH Encounters *.

Primary Indication	*n* (%)
Opioid-related concern (including kratom)	902 (41.9%)
Alcohol-related concern	734 (34.1%)
Pain-related concern	243 (11.3%)
Primary indication could not be determined *	109 (5.1%)
Stimulant-related concern	89 (4.1%)
Proactive chart review resulting in no intervention (no active SUD)	38 (1.8%)
Other **	20 (0.9%)
Sedative-hypnotic-related concern (including gabapentinoids, z-drugs, phenibut)	19 (0.9%)
Total	**2154 (100%)**

* Note: Includes 16 unsuccessful outreach attempts that did not reach the Veteran, so no primary indication could be established. ** Note: Other concerns included cannabis-related concerns ($n = 8$); ketamine-, diphenhydramine, or psychiatric-related concerns without an active SUD treatment need ($n = 8$); and nicotine-related concerns ($n = 4$). Percentages may not sum to 100.0% because of rounding.

3.5. Opioid-Related Encounters

Among 902 encounters with a primary opioid-related indication, including 22 for kratom, buprenorphine was initiated in 88 (9.8%). No pharmacotherapy disposition was documented for 480 of the 902 encounters (53.2%); among the 422 encounters with a documented disposition, buprenorphine was initiated in 88 (20.9%). The 9.8% is therefore a lower bound. Dispositions were entered by the on-call VEMAH provider, and when the final disposition was not reached before the end of the provider's shift, the field was typically left blank. Buprenorphine was not initiated in 814 encounters (90.2%), which form the denominator for the percentages in Table 6. Among these, reasons included patient already receiving MOUD with no adjustment required ($n = 75$; 9.2%), initiation deferred because of hospital admission or transfer to a residential withdrawal management program ($n = 45$; 5.5%), MOUD refills only ($n = 52$; 6.4%), MOUD indicated but declined ($n = 44$; 5.4%), MOUD not clinically indicated ($n = 42$; 5.2%), and preference for methadone in the absence of a defined ED-methadone protocol ($n = 13$; 1.6%). Methadone was started in the ED in 4 of these encounters (0.5%), and 59 encounters (7.2%) reflected other reasons (see Table 6 footnote).

Table 6. Documented Reasons Buprenorphine was not Initiated Among Opioid-Related Encounters.

Reason Buprenorphine Was Not Initiated	*n* (% of 814)
No listed pharmacotherapy disposition *	480 (59.0%)
Already receiving MOUD; no intervention needed	75 (9.2%)
Other **	59 (7.2%)
Already on MOUD; requesting refill only	52 (6.4%)
Initiation deferred due to patient admitted to hospital or transferred to residential withdrawal management	45 (5.5%)
MOUD indicated but patient declined any MOUD	44 (5.4%)
MOUD not indicated ***	42 (5.2%)
Patient declined buprenorphine and preferred methadone; no defined ED-methadone initiation protocol	13 (1.6%)
Methadone initiated in the ED	4 (0.5%)
Total	**814 (100%)**

* Note: Disposition cell left blank in the tracker. The 88 buprenorphine initiations, 334 documented reasons for non-initiation, and 480 blank entries account for all 902 opioid-related encounters. ** Note: Other reasons for non-initiation included failed outreach attempts or patients who eloped before treatment could be discussed or initiated, encounters where the patient was not a candidate for home initiation due to clinical timing (e.g., insufficient withdrawal severity) or unstable housing, pain-management coordination in patients without a primary OUD focus, patients who opted for methadone treatment through an outside opioid treatment program, patients already stable on buprenorphine prescribed outside VHA, and clinical determinations that OUD criteria were not met. *** Note: MOUD not indicated included encounters coded as opioid-related but without an active opioid use disorder requiring pharmacotherapy, such as naloxone-focused harm-reduction consults, positive OUD screens that did not meet OUD criteria on direct patient evaluation, OUD in remission, patients already stable on prior MOUD regimens, non-opioid substance use (e.g., stimulant, cannabis, or alcohol-only presentations), and care-coordination or follow-up encounters without a pharmacotherapy question.

Of the 119 buprenorphine initiations, 88 occurred in opioid-related encounters (80 for opioid use disorder and 8 for kratom withdrawal management) and 31 occurred in encounters categorized as pain-related, where the indication for buprenorphine was a pain-related concern (Table 7). Table 5 classifies the primary concern that prompted each consultation, whereas Table 7 classifies the indication for the buprenorphine prescription.

Table 7. VEMAH-Supported New Buprenorphine Initiation.

Primary Indication	*n* (%)
Opioid use disorder	80 (67.2%)
Pain-related concern	31 (26.1%)
Kratom withdrawal management	8 (6.7%)
Total	**119 (100%)**

3.6. Alcohol-Related Encounters

Among the 734 encounters for an alcohol-related concern, medication for alcohol use disorder (MAUD) was initiated in 102 (13.9%) [Table 8]: naltrexone in 73 (9.9%), acamprosate in 15 (2.0%), and gabapentin in 14 (1.9%). No pharmacotherapy disposition was documented for 431 encounters (58.7%); among the 303 encounters with a documented disposition, MAUD was initiated in 102 (33.7%). The 13.9% is therefore a lower bound. As with opioid-related encounters, missing dispositions most often reflected a final disposition not reached before the end of the on-call provider's shift. Among the remaining encounters, VEMAH recommended MAUD but the medication was not ordered by the on-site clinician in 83 (11.3%), the patient was already receiving MAUD with no adjustment required in 70 (9.5%), and the patient declined MAUD in 21 (2.9%). Another 27 encounters (3.7%) involved other interventions, including phenobarbital-based or benzodiazepine-based withdrawal management, combination regimens, and buprenorphine transition for comorbid chronic

pain with planned AUD pharmacotherapy; these are reported separately and are not counted as MAUD initiation (see Table 8 footnote).

Table 8. Pharmacotherapy Interventions Among Alcohol-Related Encounters.

Intervention or Disposition	*n* (% of 734)
No listed pharmacotherapy disposition	431 (58.7%)
MAUD recommended but not ordered by on-site clinician	83 (11.3%)
Naltrexone initiated	73 (9.9%)
Already receiving MAUD; no adjustment required	70 (9.5%)
Other intervention, not MAUD initiation *	27 (3.7%)
Patient declined MAUD	21 (2.9%)
Acamprosate initiated	15 (2.0%)
Gabapentin initiated	14 (1.9%)
Total	**734 (100%)**

* Note: Other included phenobarbital-based and benzodiazepine-based withdrawal management, combination pharmacotherapy regimens, and buprenorphine transition for comorbid chronic pain with planned AUD pharmacotherapy; these were not counted as MAUD initiation. Percentages may not sum to 100.0% because of rounding.

3.7. Naloxone Distribution Encounters

In 201 encounters (9.3%), VEMAH recommended naloxone for harm reduction in patients with an opioid or stimulant use disorder who had not received a naloxone prescription within the prior year.

3.8. Naloxone and Buprenorphine Prescribing Trends in VEMAH Facilities

Naloxone prescribing to at-risk patients in VISN 22 rose from 20.6% in FY23 Q2 to 50.3% in FY26 Q3, compared with 18.1% to 40.0% in National (Figure 2A, Table 9). In VISN 22 the pre-period slope was 0.42 percentage points per quarter (95% CI −0.84 to 1.68) and the post-period slope was 1.43 (95% CI 0.80 to 2.07). In National the slope was 2.06 (95% CI 1.36 to 2.75) before and 1.78 (95% CI 1.67 to 1.90) after. The post-period slope in VISN 22 was therefore not steeper than in National; the groups differed mainly in their pre-period trends, with VISN 22 flat and National rising.

A large share of the VISN 22 increase occurred in one quarter at one facility. At the Phoenix site, the score rose from 29/146 (19.9%) in FY23 Q4 to 320/433 (73.9%) in FY24 Q1, and the numerator (+291) and denominator (+287) increased by nearly the same amount. Phoenix staff reported that its opioid order sets were updated around the end of 2023 so that a naloxone order is offered with take-home opioid prescriptions. Excluding Phoenix, the VISN 22 score was 34.1% in FY23 Q4 and 34.6% in FY24 Q1, rose from 21.4% in FY23 Q2 to 36.6% in FY26 Q3, and had a pre-period slope of 0.45 (95% CI −1.10 to 2.01) and a post-period slope of 0.49 (95% CI 0.02 to 0.96). Without Phoenix, the VISN 22 increase was about half as large (15.2 vs. 29.7 percentage points), the FY26 Q3 score was lower than National (36.6% vs. 40.0%), and the post-period slope was lower than National (0.49 vs. 1.78). Outside Phoenix, most of the VISN 22 increase also occurred in a single step at launch. The seven-facility score rose from 21.4% in FY23 Q2 to 31.5% in FY23 Q3, the quarter of launch (+10.1 percentage points, compared with +1.8 in National), then ranged from 27.9% to 35.4% through FY25 Q3 and was 36.6% in FY26 Q3, 5.1 points above the launch-quarter value. Loma Linda accounted for 84 of the 137 additional naloxone prescriptions (61.3%) and 68 of the 110 additional patients in the denominator (61.8%) in that quarter; its score rose from 7.4% to 36.4%. Slopes fitted separately within each period therefore do not show where the change occurred: much of the VISN 22 naloxone increase came as quarterly steps, at launch outside Phoenix and in FY24 Q1 at Phoenix, rather than as a steeper trend. Both Phoenix and Loma Linda implemented the VEMAH order menu, but the dashboard

data cannot show whether the menu produced either step. Omitting FY23 Q3 lowered the VISN 22 post-period slope from 1.43 to 1.12 percentage points per quarter (95% CI 0.52 to 1.72), changed the slope excluding Phoenix from 0.49 to 0.54 (95% CI −0.02 to 1.10), an interval that includes zero, and left the National slope unchanged (1.78; 95% CI 1.64 to 1.91). Excluding the eight VEMAH expansion sites from National (Ann Arbor does not report to the dashboard as a separate facility) gave a post-period slope of 1.72 (95% CI 1.60 to 1.83) (Table 10).

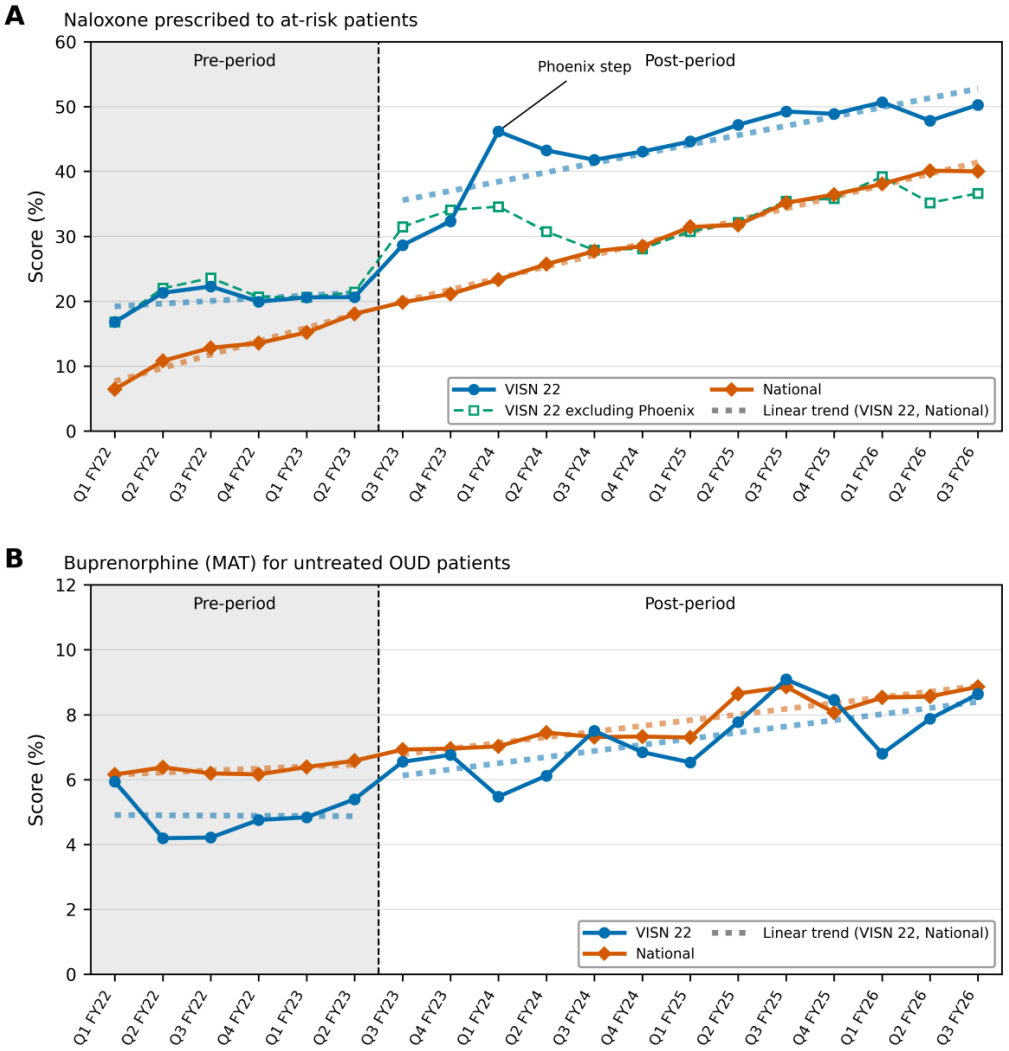


Figure 2. Naloxone Prescribing and Buprenorphine Initiation in VISN 22 and National Facilities. Note: (**A**) Quarterly percentage of at-risk patients prescribed naloxone and (**B**) quarterly percentage of patients with untreated OUD initiated on buprenorphine during a VHA emergency department or urgent care encounter, FY22 Q1 through FY26 Q3. VEMAH launched on 7 May 2023, during FY23 Q3. The blue line with filled circles is VISN 22 and the orange line with diamonds is National (all other facilities reported by the dashboard); in panel A, the dashed green line with open squares is VISN 22 excluding Phoenix. Dotted lines are separate linear fits for the pre-period (FY22 Q1–FY23 Q2, shaded) and the post-period (FY23 Q3–FY26 Q3) for VISN 22 and National; each fit is confined to its own period, and fits excluding Phoenix are reported in Table 9. The dashed vertical line marks the start of the post-period. The step at Phoenix in FY24 Q1 (October–December 2023) occurred in the quarter in which Phoenix staff reported updating opioid order sets (around the end of 2023). Scores are pooled rates (sum of facility numerators divided by sum of facility denominators). Data were obtained from the VHA Emergency Department Opioid Safety Initiative dashboard. Abbreviations: OUD, opioid use disorder; VEMAH, VA Emergency Medicine Addiction Hotline.

Buprenorphine initiation among patients with untreated OUD rose from 5.4% to 8.6% in VISN 22 and from 6.6% to 8.9% in National (Figure 2B, Table 9). VISN 22 was flat in the pre-period (−0.01 percentage points per quarter; 95% CI −0.51 to 0.50) and rose in the post-period (0.19; 95% CI 0.06 to 0.32), similar to National (pre-period 0.06, 95% CI −0.03 to 0.15; post-period 0.17, 95% CI 0.12 to 0.23). Results were similar when FY23 Q3 was omitted (post-period slopes 0.21 in VISN 22 and 0.18 in National) and when expansion sites were excluded from National (0.15; Table 10). The buprenorphine measure does not depend on naloxone prescribing, and no step change was observed at Phoenix. Concurrent influences on buprenorphine initiation included removal of the DATA-waiver requirement at the end of December 2022, shortly before launch, and the VOLT outreach program at Greater Los Angeles, which targeted MOUD uptake directly [13]. Quarterly numerators and denominators for both measures are in Tables 11 and 12.

Table 9. Scores and Pre- and Post-Implementation Trends in Naloxone Prescribing and Buprenorphine Initiation, VISN 22 and National Facilities (FY22 Q1–FY26 Q3).

Measure/Group	FY23 Q2 (%)	FY23 Q3 (%)	FY26 Q3 (%)	Pre-Period Slope * (95% CI)	Post-Period Slope * (95% CI)	Change in Slope **
Naloxone Prescribed to At-Risk Patients						
VISN 22	20.6	28.7	50.3	0.42 (−0.84 to 1.68)	1.43 (0.80 to 2.07)	+1.01
VISN 22 excluding Phoenix ***	21.4	31.5	36.6	0.45 (−1.10 to 2.01)	0.49 (0.02 to 0.96)	+0.03
National	18.1	19.9	40.0	2.06 (1.36 to 2.75)	1.78 (1.67 to 1.90)	−0.27
Buprenorphine (MAT) Initiated in Patients with Untreated OUD						
VISN 22	5.4	6.6	8.6	−0.01 (−0.51 to 0.50)	0.19 (0.06 to 0.32)	+0.20
National	6.6	6.9	8.9	0.06 (−0.03 to 0.15)	0.17 (0.12 to 0.23)	+0.11

Note: Source: VA Emergency Department Opioid Safety Initiative (ED OSI) dashboard. Scores are pooled rates (sum of facility numerators divided by sum of facility denominators). VISN 22 comprised eight facilities (Albuquerque, Phoenix, San Diego, Long Beach, Loma Linda, Greater Los Angeles, Prescott, and Tucson). National comprised all other facilities reported by the dashboard. Pre-period: FY22 Q1–FY23 Q2 (6 quarters). Post-period: FY23 Q3–FY26 Q3 (13 quarters); VEMAH launched on 7 May 2023, so FY23 Q3 was partially exposed. Abbreviations: CI, confidence interval; MAT, medication assisted treatment; OUD, opioid use disorder; VEMAH, VA Emergency Medicine Addiction Hotline. * Slopes are in percentage points of score per quarter, from ordinary least squares fitted separately within each period; 95% confidence intervals use the t distribution (4 and 11 degrees of freedom for the pre- and post-periods). ** Post-period slope minus pre-period slope, in percentage points per quarter. *** Sensitivity analysis. Phoenix had a step change in naloxone scores in FY24 Q1 (29/146 to 320/433), in the quarter (October–December 2023) in which Phoenix staff reported updating opioid order sets (around the end of 2023; exact date not available). Under the dashboard definition, patients who receive naloxone from the emergency department are counted as at-risk independent of other risk criteria, so this change increased both the numerator (+291) and the denominator (+287).

Table 10. Sensitivity of Pre- and Post-Implementation Slopes to Analytic Choices.

Measure/Analysis	Pre-Period Slope (95% CI)	Post-Period Slope (95% CI)	Change in Slope
Naloxone Prescribed to At-Risk Patients			
VISN 22 (primary)	0.42 (−0.84 to 1.68)	1.43 (0.80 to 2.07)	+1.01
VISN 22, FY23 Q3 omitted *	0.42 (−0.84 to 1.68)	1.12 (0.52 to 1.72)	+0.70
VISN 22 excluding Phoenix	0.45 (−1.10 to 2.01)	0.49 (0.02 to 0.96)	+0.03
VISN 22 excluding Phoenix, FY23 Q3 omitted *	0.45 (−1.10 to 2.01)	0.54 (−0.02 to 1.10)	+0.09
National (primary)	2.06 (1.36 to 2.75)	1.78 (1.67 to 1.90)	−0.27
National, FY23 Q3 omitted *	2.06 (1.36 to 2.75)	1.78 (1.64 to 1.91)	−0.28
National excluding expansion sites **	2.00 (1.30 to 2.71)	1.72 (1.60 to 1.83)	−0.29
Buprenorphine (MAT) Initiated in Patients with Untreated OUD			
VISN 22 (primary)	−0.01 (−0.51 to 0.50)	0.19 (0.06 to 0.32)	+0.20
VISN 22, FY23 Q3 omitted *	−0.01 (−0.51 to 0.50)	0.21 (0.06 to 0.36)	+0.22
National (primary)	0.06 (−0.03 to 0.15)	0.17 (0.12 to 0.23)	+0.11
National, FY23 Q3 omitted *	0.06 (−0.03 to 0.15)	0.18 (0.11 to 0.25)	+0.12
National excluding expansion sites **	0.08 (−0.04 to 0.20)	0.15 (0.10 to 0.19)	+0.07

Note: Slopes are in percentage points of score per quarter, from ordinary least squares fitted separately within each period, with 95% confidence intervals from the t distribution. Methods as in Table 9. Abbreviations: CI, confidence interval; MAT, medication assisted treatment; OUD, opioid use disorder; VEMAH, VA Emergency Medicine Addiction Hotline. * FY23 Q3 (the quarter in which VEMAH launched) was omitted from the post-period (FY23 Q4–FY26 Q3; 12 quarters; 10 degrees of freedom). ** Excludes eight facilities in the National group that were VEMAH expansion sites: Manchester, Pittsburgh, Columbia (SC), Chicago (Jesse Brown), Eastern Colorado (Denver), Oklahoma City, Northern California, and Nebraska–Western Iowa (Omaha). These are the expansion sites in the National group. Ann Arbor, the ninth expansion site in Table 2, is not a VISN 22 facility and does not report to the dashboard as a separate facility because it uses a different electronic health record.

Table 11. Quarterly Naloxone Prescribing to At-Risk Patients, VISN 22 and National Facilities (FY22 Q1–FY26 Q3).

Quarter	VISN 22	VISN 22 Excluding Phoenix	National
FY22 Q1	204/1213 (16.8%)	176/1046 (16.8%)	720/11,165 (6.4%)
FY22 Q2	256/1201 (21.3%)	236/1072 (22.0%)	1062/9821 (10.8%)
FY22 Q3	281/1260 (22.3%)	264/1119 (23.6%)	1372/10,696 (12.8%)
FY22 Q4	242/1213 (20.0%)	218/1054 (20.7%)	1490/10,991 (13.6%)
FY23 Q1	263/1276 (20.6%)	229/1110 (20.6%)	1601/10,533 (15.2%)
FY23 Q2	239/1158 (20.6%)	218/1018 (21.4%)	1874/10,376 (18.1%)
FY23 Q3	365/1273 (28.7%)	355/1128 (31.5%)	2112/10,636 (19.9%)
FY23 Q4	388/1200 (32.3%)	359/1054 (34.1%)	2217/10,487 (21.1%)
FY24 Q1	678/1469 (46.2%)	358/1036 (34.6%)	2433/10,421 (23.3%)
FY24 Q2	592/1369 (43.2%)	291/946 (30.8%)	2726/10,597 (25.7%)
FY24 Q3	577/1381 (41.8%)	280/1003 (27.9%)	3098/11,174 (27.7%)
FY24 Q4	611/1419 (43.1%)	274/975 (28.1%)	3277/11,501 (28.5%)
FY25 Q1	637/1428 (44.6%)	307/998 (30.8%)	3565/11,330 (31.5%)
FY25 Q2	751/1592 (47.2%)	345/1073 (32.2%)	3634/11,437 (31.8%)
FY25 Q3	738/1499 (49.2%)	369/1042 (35.4%)	4004/11,393 (35.1%)
FY25 Q4	757/1549 (48.9%)	386/1078 (35.8%)	4433/12,171 (36.4%)
FY26 Q1	760/1500 (50.7%)	413/1054 (39.2%)	4540/11,929 (38.1%)
FY26 Q2	709/1483 (47.8%)	369/1050 (35.1%)	4862/12,124 (40.1%)
FY26 Q3	768/1528 (50.3%)	391/1068 (36.6%)	5071/12,678 (40.0%)

Note: Values are numerator/denominator (score). Quarters are federal fiscal-year quarters. Facility-level values were summed. Pooled VISN 22 values can differ slightly from dashboard VISN-level values (for example, naloxone FY26 Q3: 768/1528 from facility sums vs. 767/1524 on the dashboard VISN row). Abbreviations: MAT, medication assisted treatment; OUD, opioid use disorder.

Table 12. Quarterly Buprenorphine (MAT) Initiation in Patients with Untreated OUD, VISN 22 and National Facilities (FY22 Q1–FY26 Q3).

Quarter	VISN 22	National
FY22 Q1	67/1128 (5.9%)	647/10,507 (6.2%)
FY22 Q2	48/1144 (4.2%)	624/9781 (6.4%)
FY22 Q3	51/1210 (4.2%)	639/10,319 (6.2%)
FY22 Q4	58/1219 (4.8%)	670/10,869 (6.2%)
FY23 Q1	60/1240 (4.8%)	667/10,439 (6.4%)
FY23 Q2	65/1205 (5.4%)	681/10,343 (6.6%)
FY23 Q3	80/1221 (6.6%)	744/10,739 (6.9%)
FY23 Q4	88/1301 (6.8%)	759/10,908 (7.0%)
FY24 Q1	66/1205 (5.5%)	758/10,788 (7.0%)
FY24 Q2	80/1307 (6.1%)	805/10,800 (7.5%)
FY24 Q3	99/1319 (7.5%)	816/11,155 (7.3%)
FY24 Q4	96/1402 (6.8%)	850/11,597 (7.3%)
FY25 Q1	89/1362 (6.5%)	802/10,985 (7.3%)
FY25 Q2	113/1453 (7.8%)	981/11,345 (8.6%)
FY25 Q3	125/1376 (9.1%)	995/11,233 (8.9%)
FY25 Q4	115/1360 (8.5%)	952/11,794 (8.1%)
FY26 Q1	96/1411 (6.8%)	943/11,055 (8.5%)
FY26 Q2	111/1409 (7.9%)	966/11,285 (8.6%)
FY26 Q3	126/1459 (8.6%)	1032/11,656 (8.9%)

Note: Values are numerator/denominator (score). Quarters are federal fiscal-year quarters. Facility-level values were summed. Abbreviations: MAT, medication assisted treatment; OUD, opioid use disorder.

4. Discussion

In this report, we describe the development and clinical activities of VEMAH over its first 38 months of operation in VISN 22. The service initially launched across the eight sites in VISN 22 and recorded 2154 encounters within those facilities during this period. This descriptive report documents implementation and activity; it does not assess whether VEMAH is feasible to sustain or whether it improves outcomes. Although VEMAH was initially designed as a real-time e-consultation service for ED providers, the model evolved to include direct patient tele-care, proactive outreach (e.g., ED OSI/VOLT leads, EDIS leads, follow-up encounters, etc.), education-only encounters, and referrals from other providers. This report focused on VISN 22 facilities because these sites launched simultaneously and offered a consistent core service. The one notable exception was GLA, which partnered with the VOLT Clinic for proactive outreach, a service not available in other VISN 22 facilities.

VEMAH engagement varied by facility. GLA and San Diego accounted for about half of all VISN 22 encounters, possibly reflecting VEMAH provider on-site presence. For context, four of six VEMAH providers were based out of GLA, one in San Diego, and the remaining provider was based in Loma Linda.

Most encounters were proactively initiated by VEMAH providers rather than frontline ED clinicians, a surprising result given that VEMAH intentionally maintained service awareness through a daily "addiction pearl" posted to each facility's Teams chat, which served the dual purpose of reminding on-shift clinicians that the service existed and offering brief SUD education. VEMAH was originally designed around a reactive, real-time consultation model, consistent with most published SUD consultation literature, but daily caseload proved highly variable in practice, resulting in a pivot to a more proactive workflow. Data on proactive consultation models are limited, but evidence from related addiction consultation services is promising and consistent with our experience. The START randomized trial of an inpatient addiction consultation service found that it roughly doubled MOUD initiation during hospitalization and improved linkage to treatment within 30 days after

discharge [14]. Within VHA, a proactive tele-outreach model using electronic health record-based case-finding to identify and engage Veterans with untreated OUD was associated with a 10-percentage-point increase in system-wide MOUD adoption over two years, findings that closely parallel VEMAH's own proactive case-identification approach [13].

Several factors may also help explain the relatively smaller proportion of clinician-initiated consultations, including variable awareness of VEMAH, differing integration into ED workflows, clinician confidence managing SUD without real-time consultation, reliance on VEMAH's own proactive case-identification process, case timing outside VEMAH's hours of operation, or unread Teams messages. On-site ED clinicians made approximately two requests per facility per month, indicating that most VEMAH activity was proactively initiated; whether this volume is sufficient to sustain the service will require formal feasibility evaluation in future work.

National estimates suggest that approximately 4% of hospital ED encounters and 10% of inpatient encounters carry a principal or secondary SUD diagnosis [15]. This suggests that the 2154 encounters VEMAH recorded reflect only a fraction of potential need. This gap likely reflects some combination of patients not recognized as having a SUD, on-site providers managing straightforward SUD cases without VEMAH input, and variability in provider awareness of VEMAH service. Opioid-related concerns were the most common primary indication for VEMAH consultation, followed by alcohol-related concerns. This differs from a population-based VHA survey reporting alcohol use as more prevalent than opioid use [16]. Possible explanations include lower clinician confidence managing OUD over AUD, greater regulatory and monitoring requirements with MOUD prompting more opioid-related consults, or straightforward alcohol presentations being managed without VEMAH input. Interestingly, approximately 11.3% of encounters ($n = 243$) were primarily pain-related, accounting for a larger share than stimulant-related encounters ($n = 89$; 4.1%), despite stimulant use being a more traditional focus of addiction medicine. Of the 119 VEMAH-supported buprenorphine initiations, 31 (26.1%) were for a primary pain-related indication rather than OUD. This is consistent with our clinical observations and a proposed model of a bidirectional relationship between chronic pain and substance use, in which each condition may motivate, exacerbate, and maintain the other [17]. Behaviors noted in patients with chronic pain are sometimes conflated with addiction-related behavior. The two constructs overlap but are not equivalent, and neither pain nor SUD management should be assumed to fall within the other's scope by default. VEMAH was developed as an addiction-focused service, but the volume of pain-related concerns it received raises the question of how best to serve these patients, whether by pairing VEMAH's evaluation with a pain medicine evaluation, by cultivating bidirectional expertise so that each specialty can manage some degree of the other's domain, or some combination of both. This is consistent with published literature supporting multidisciplinary pain-addiction collaboration. Recent care delivery models, including interdisciplinary consultation services and collaborative and stepped care models, have demonstrated potential in improving pain and SUD outcomes and building clinician confidence in managing both conditions [18]. Whatever the solution, any service addressing this gap should aim to deliver it in real time to fit the needs of patients presenting to acute-care settings.

Supporting initiation of evidence-based pharmacotherapy was a primary goal of VEMAH, since it was felt to be the most likely value-add of a single telehealth-based acute-care encounter. However, recommending SUD treatment did not always result in SUD pharmacotherapy initiation; treatment was sometimes declined by the patient, deferred to residential withdrawal management programs, or not ordered by the on-site clinician despite a VEMAH recommendation. For buprenorphine specifically, several factors may have resulted in deferred initiation, including insufficient withdrawal severity; the complexity of low-dose

buprenorphine initiation protocols; limited access to extended-release formulations; and the limited capacity of general inpatient units to provide SUD-specific monitoring.

One example of the complexity behind why some recommendations went unimplemented involves patient preference. In 13 opioid-related encounters (1.6% of those in which buprenorphine was not initiated), buprenorphine initiation was declined due to patient's preference for methadone. In these cases, MOUD initiation was deferred given the absence of a defined ED-methadone initiation protocol, despite this practice being permitted under the DEA's '72-h rule' (21 CFR 1306.07(b)). For these patients, formal pathways for ED-initiated methadone to transition to ongoing treatment in VA and community opioid treatment programs are needed. One VEMAH facility recently initiated an ED-methadone protocol in November 2025, through which VEMAH has facilitated 4 ED methadone starts at time of this writing, offering an example of this practice within VHA.

An important component of VEMAH implementation extended beyond each patient encounter. Before launch, the program was introduced at each VISN 22 ED faculty meeting. After implementation, clinicians received daily addiction medicine "pearls" via shared Microsoft Teams chats, asynchronous educational resources, and the option to contact VEMAH for education-only questions. Educational efforts did more than transmit clinical knowledge, they aimed to normalize SUD care as a routine component of acute care, an effect consistent with prior work showing that addiction consult services can shift how hospital providers and trainees understand and engage with SUD, reframing it from a moral failing to a treatable medical illness [19] and reshaping the hidden curriculum around addiction care [20].

A central premise of VEMAH was that its influence would extend beyond individual consultations, by normalizing addiction care as a routine part of acute care and shaping the hidden curriculum around substance use disorders [19,20]. To indirectly assess whether VEMAH activities that extended beyond individual patient encounters were associated with practice change, we examined ED OSI trends in VISN 22 alongside those in other VHA facilities. Prescribing is at best a distal proxy for changes in clinician attitudes and culture, so this analysis was exploratory. Scores for both measures rose in VISN 22 after implementation, but post-period slopes were not steeper than in National, and about half of the naloxone increase was accounted for by one facility, Phoenix, and much of the remainder occurred in the launch quarter, mainly at Loma Linda. Phoenix reported an order set change and both facilities implemented the VEMAH order menu; we cannot determine the relationship of either step to VEMAH education or the menu. Many concurrent initiatives targeted the same measures, including DATA waiver removal, the VOLT clinic, local order sets, national naloxone efforts, and VEMAH outreach that used the same dashboard, so these data cannot isolate the contribution of any one program. They are descriptive and provide a rationale for designs with staggered implementation and patient-level follow-up.

Limitations

This report has several limitations. The VEMAH data were obtained from a self-reported encounter tracker. As the service progressed, the tracker was revised. It initially recorded only naloxone and buprenorphine initiations; methadone initiation was later added as part of medication for opioid use disorder, and early in the pilot, fields for medications for alcohol use disorder were added. The VEMAH director asked providers to review their alcohol-related encounters and confirm whether a medication for alcohol use disorder had been ordered after their recommendation. VEMAH providers also did not complete all fields consistently. Although the VEMAH director periodically reviewed the tracker for completeness, peer-review cases informally verified some entries, and recommendations that were not followed were verified by chart review in some cases, entries were not

systematically validated against medication orders. Pharmacotherapy disposition was not documented for 480 of 902 opioid-related encounters (53.2%) and 431 of 734 alcohol-related encounters (58.7%), most often because the final disposition was unknown or not reached before the end of the on-call provider's shift. Missing dispositions were not analyzed by facility or fiscal year; the tracker was reviewed manually. Initiation rates calculated on all encounters are therefore lower bounds, and rates among encounters with a documented disposition are shown alongside them. The results should be read as documented activities rather than definitive treatment rates. Because the tracker did not record who entered each order, we cannot separate prescriptions entered by VEMAH providers from those entered by on-site clinicians. While the VEMAH service was launched simultaneously across the eight VISN 22 facilities, the process was also adaptive depending on facility-specific factors, making direct comparisons challenging. Additionally, this report did not assess implementation outcomes commonly used to evaluate new clinical services, such as whether clinicians and Veterans found VEMAH acceptable and appropriate for their needs, whether the service was delivered as originally designed, how many eligible clinicians or Veterans it actually reached, or the cost of implementation. Therefore, this report describes implementation and activity and does not evaluate feasibility, which will require prospectively collected implementation measures, including encounter volume over time, staffing, response times, and the number of unique patients, in future work. The tracker recorded encounters rather than individual patients, so the number of unique Veterans represented by the 2154 encounters is not known, and response times were not tracked. VEMAH operated from 1:00 p.m. to 9:00 p.m. Pacific Time, so requests outside these hours were answered the next day, and clinician-initiated requests may be underrepresented for that reason.

The case-tracker did not follow post-encounter outcomes, so these data provide an incomplete snapshot. Similarly, the ED OSI dashboard relies on VHA electronic health record data and may misclassify some patients as untreated or at risk. It is important to highlight that changes in naloxone distribution and buprenorphine initiation cannot be attributed to VEMAH. The comparison of National VHA to VISN 22 facilities served as a descriptive comparison and not a formal control group, as multiple nationwide trends, VHA initiatives, and policy changes occurred concurrently during the pre- and post-VEMAH implementation period. These trends should be interpreted as descriptive signals to investigate in the future, not as evidence of intervention effectiveness.

Several features of the dashboard should be considered. First, under the dashboard definition, a patient who receives a naloxone prescription from the emergency department is counted as at-risk independent of the other risk criteria. This was designed to capture patients who need naloxone again within a year or whose risk factors are not available in the data, but it also means that practice changes that add naloxone to all opioid prescriptions raise both the numerator and the denominator. Such changes can increase the score without a change in the underlying at-risk population. This occurred at Phoenix in FY24 Q1, and a similar step occurred at Loma Linda in FY23 Q3. We did not systematically screen for step changes at other facilities or exclude them, and their effect on group trends cannot be separated using dashboard data alone. Second, Phoenix staff recalled VEMAH presentations on naloxone but described the order set as a facility-wide patient-safety decision, so we cannot attribute it to the hotline. Third, the dashboard does not capture non-VA care, and a prescription issued from an emergency department location may be counted as initiated in the emergency department even if a non-emergency provider wrote it. Fourth, the pre-period contained six quarterly values, which limits the precision of the pre-period trend, and confidence intervals are descriptive. Finally, VEMAH outreach used the same dashboard that supplies the outcome data. A controlled design with staggered implementation and patient-level follow-up would allow stronger inference.

Finally, our report reflects results from the eight pilot facilities in the southwestern United States and may not be generalizable to later expansion sites, other regions, or non-VA care settings.

5. Conclusions

In the eight-facility pilot, VEMAH brought real-time addiction expertise to acute-care clinicians over 38 months and expanded beyond real-time e-consultations to include direct virtual patient care, proactive outreach, and clinician education. Most encounters were initiated proactively by VEMAH clinicians rather than requested by on-site clinicians. The service has since expanded within VHA; this report covers the pilot only, and feasibility and effects were not evaluated and require further study. ED OSI dashboard scores for naloxone and buprenorphine rose in VISN 22, but the trends were similar to or shallower than those in other VHA facilities and may have been influenced by concurrent initiatives and facility practice changes, so we cannot attribute them to VEMAH. Future work should use designs with concurrent control groups to separate program effects, should assess patient outcomes after VEMAH encounters, and should examine facility-level variation, patients presenting with pain-related concerns, barriers to implementing VEMAH recommendations, and the relationship between VEMAH exposure and prescribing.

Author Contributions: Conceptualization, M.C., C.S., Z.B., C.K., H.A. and N.D.; methodology, M.C., C.S., Z.B., C.K., H.A., N.D. and D.L.; formal analysis, N.D. and D.L.; investigation, A.E. and J.D.; data curation, A.E. and J.D.; original draft writing, M.C., A.E. and J.D.; review and editing, M.C., A.E., J.D., Z.B., C.K., H.A., F.C.A., D.L., N.D. and C.S.; visualization, A.E., J.D. and D.L.; supervision, M.C. and C.S.; project administration, A.E., M.C. and C.S.; funding acquisition, C.S. All authors have read and agreed to the published version of the manuscript.

Funding: This quality improvement study was funded by the Veterans Health Administration (VHA) Office of Mental Health and Suicide Prevention.

Institutional Review Board Statement: The study was conducted in accordance with the Declaration of Helsinki. Ethical review and approval were waived for this study because it was conducted as a quality improvement initiative and was determined to constitute non-research activity by the Veterans Health Administration Specialty Care Program Office (SCPO) and the Greater Los Angeles Institutional Review Board.

Informed Consent Statement: Patient consent was waived due to the nature of this study as stated above.

Data Availability Statement: Data for this quality improvement project were derived from a self-reported patient tracker and Emergency Department Opioid Safety Initiative dashboards. All data were de-identified prior to analysis, and the quality improvement team did not access any protected health information. The underlying data are not publicly available due to Veterans Health Administration data governance and institutional restrictions, but de-identified data may be made available from the corresponding author upon reasonable request, subject to approval.

Acknowledgments: The authors acknowledge Jennifer Burden, Ashley Engels, Joseph Liberto, and Dominick DePhilippis of the VHA Office of Mental Health and Suicide Prevention for their ongoing support and funding of this project, as well as Friedhelm Sandbrink and Timothy Atkinson of the VHA National Pain Management, Opioid Safety, and PDMP Program Office for providing the initial seed funding that made the pilot project possible. The authors also wish to thank Greater Los Angeles ED leadership, including Kian Preston-Suni, Thomas Blair, and Sabrina Tennant, for their administrative support and for providing protected time for ED faculty to staff VEMAH, along with the broader ED faculty for their continued support of VEMAH providers. Sincere thanks are also extended to Tele-Emergency Care leadership, including Lisa Zhao, Chad Stadheim, and Aaron Pannier, for their support of the program. The authors are especially grateful to Laney Hartman, whose invaluable contributions to program implementation, expansion, and overall administrative support were instrumental to

VEMAH's success; the program could not have run without her. Finally, the authors thank VISN 22 Clinical Resource Hub leadership for their support of the program. During the preparation of this manuscript, the authors used the U.S. Department of Veterans Affairs version of Claude Sonnet 5 (Anthropic), for the purpose of improving grammar and clarity. The authors have reviewed and edited the output and take full responsibility for the content of this publication.

Conflicts of Interest: The authors declare no conflicts of interest.

Abbreviations

The following abbreviations are used in this manuscript:

VEMAH	VA Emergency Medicine Addiction Hotline
VHA	Veterans Health Administration
VISN 22	Veterans Integrated Service Network 22
SUD	Substance Use Disorder
ED OSI	Emergency Department Opioid Safety Initiative
ED	Emergency Department
OUD	Opioid Use Disorder
MOUD	Medications for Opioid Use Disorder
SOPs	Standard Operating Procedures
EMR	Electronic Medical Record
PHI	Protected Health Information
VA TMS	Veterans Affairs Talent Management System
EDIS	Emergency Department Information System
VOLT	Virtual Outreach Low-Threshold
GLA	Greater Los Angeles
SCPO	Specialty Care Program Office
MAUD	Medications for Alcohol Use Disorder

References

1. Garnett, M.F. *Drug Overdose Deaths in the United States, 2003–2023*; CDC Stacks Public Health Publications; National Center for Health Statistics (U.S.): Bethesda, MD, USA, 2024; p. 522. [CrossRef] [PubMed]
2. Overdose Prevention Data Channel. CDC Overdose Prevention. Available online: https://www.cdc.gov/overdose-prevention/data-channel/index.html (accessed on 28 October 2026).
3. Bohnert, A. Accidental Poisoning Mortality Among Patients in the Department of Veterans Affairs Health System. *Med. Care* **2011**, *49*, 393–396. [CrossRef] [PubMed]
4. Wyse, J.J. Medications for opioid use disorder in the Department of Veterans Affairs (VA) health care system: Historical perspective, lessons learned, and next steps. *Subst. Abus.* **2018**, *39*, 139–144. [CrossRef] [PubMed]
5. Oliva, E.M. Opioid Overdose Education and Naloxone Distribution: Development of the Veterans Health Administration's National Program. *J. Am. Pharm. Assoc.* **2017**, *57*, S168–S179. [CrossRef] [PubMed]
6. Sasson, C. Barriers and facilitators to implementing medications for opioid use disorder and naloxone distribution in Veterans Affairs emergency departments. *Acad. Emerg. Med.* **2023**, *30*, 289–298. [CrossRef] [PubMed]
7. Sordo, L. Mortality risk during and after opioid substitution treatment: Systematic review and meta-analysis of cohort studies. *BMJ* **2017**, *357*, J1550. [CrossRef] [PubMed]
8. D'Onofrio, G. Emergency Department–Initiated Buprenorphine/Naloxone Treatment for Opioid Dependence: A Randomized Clinical Trial. *JAMA* **2015**, *313*, 1636–1644. [CrossRef] [PubMed]
9. University of California, San Francisco. Substance Use Resources. National Clinician Consultation Center. 2026. Available online: https://nccc.ucsf.edu/clinical-resources/substance-use-resources/ (accessed on 17 August 2026).
10. Bridge. 2025. Available online: https://bridgetotreatment.org (accessed on 17 August 2026).
11. Fernandez, M.E. Implementation Mapping: Using Intervention Mapping to Develop Implementation Strategies. *Front Public Health* **2019**, *7*, 158. [CrossRef] [PubMed]
12. Basrai, Z. Improving Healthcare Professionals' Access to Addiction Medicine Education Through VHA Addiction Scholars Program. *West. J. Emerg. Med.* **2024**, *25*, 465–469. [CrossRef] [PubMed]
13. Lawrence, D. Proactive Tele-Outreach to Increase Adoption of Medications for Opioid Use Disorder in a Large Health Care System. *Subst. Use Addctn. J.* **2026**, *47*, 1080–1089. [CrossRef] [PubMed]

14. Ober, A.J. Hospital Addiction Consultation Service and Opioid Use Disorder Treatment: The START Randomized Clinical Trial. *JAMA Intern. Med.* **2025**, *185*, 624–633. [CrossRef] [PubMed]
15. Peterson, C. Assessment of Annual Cost of Substance Use Disorder in US Hospitals. *JAMA Netw. Open* **2021**, *4*, e210242. [CrossRef] [PubMed]
16. Hoggatt, K.J. Prevalence of substance use and substance-related disorders among US Veterans Health Administration patients. *Drug Alcohol Depend.* **2021**, *225*, 108791. [CrossRef] [PubMed]
17. Ditre, J.W. A reciprocal model of pain and substance use: Transdiagnostic consideration, clinical implications, and future directions. *Annu. Rev. Clin. Psychol.* **2019**, *15*, 503–528. [CrossRef] [PubMed]
18. Edwards, K.A. Recent advances in the treatment of chronic pain and substance use disorders. *Curr. Opin. Psychol.* **2025**, *62*, 101977. [CrossRef] [PubMed]
19. Englander, H.; Collins, D.; Peterson-Perry, S.; Rabinowitz, M.; Phoutrides, E.; Nicolaidis, C. We've Learned It's a Medical Illness, Not a Moral Choice: Qualitative Study of the Effects of a Multicomponent Addiction Intervention on Hospital Providers' Attitudes and Experiences. *J. Hosp. Med.* **2018**, *13*, 752–758. [CrossRef] [PubMed]
20. Balasanova, A.A. Rewriting the Hidden Curriculum via Addiction Consult Services: Meeting Patients Where They Are At. *J. Gen. Intern. Med.* **2023**, *38*, 2194–2197. [CrossRef] [PubMed]

Disclaimer/Publisher's Note: The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.