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Medication for Opioid Use Disorder in a Community Mental Health Clinic

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Medication for Opioid Use Disorder in a Community Mental Health Clinic

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Abstract

Background: Over 100,000 people died from opioid-related overdoses in the United States in 2023. People experiencing homelessness (PEH) are at especially high risk of co-occurring mental illness and substance use disorder, and face added barriers to accessing medical and psychiatric care. Buprenorphine is a life-saving medication used to treat opioid use disorder (OUD).

Objective: This project assessed the feasibility of altering prescribing practices at a community mental health clinic in King County, Washington to incorporate medication for opioid use disorder (MOUD) into standard clinic procedures.

Methods: This project was a mixed-methods, formative evaluation that assessed the need for and barriers to implementing MOUD at the community mental health clinic.

Results: Between 13-22% of patients at the clinic are diagnosed with OUD. The main barriers to implementation included staffing and reimbursement. Administrative and clinical staff recognize the need for and support implementation of MOUD.

Conclusions: It is possible to overcome administrative barriers to support psychiatric NPs who are willing and able to prescribe MOUD.

Implications for Nursing: Organization change is a complex and collaborative process. Nurse practitioners are well-suited to advocate for and spearhead change within their practice sites to increase patients' access to medical care.

Keywords: buprenorphine; medication for opioid use disorder; community mental health; nurse practitioner

Medication for Opioid Use Disorder in a Community Mental Health Clinic

In the United States, opioid overdose-related deaths rose rapidly over the last decade and reached historic levels in 2023 (Ahmad et al., 2023; Kariisa et al., 2023; Spencer et al., 2022). People experiencing homelessness (PEH) are at especially high risk of dying from opioid overdose (Fine et al., 2022), as they experience a high rate of co-occurring opioid use disorder (OUD) and mental illness. Psychiatric mental health nurse practitioners (PMHNP) are well-positioned to treat OUD with medication (MOUD) (Jones et al., 2020) especially since the required DEA X-waiver that restricted prescribing was eliminated by Congress in 2022 (JDSUPRA, 2023). MOUD reduces the risk of death from opioid overdose by at least 50%, making it a key component in the effort to reduce drug-related mortality (Pearce et al., 2020; Wakeman et al., 2020). However, organizational change that supports and encourages MOUD prescribing by nurse practitioners through the development and implementation of evidence-based protocols is critical to respond to changing drug use trends and provide high-quality patient care.

Worldwide, approximately 600,000 deaths in 2019 were related to drug use, 80% of which were related to opioids (World Health Organization, 2023). Over 107,000 people died of drug overdoses in the United States in 2022, with opioids involved in two thirds of those deaths (Kariisa et al., 2023). This is an almost fourfold increase from the 21,089 opioid-overdose fatalities in 2010 (National Institute on Drug Abuse, 2023). Rising death rates from synthetic opioids, primarily fentanyl, account for the majority of the increase while the percentage of deaths from heroin, methadone, and natural and semisynthetic opioids such as oxycodone decreased from 2010 to 2021 (Spencer et al., 2022).

The annual fatal overdose rate in King County, Washington is also rising. It increased by 6% each year between 2012 and 2019, after which it skyrocketed. It increased by 20% between 2019-2020 and by 39% between 2020-2021 (Hood & Collins, 2022). Fentanyl was involved in over 70% of opioid-related deaths in 2022, a significant increase since 2018, when fewer than 10% of fatal overdoses in King County involved fentanyl (Hood & Collins, 2022).

This project assessed the feasibility of implementing a MOUD prescribing program at a community mental health clinic serving primary homeless clients in King County, Washington. Nurse practitioners identify lack of organizational support as a barrier to prescribing MOUD (Andraka-Christou et al., 2022). To support their PMHNPs, community health organizations must develop evidence-based protocols and training opportunities to ensure high-quality care and cohesive management of complex co-occurring disorders for their clients. This project used a stepwise approach to assess the feasibility of incorporating buprenorphine prescribing via 1) a needs assessment of enrolled patients, 2) a review of current buprenorphine prescribing protocols, 3) a program change feasibility assessment, and 4) a presentation of findings to key stakeholders eliciting feedback.

Background

The Opioid Crisis

The U.S. government declared the opioid epidemic a public health emergency on October 16, 2017, although deaths began rising significantly in 1999 (Jones et al., 2018). The crisis began in the 1990s when the pharmaceutical industry, medical associations, and governmental bodies shared responsibility for the over-prescription and ineffective monitoring of prescription opioids to treat non-malignant pain (Jones et al., 2018). The first wave of the epidemic, lasting from 1999-2010, primarily consisted of deaths from prescription opioids. From 2010-2013, the second

wave consisted of heroin-related deaths as prescribing practices tightened and some patients may have turned to illicit opioids to meet their needs. The third wave began in 2013 and deaths are now mostly due to synthetic opioids, primarily fentanyl (Centers for Disease Control and Prevention [CDC], 2022a).

Fentanyl is a synthetic opioid that is 50 times stronger than heroin, 100 times stronger than morphine, and is FDA-approved to treat severe, acute, often cancer-related pain (CDC, 2022b). Illicitly sold fentanyl is manufactured in a matter of days from standard chemicals in laboratories and easily smuggled to consumer markets where it is sold as powder, pressed into counterfeit pills, and mixed with other illicit drugs (Kan et al., 2022). Many consumers are unaware they are ingesting the odorless and tasteless fentanyl, putting them at significant risk of accidental fatal overdose due to its potency. Over 92% of opioid overdose deaths are accidental (CDCc, 2022). Currently, over 150 people die per day in the United States from synthetic-opioid related deaths (CDC, 2022b).

Medication for Opioid Use Disorder

Medications used to treat opioid use disorder (MOUD) include buprenorphine, methadone, and naltrexone. Buprenorphine is a competitive, partial mu-opioid agonist (Buttaro et al., 2021) that reduces cravings (McAnulty et al., 2022), decreases mortality rates by at least 50% (Bahji et al., 2019; Pearce et al., 2020; Wakeman et al., 2020), and reduces engagement in criminal behavior (Molero et al., 2018). Due to its respiratory depression ceiling effect, buprenorphine is safer than methadone, a full opioid-agonist (Buttaro et al., 2021). Naltrexone, an opioid antagonist, is more difficult to initiate, as it requires complete detoxification from opioids prior to induction (Lee et al., 2018).

Patients can receive buprenorphine prescriptions in outpatient settings rather than the mandatory daily dosing for methadone at designated opioid treatment programs. Buprenorphine is available in short-acting oral or long-acting injectable formulations (Alkermes Inc., 2022; Braeburn Inc., 2023; Indivior PLC, 2023). Compared to methadone, buprenorphine shows increased protection against fatal overdose (Bahji et al., 2019). However, if other opioids are present in the body, buprenorphine's strong affinity for mu-opioid receptors and partial agonist properties can precipitate withdrawal (Buttaro et al., 2021; Johnson et al., 2003). Precipitated withdrawal is the rapid onset of severe withdrawal symptoms, including nausea, diarrhea, constipation, sweating, chills, muscle and joint aches, increased pain, and anxiety (Buttaro et al., 2021).

Fentanyl is highly lipophilic, and its wide distribution in the body's adipocytes lengthens excretion time, sometimes resulting in fentanyl-positive urinalysis over 48 hours after last reported ingestion (Antoine et al., 2021). Standard buprenorphine induction protocols require the patient to withdraw from the illicit opioid for at least four hours (Johnson et al., 2003), but this period is insufficient for fentanyl to completely leave the body. However, requiring patients to wait at least 24 hours prior to induction often causes intolerable withdrawal symptoms (Antoine et al., 2021; Johnson et al., 2003; Varshneya et al., 2022), and patients may return to illicit opioids to relieve their symptoms. As such, alternate induction protocols are newly preferred in the fentanyl era (Hämmig et al., 2016).

Intersection of Homelessness, Mental Illness, and Drug Use

It is estimated that in 2022, 582,462 people were homeless nationwide, 25,211 people were homeless in Washington State, and 13,368 people were homeless in King County (de Sousa et al., 2022), an estimate which grew to more than 16,000 people in 2024 (King County Regional

Homelessness Authority, 2024). People experiencing homelessness (PEH) are at very high risk of severe mental illness (SMI) and substance use disorder. An estimated 12.4% of PEH have schizophrenia (Gutwinski et al., 2021), much higher than the estimated 0.48% of the general population (Simeone et al., 2015). Additionally, compared to 8.6% of the adult U.S. population, approximately 22% of PEH have a drug-related disorder (SAMHSA, 2022). Substance use is often both a coping strategy for homelessness and a contributing factor to becoming unstably housed (Gutwinski et al., 2021)

Psychiatric mental health nurse practitioners already provide high quality, efficient care for PEH with SMI (Baker et al., 2018) and are legally able to prescribe MOUD to their patients rather than refer them to a separate provider (RCW 18.79.250, 2024). Addiction specialists identify homeless patients' lack of access to mental health care as one of the main barriers to their retention in OUD treatment programs (Simpson et al., 2021). Combining mental health care and MOUD from the same clinician streamlines care for patients and reduces access barriers. Streamlined, accessible care is critically important for homeless patients because they experience additional logistical, psychosocial, and communication hurdles when engaging with healthcare providers (Omerov et al., 2020). However, clinicians need adequate training and organizational support to successfully manage MOUD in complex patients.

On December 29, 2022, the US Congress passed the Mainstreaming Addiction Treatment Act, repealing the Drug Enforcement Agency's (DEA) special "X"-waiver requirement, which mandated that prescribers receive the waiver before prescribing MOUD (JDSUPRA, 2023). Hopefully, the repeal of the X-waiver requirement will result in benefits comparable to those in France, where deaths from fatal opioid overdoses declined 79% after buprenorphine prescribing restrictions were removed from all physicians in 1995 (D'Onofrio et al., 2021).

Review of Literature

A literature review of 19 relevant articles was conducted to explore themes related to this topic. Searches were conducted in PubMed and Google Scholar using key search terms (*buprenorphine, induction protocol, psychiatric nurse practitioner, fentanyl, medication assisted treatment, barriers, access, mental illness, and community mental health).* Results were restricted to articles published since 2018 in English-language and peer-reviewed journals, with the exception of landmark studies. After an initial review, irrelevant articles that did not meet serach criteria were discarded. An ancestry search of particularly relevant articles' references was also conducted. Major themes that emerged include buprenorphine induction protocols, and access and barriers to care.

Buprenorphine was FDA-approved to treat opioid use disorder in 2002. Initial guidelines recommended a starting buprenorphine dose of 4.0 mg at least four hours after last opioid use, followed by a second 4.0 mg dose three hours later (Johnson et al., 2003). However, as fentanyl became the predominant illicit opioid, clinicians recognized that the standard buprenorphine induction was causing severe withdrawal symptoms, fear, and return-to-use for patients using fentanyl (Hämmig et al., 2016; Weimer et al., 2023). The 'Bernese method', also called a microinduction protocol, is now a predominant prescribing practice (Weimer et al., 2023).

Microinduction differs from standard induction by gradually bridging the patient from illicit opioid use to buprenorphine. The patient begins with a small (e.g., 0.25-1.0 mg) dose and gradually increases to daily or twice daily micro doses while simultaneously decreasing their illicit opioid use (Weimer et al., 2023). The buprenorphine slowly accumulates at the mu opioid

receptors, until the full opioid agonist is gradually fully displaced (Spreen et al., 2022). After one week to two weeks, patients may stop using the illicit opioid and instead take a standard daily maintenance dose of buprenorphine (Hämmig et al., 2016).

Microinduction is now preferred since it reduces opioid-free periods during which patients may experience severe withdrawal (Hämmig et al., 2016; Moe et al., 2020). To date, however, no randomized controlled trials have been completed, nor do clinical guidelines for initiation exist (Moe et al., 2021). Instead, a variety of microinduction protocols with varied dosing have been used to start patients on buprenorphine without precipitating withdrawal (Moe et al., 2021; Spreen et al., 2022). Starting doses range from 0.25-0.5 mg and patients reach daily maintenance doses of 24-32 mg on treatment day six to eight (Antoine et al., 2021; Brar et al., 2020; Moe, et al., 2020; Rozylo et al., 2020; Suen et al., 2022). A meta-analysis comparing standard to microinduction protocols found a 95.6% versus 96% success rate, respectively, with each strategy, showing that microinduction is an effective and well-tolerated method of prescribing MOUD for fentanyl users (Spreen et al., 2022).

In their 2023 paper, the American Society of Addiction Medicine recommended a customized approach to induction for each patient (Weimer et al., 2023) depending on their needs. Considerations include the patient's ability to tolerate moderate opioid withdrawal, the clinical setting, complexity of induction, and stabilization duration (Weimer et al., 2023). In addition to the standard and microinduction approaches, clinicians in emergency departments and urgent care centers have described a high-dose induction, wherein patients take 16-32 mg of buprenorphine in one or two doses within a few hours to increase mu opioid receptor activation and increase the opioid blockade (Herring et al., 2021; Snyder et al., 2023). Although fewer than 2% of patients experienced precipitated withdrawal with the high-dose method (Herring et al.,

2021; Snyder et al., 2023), evidence of its successful use in outpatient clinics is sparsely represented in the literature (Weimer et al., 2023).

Subcutaneous injections of extended-release (XR) buprenorphine can be prescribed as initial therapy or as maintenance after a patient is stable on oral buprenorphine (Azar et al., 2020). It effectively controls cravings, reduces illicit opioid use, and has been shown to increase participation in employment (Haight et al., 2019). Although the manufacturer of Sublocade, one of the two brands of buprenorphine XR, recommends seven days of oral buprenorphine prior to initiating the injection (Indivior PLC., 2023), patients who received the injection after one dose of oral buprenorphine did not experience precipitated withdrawal (Hassman et al., 2023).

Adults with serious mental illness (SMI) are nearly three times more likely to use illicit drugs and nearly five times more likely to use opioids than adults without mental illness (SAHMSA, 2022). In 2021, 14.1 million people over age 18 in the United States had SMI, with 45% of those having a co-occurring substance use disorder (SAHMSA, 2022). SMI reduces the individual's capacity to plan, make informed decisions, and follow through with treatment plans. Moreover, active addiction to illicit drugs may compel the individual to pursue the supply of that drug at the expense of their basic needs, psychiatric and physical health. Other barriers to treatment include insufficient clinician training, housing instability, financial obligations, and non-standardization of care (Madras et al., 2020).

To encourage engagement, OUD treatment for people experiencing homelessness, particularly those with SMI, must be low barrier and without stigma. Incorporating patient perspectives is necessary to offer induction and treatment strategies that are patient-centered and yield the highest opportunity for ongoing retention (Sue et al., 2022). Treatment duration longer than three months is associated with greater protection against overdose (Wakeman et al., 2020).

In Seattle, homeless patients at a rapid-stabilization, low-barrier buprenorphine clinic preferred to remain with providers with whom they had built trust and rapport, rather than transfer their MOUD to a primary care clinic, presenting an opportunity to retain patients for a longer duration (Hood et al., 2020).

Integrating MOUD treatment into existing mental health programs where patients already have meaningful, trusting relationships with psychiatric providers and mental health therapists encourages patients to engage more fully in their healthcare (Truong et al., 2019). Participants in a Baltimore-based outpatient MOUD program reported comorbid mental health problems as a major challenge to retention in the program (Truong et al., 2019). Similarly, nurse practitioners who provide MOUD have identified "insufficient psychosocial support" (Andraka-Christou et al., 2022) for their clients as a major barrier to treatment. Incorporating MOUD treatment into mental health treatment for PEH is a promising mitigator of these barriers.

Methods

This was a mixed-methods, non-experimental, formative evaluation that assessed the need for and feasibility of implementing a buprenorphine prescribing policy to treat patients with opioid use disorder at a community mental health clinic. A formative evaluation is a systematic process of gathering information in order to identify and describe complexities, opportunities, and barriers to implementation of a proposed project or policy change (CDC, n.d.; Elwy et al., 2020).

The four aims of the project, implemented in a stepwise fashion, were as follows:

Phase 1: Retrospective chart review, describing OUD prevalence among current clinic patients.

Phase 2: Review of common buprenorphine prescribing protocols.

Phase 3: A program evaluation and needs assessment to identify opportunities and barriers to implementation of buprenorphine.

Phase 4: Presentation of proposed policy change to clinical staff.

This project was submitted to Seattle University's Institutional Review Board for consideration of ethical and privacy issues on December 18, 2023. On January 2, 2024, the Seattle University IRB determined the project to be exempt from IRB review in accordance with federal regulation criteria.

Setting

The setting of this project was a community mental health clinic (hereafter "the clinic") in King County, Washington that serves homeless and unstably housed clients with serious mental illness. The clinical staff includes three psychiatric mental health nurse practitioners, one psychiatrist, two registered nurses, and clinical mental health staff. Administrative staff includes the clinical director, regional director, two site directors, clinical supervisors, and case managers.

Intervention Plan

For phase 1, the clinic's electronic health record (EHR) system was reviewed and de-identified diagnostic information for currently enrolled clinic patients was gathered. Though clinic psychiatric nurse practitioners do not currently prescribe MOUD, they diagnose opioid use disorder during the initial psychiatric assessment as medically appropriate. The prevalence of patients with OUD was calculated.

During phase 2, buprenorphine induction protocols published in the literature were reviewed, with a focus on similar patient populations. Anecdotal and public health data in King County indicate that most clinic clients who use illicit opioids use primarily fentanyl (Hood &

Collins, 2022). Standard clinical guidelines do not exist for microinduction protocols, making a literature review necessary to inform the development of clinical protocols.

The phase 3 feasibility assessment included a fiscal analysis and a predictive analysis of training, staffing, and billing requirements needed to implement buprenorphine prescribing. This was accomplished using best available evidence from public data available online, estimates of cost based on the clinic's own pay structure, and information shared from the clinic's partner agencies.

For phase 4, results from phases 1-3 were synthesized and presented to participants. The goals of the presentation were two-fold: provide guidance to stakeholders regarding best-practice buprenorphine prescribing protocols and elicit feedback to guide an implementation strategy. After the presentation, participants were asked to complete an anonymous 5-point Likert survey to gather participant feedback.

Participants

Participation from clinic staff was only necessary for phase 4 of the project. To elicit feedback from both clinic administrators and patient-facing healthcare providers, the results of phases 1-3 were first presented to key clinic administrative staff. Next, the results, with a greater focus on induction strategies, were presented to the clinic's licensed healthcare providers. Included were those with the following job titles: psychiatric mental health nurse practitioner, registered nurse, regional director, clinical director, site director, and billing specialist. Excluded were case managers, mental health counselors, and administrative support staff. Participants were recruited to attend the presentation via email invitations sent one month in advance. It was held virtually via Microsoft Teams software.

Data Collection and Analysis

There were two types of output from this project. The first was the synthesized results of phases 1-3. Results were formatted as a PowerPoint-style presentation for presentation in phase 4. Secondly, output from phase 4 of this project was anonymous survey results elicited from participants of the presentation. Participants were asked to anonymously provide feedback via a Qualtrics survey, assessing their degree of support for implementation of a MOUD program at the clinic. Implied consent was obtained prior to completion of the survey on their phones or computers. There were nine questions: seven were quantitative and two were open-ended, qualitative questions to capture questions or concerns. Data from the Likert survey was quantitatively analyzed using Microsoft Excel.

Results

Overall prevalence of OUD among the clinic's patients was 19.3%. However, at the main clinic location where most patients are seen, the prevalence was 21.5%. The prevalence at the two smaller satellite clinic locations was 13.3% and 13.8%. There were a few limitations to the retrospective chart review. First, patients may already be receiving MOUD from another clinic. Secondly, results were likely an underestimation of OUD prevalence, as some patients are hesitant to report their use or prefer to focus on their mental health diagnosis. Finally, even if MOUD were offered to all patients with an OUD diagnosis, it would be unlikely that 100% of patients would enroll in MOUD treatment.

The literature review of buprenorphine induction strategies elucidated that there is a wide variety of induction protocols currently being used (Weimer et al., 2023). Since no clinical guidelines currently exist recommending one induction strategy over another, it is best practice to use a patient-centered approach and engage in shared decision making to decide the strategy that is right for each individual patient (Weimer et al., 2023). This can be a time-consuming

process, especially when a clinician initially begins their MOUD practice. Overall, a microinduction strategy fits best within the clinic's constraints, as it has very low risk of precipitated withdrawal and successfully bridges patients from illicit opioids, specifically fentanyl, to stabilization on buprenorphine (Wakeman et al., 2020).

The feasibility assessment revealed opportunities and barriers to MOUD implementation. The financial investment needed to implement MOUD is lower than expected. Training for all three psychiatric nurse practitioners will cost an estimated $2,160 in total provider time. Free trainings are available online. For example, SAMHSA has funded the Providers Clinical Support System (PCSS), a website where clinicians can complete their required eight hours of training (Providers Clinical Support System, 2024).

The main barriers identified by participants of phase 4 included registered nurse staffing, reimbursement, and the functionality of the electronic health record system (EHR). The clinic is currently understaffed with registered nurses: ideally, there would be two to three full-time nurses. Currently there is only one full-time and one half-time nurse. Nurses handle prior authorizations, MOUD follow-up appointments, pharmacy concerns, and patient communications. Without sufficient nursing staff, the providers will be unable to meet the wrap-around needs of each MOUD patient.

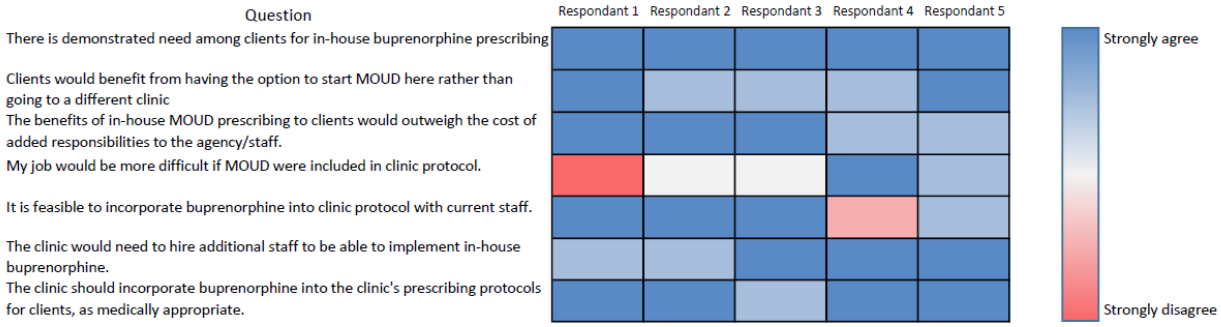
Likewise, the clinic's EHR does not include the ability for providers to bill fee-for-service to insurance companies, a reimbursement constraint. Instead, the clinic is part of a Washington state program that reimburses community mental health organizations a daily rate for providing psychiatric services. The EHR will need to be modified to include a billing system that can capture reimbursement for MOUD services and is acceptable to insurance companies.

This will take at least a few weeks of work on the part of the IT department as well as training of the administrative staff who complete the billing.

Of the eight participants, five completed the anonymous survey gauging perception of an MOUD program in the clinic. All respondents indicated strong support for a program, as indicated in Table 1. Staffing was identified as the primary barrier. A maintenance-only model, wherein the clinic refers patients to outside clinics for induction but continue their buprenorphine once they are stable, was identified during post-presentation discussion as the ideal strategy for the clinic. Due to the complexity of induction protocols, the directors and the healthcare providers both agreed that a maintenance-only model fits well within the clinic's workflow and capabilities. There are a plethora of clinics within King County that offer same-day buprenorphine starts to which the clinic providers can refer their clients.

Table 1

Five respondents completed the survey, assessing their support or lack thereof, of implementing MOUD in the clinic



Conclusions

This project evaluated the need for and feasibility of implementing medication for opioid use disorder at a community mental health clinic. The patients at the clinic face many barriers to accessing medical and psychiatric care, including homelessness, severe mental illness, substance use disorder, and financial barriers. It is within the scope of practice for psychiatric nurse practitioners to prescribe MOUD in Washington State. They already have rapport established

with their patients and are ideally suited to concurrently address opioid use disorder with pharmacologic intervention alongside psychiatric treatment.

Implications for Nursing

Expanding patient access to pharmacologic treatment for opioid use disorder is critical at the individual and population levels. Over 100,000 people died from fatal opioid-related overdose in 2023 in the United States (Ahmad et al., 2023). Buprenorphine reduces the risk of fatal overdose by at least 50%, making it a critical component of OUD treatment (Pearce et al., 2020; Wakeman et al., 2020). Psychiatric nurse practitioners have the legal scope and training to prescribe MOUD, increase access to treatment, and provide psychosocial support to their clients at every stage of recovery.

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