



Behavioral Health Workforce Implementation Challenges Related to Medication Assisted Treatment

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KEY FINDINGS

Reasons for the underutilization of the use of medications in conjunction with psychosocial and recovery support services to treat substance use disorders (medication-assisted treatment; MAT) in behavioral health settings include: 1) financial constraints, 2) federal laws and regulations, and 3) workforce challenges. To improve the adoption and utilization of MAT, the following should be considered:

- Encourage higher education accrediting agencies and state certification/licensing bodies to adopt standardized training guidelines on the topic of addiction.
- Create mechanisms such as provider reimbursement for MAT as part of telemedicine and increased funding for mobile treatment services in rural populations to decrease geographic barriers.
- Develop technical assistance and guidelines to support providers in navigating the clinical, financial, and operational considerations for implementing MAT.
- Effectively integrate prevention, treatment, and recovery services across health care systems to improve access to and quality of treatment. Models that allow individuals to receive comprehensive mental health and substance use disorder services (e.g., Certified Community Behavioral Health Clinics) will increase access to care and improve outcomes.

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INTRODUCTION

The Use of Medications in Conjunction with Psychosocial and Recovery Support Services to Treat Opioid Use Disorder

Drug overdose deaths and opioid-related deaths continue to increase in the U.S. The Centers for Disease Control and Prevention (CDC) reports that from 1999 to 2015, the amount of prescription opioids dispensed in the U.S. nearly quadrupled, and the number of drug overdose deaths has never been higher with the majority of these deaths (more than 60% in 2015) involving opioids.¹ Medication-assisted treatment (MAT) for opioid use disorder (OUD) involves the use of opioid agonists or antagonists (methadone [agonist]; buprenorphine [partial agonist]; naltrexone [antagonist]) to suppress withdrawal symptoms and relieve addiction cravings. Three U.S. Food and Drug Administration (FDA)-approved medications currently used within MAT to treat OUD are methadone, buprenorphine, and long-acting injectable naltrexone. These prescribed medications operate to “normalize brain chemistry, block euphoric effects of alcohol and opioids, relieve physiological cravings, and normalize body functions without the negative effects of the abused drug.”²

- Methadone was first researched as a type of treatment in 1964. Methadone is highly regulated and is dispensed through specialized treatment programs/clinics, and eligibility to dispense the drug is restricted only to certified physicians that work within or are contracted to work with an opioid treatment program (OTP).
- Buprenorphine has been approved by the Food and Drug Administration (FDA) since 2002. The drug suppresses and reduces a person’s craving for substances. Eligibility to prescribe the drug is restricted to physicians, nurse practitioners, and physician assistants that receive waivers from the Substance Abuse and Mental Health Services Administration (SAMHSA). Several requirements, including eight to twenty-four hours of training (depending upon practitioner type) and an active Drug Enforcement Agency (DEA) number to prescribe Schedule III drugs, must be met prior to receiving a waiver. Scope of practice laws vary by state.
- Naltrexone (available both in pill and injectable formulation) blocks the effects of drugs such as heroin, morphine, and codeine. This medication is reported to reduce opioid cravings. This medication can be prescribed by any healthcare provider who is licensed to prescribe medications and special training is not required for the prescription and distribution of Naltrexone.

As mentioned, eligibility to dispense methadone is restricted only to certified physicians within OTPs. By the end of 2016, there were 1,482 OTPs reporting to SAMHSA’s National Survey of Substance Abuse

Treatment Services.³ The number of clients receiving methadone in those facilities increased from about 227,000 in 2003 to more than 356,000 through 2015 (the latest year with data on the number of clients served), and the number of clients receiving buprenorphine rose to more than 21,000 in 2015, compared to 727 clients in 2004. By the end of 2016, buprenorphine was offered in more than half of OTPs. The national survey also demonstrated that the use of extended-release injectable naltrexone in OTPs has increased as well, from 359 clients in 2013 to more than 700 clients in 2015. These data are important as OTPs are the only facilities in which all three FDA-approved medications can potentially be made available.

[The Effectiveness of Medication-Assisted Treatment in Facilitating Recovery from Opioid Addiction](#)

A national practice guideline by the American Society of Addiction Medicine⁴ provides information on the evidence-based treatment of OUD and recommends psychosocial treatment in conjunction with pharmacological treatment for OUD and a more effective treatment than the use of either behavioral interventions or medication alone. A Cochrane systematic review evaluated a form of MAT (methadone maintenance treatment) compared to treatments that did not involve opioid replacement therapy (i.e., detoxification, offer of drug-free rehabilitation, placebo medication, wait-list controls) for opioid dependence.⁵ Results showed that methadone maintenance treatment (prescribing methadone in conjunction with counselling, case management, and other medical and psychosocial services) was a more effective treatment for opioid dependence than non-pharmacological approaches in retaining patients. A 1997 study with participants who were randomly assigned to either a six-month program of probation plus naltrexone hydrochloride tablets and counseling, or probation and counseling alone, found a significant decrease in positive drug tests for opioids among participants who received this form of MAT. After six months, the average percentage of positive drug tests for opioids among the MAT group was 8%, whereas 30% of the patients treated with only therapy tested positive for opioids.⁶

A 2016 systematic review on the use of psychosocial interventions in conjunction with medications for the treatment of opioid addiction⁷ found that there is a dearth of empirical research on the optimal psychosocial interventions to use with medications for MAT. The review highlights the most widely studied psychosocial interventions examined in conjunction with medications for opioid addiction: contingency management therapy and cognitive behavioral therapy, with the majority focusing on methadone treatment. Results support the use of psychosocial interventions in combination with medications to treat opioid addictions, though results varied for different outcomes, across studies, and within psychosocial intervention types. Other less commonly studied psychosocial interventions include behavioral drug and

HIV risk reduction counseling, assertive community treatment, general (non-specified) supportive counseling, and web-based behavioral interventions. Generally, the psychosocial treatment that accompanies drug therapy in MAT include the following common therapeutic goals:⁸

- Modify underlying behaviors that may lead patients to misuse opioids
- Encourage patients to adhere to their prescribed medications
- Treat other existing psychiatric disorders

Based on multiple studies, the use of medications in conjunction with psychosocial and recovery support services for the treatment of OUD is cost effective and lowers expenses associated with non-opioid related medical services for opioid users compared to opioid users who do not receive MAT. For example, a study evaluating over 6,100 Medicaid claims from 2008 to 2013 for Vermont residents found that annual expenditures for residents receiving MAT for OUD were lower (\$412 less) than for those not receiving MAT.⁹ MAT treatment costs were also offset by lower non-opioid medical costs, and lower utilization of non-opioid related medical services.

Barriers to Medication-Assisted Treatment Implementation

Although MAT has proven to be clinically- and cost-effective, it is significantly underused. The Center for Integrated Health Solutions (CIHS) created a learning collaborative with providers to understand how to best implement MAT to increase adoption of medications in the treatment of substance use disorders (SUDs).¹⁰ Through this work, CIHS identified barriers to MAT implementation including:

- Financing and reimbursement barriers
- Regulatory issues
- Workforce challenges

Financing and Reimbursement Barriers

Research indicates that state Medicaid benefit designs that support the use of generic drugs on their preferred drug list/formulary, and permit managed care organizations to establish policies to encourage use of generic medications are associated with higher odds of MAT adoption (44% and 96% higher odds, respectively).¹¹ However, Medicaid plans that require preauthorization before MAT-related medications can be dispensed, or mandate specific medications through a preferred drug list, can ultimately inhibit the capacity or adoption of MAT services.¹²

Also, the lack of understanding about obtaining reimbursement is a barrier to the use of medications in addictions treatment.¹³ According to a survey of publicly funded SUD treatment centers:¹⁴

- 62.1% of respondents cited a lack of reimbursement for physician time needed to implement medications from primary funding sources as a critical barrier to MAT adoption.
- 60.3% of practices reported that their primary funding sources would not pay for laboratory tests needed to implement the medications.
- The costs of purchasing the medications were not reimbursed by primary funding sources for 70.9% of treatment programs surveyed that did not provide MAT services.

Regulatory Issues

Each of the three FDA-approved MAT medications have different regulatory frameworks for their implementation:

- Methadone is highly regulated and is dispensed only through OTPs. Regulations to prescribe and dispense methadone, as outlined in 42 Code of Federal Regulations, Part 8, details an extensive list of regulations to which OTPs must adhere.¹⁵
- Buprenorphine requires up to 24 hours of training and a waiver; and
- Any prescriber can dispense naltrexone.

Various state-level regulations can impede the implementation of MAT. In some states, regulations do not permit specialty substance use treatment programs to hire physicians, while in other states physicians cannot be hired unless they are psychiatrists.¹⁶ Also, in some states, regulations prevent medical staff in non-specialty settings from billing for MAT services.¹⁷

DATA 2000 regulations and Comprehensive Addiction and Recovery Act (CARA) legislation require that physicians and nurse practitioners/physician assistants receive eight and twenty-four hours, respectively, of qualifying education on addiction before receiving a waiver to prescribe buprenorphine. The training process requires both a time and financial commitment requiring a cost benefit analysis from the provider perspective. This training typically yields positive outcomes for practitioners, and research indicates that securing a waiver to prescribe buprenorphine results in greater confidence in addressing drug problems as compared to practitioners that do not have such a waiver.¹⁸ Other research, however, suggests that the minimum training requirements are not substantial enough to ensure that practitioners feel confident in treating individuals with OUD,¹⁹ and thus may impact the amount of clients a practitioner treats using MAT.

Workforce Challenges

Researchers have identified limitations that hinder a practitioner's ability to effectively implement MAT, including the reported lack of confidence in assessing addiction. A 2014 study found that 41% of practitioners that do not actively prescribe MAT reported this as a major barrier.²⁰ Physicians are often required to have minimal competency in addiction medicine, and research suggests that the average medical school requires few hours to be devoted to the topic.²¹ A 2010 analysis revealed several barriers relating to practitioner knowledge-base.²² Sixty percent of non-adopting programs in this study identified a lack of "access to physicians with expertise in prescribing medications to treat substance abuse" as an "important" or "very important" barrier. Additionally, 58% of non-adopting programs in this study identified a lack of "nurses or other medical staff with expertise in implementing medications to treat substance abuse" as an "important" or "very important" barrier. Many operational models of MAT require moderate to heavy involvement from nurses or additional medical staff. Consequently, their role in implementing medications to treat SUDs is nearly equal to that of a physician or similar practitioner. The same analysis by another research team indicated that only 29.7% of non-adopting program respondents reported a lack of available information about how to implement substance abuse treatment medications.²³ It appears to be a smaller issue than the current comfort levels and abilities of medical professionals to adopt MAT programs. SUD impairs the health and functioning of patients to different degrees, and there are many causes to SUDs that may influence the proper treatment method and dosage recommendations for treatment medications. Without formal preparation to treat these disorders, medical professionals may not be (or perceive to be) fully prepared to consider these issues and accurately assess these factors to create an effective treatment plan for the patient.

Summary

Given the dramatic increase in opioid-related overdoses, the need for greater access to treatment is significant. While the use of medications in conjunction with psychosocial and recovery support services has been around for decades, the treatment remains underutilized in behavioral health settings. The purpose of this report is to highlight the most prevalent workforce and operational barriers to MAT adoption in behavioral health settings. The scope of this paper focuses primarily on provider- and non-provider centered barriers and their role in MAT provision. These themes were identified through online surveys, focus groups, and geospatial analyses of member organizations of the National Council for Behavioral Health.

METHODS

Study Design

A multi-method study was conducted to investigate the MAT implementation barriers for providers who are eligible to prescribe/dispense medications to treat OUD (henceforth known as “prescribers”), and those who are not eligible to prescribe/dispense medications to treat OUD (henceforth known as “non-prescribers”). The Health Sciences and Behavioral Sciences Institutional Review Board at the University of Michigan found all activities of this study to be exempt.

Data Collection

Prescriber Survey

To understand the underuse of MAT provision, barriers to provision of care, and provider opinions around MAT, an online survey was designed and disseminated to a nationally representative, random sample of physicians in the U.S. The research team conducted a literature review of empirical and grey literature to inform the data themes and elements contained within the survey. This literature informed the types of data the survey collected, focusing on areas where the present literature did not explore factors, barriers, and opinions related to the provision of MAT. The survey was developed with seven core themes:

- Demographics
- Practice type
- Screening for SUD (e.g., monitoring OUD, frequency of using prescription drug monitoring program)
- Prescribing and dispensing behavior
- Buprenorphine (e.g., SAMHSA waiver status for Buprenorphine, number of patients allowed under waiver)
- Probuphine (e.g., barriers to providing probuphine)
- Vivitrol/Naloxone/Methadone (e.g., factors increasing/decreasing likelihood of prescribing these medications)

Prescriber contact information was purchased from Redi-Data, a company that retains physician contact information from the American Medical Association Masterfile. The sampling framework was divided between two groups of physician specialties: one group ($n=687$) was comprised of specialties which are more likely to have received a waiver for the provision of some forms of MAT (e.g., Addiction Specialists); the second group ($n=3,313$) was comprised of practitioners considered to have less exposure to MAT (e.g., primary care physicians, geriatric psychiatrists). The sample was weighted to increase the number of responses from physicians who are more likely to have experiences providing some MAT. After identifying

which specialties are the focus of the surveys, a random sample was selected, with the sample proportionate to the overall size of the specialty. Sample sizes are included with results.

Non-prescriber Survey

An online survey consisting of 44 questions was developed to investigate the barriers to prescribing MAT as well as the roles that non-prescribers play in MAT provision. Most questions were multiple choice, while other used a Likert scale or open-ended comment format. Respondents were drawn from National Council for Behavioral Health's member organizations which include healthcare organizations and management entities that offer treatment and support to more than eight million adults and children living with mental illnesses and addiction. The survey targeted at least 100 providers across the following ten states: Missouri, New Mexico, New York, Ohio, Oklahoma, Oregon, Tennessee, Utah, Vermont, and West Virginia. These providers work in organizations that prescribe or administer medications for the treatment of SUDs. States were selected to participate based on the impact of the opioid epidemic in the state and to account for regional variations. The survey focused on the following five modalities of MAT: buprenorphine, probuprenorphine, methadone, extended release naltrexone, and oral naltrexone.

Focus Groups

Building upon the information collected in the surveys, six virtual focus groups of prescribers and non-prescribers were convened. Selection of prescribers was *not* limited to those who currently, or have ever, prescribed or dispensed medications for the treatment of OUD. Participants were drawn from National Council member organizations. The following groups of providers were examined: (1) those that are certified to prescribe/dispense medications for MAT and are currently implementing MAT in their organization, (2) those who are certified but are not prescribing/dispensing to the extent allowable, (3) those who are eligible to apply for certification and would like to implement it but have not yet taken that step, and (4) those who are eligible to apply for certification but are not currently integrating it into their organization. Three focus groups were held with prescribers ($n = 9$) and three focus groups were held with non-prescribers ($n = 12$). Through these focus groups we elicited strategies for, as well as barriers to, implementing MAT. A qualitative analysis of the focus groups will identify recurring barriers and strategies.

Geospatial Analysis

Geospatial analysis was conducted to investigate the correlation between the number of MAT providers and incidence of opioid overdose death using provider addresses from the SAMHSA Buprenorphine Treatment Practitioner Locator and Opioid Treatment Program Directory.

Data Analysis

For the prescriber and non-prescriber surveys, quantitative data generated from the surveys were analyzed with SPSS software. Focus group transcripts were analyzed and coded for common themes, ideas, and categories. Non-prescriber and prescriber focus group transcripts were analyzed independently. Focus group transcripts were analysed using NVivo qualitative analysis software. NVivo assigns significance to some themes over others based on how frequently the theme occurs in the transcripts. The themes are then combined and results are presented for each broad idea. For the geospatial analysis, provider addresses from the SAMHSA Buprenorphine Treatment Practitioner Locator⁴⁹ and Opioid Treatment Program Directory⁵⁰ were geocoded using Quantum Geographic Information System (QGIS) software, and compared with county-level rates of opioid overdose deaths as ascertained from the CDC Wide-ranging Online Data for Epidemiological Research (WONDER) database.⁵¹ Spearman's Correlation was conducted using SPSS with a significance level of 0.05 to describe the relation between opioid related overdoses and the number of buprenorphine providers at the county level.

RESULTS

Prescriber Survey

Practice Type and Licensure

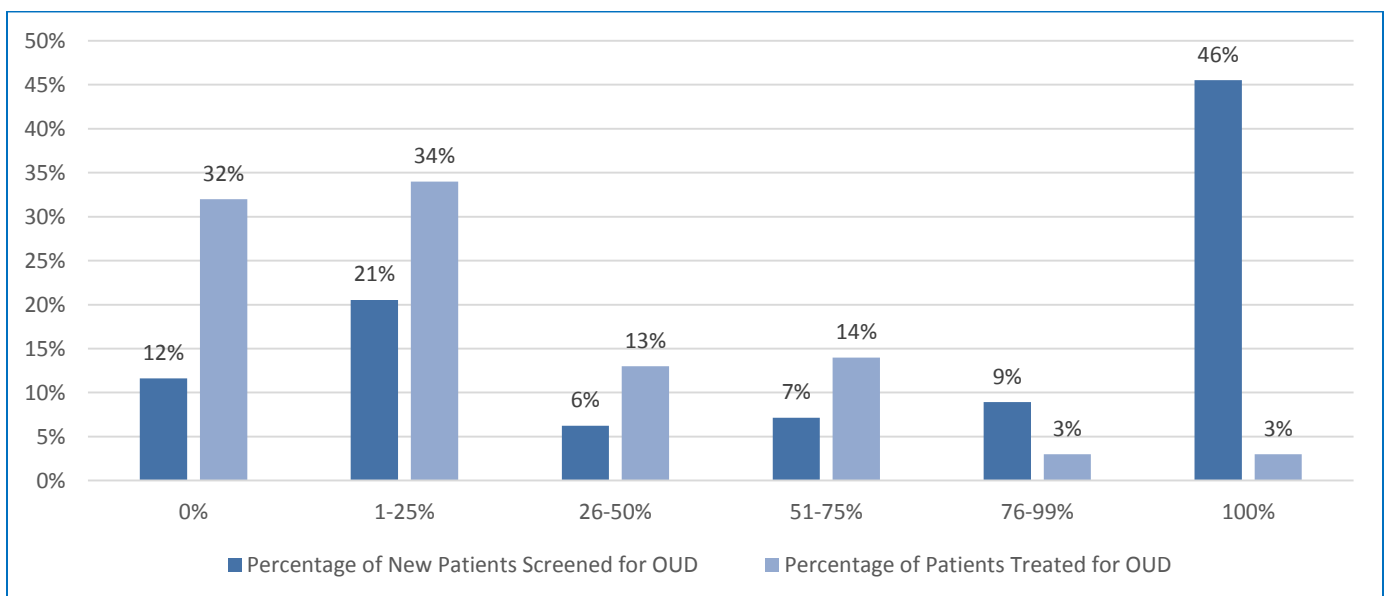
One-hundred thirty prescribers responded to some portion of the prescriber survey. The majority of respondents were medical doctors (83%, $n=102/123$) with the remaining physicians identifying as Doctor of Osteopathy (15%, $n=18/123$). The most frequent specialty selected by respondents was Family Medicine (34%, $n=41/119$), followed by Addiction Medicine (25%, $n=30/119$) and Anesthesiology (15%, $n=18/119$). The most commonly reported primary practice setting (*respondents could choose multiple locations*) was an Outpatient Primary Care Clinic (25%, $n=37/151$), followed by Outpatient Specialty Clinic (14%, $n=21/151$), General Hospital (13%, $n=19/151$), Community Health Center/Public Health Clinic (9%, $n=14/151$), and Outpatient Substance Abuse Treatment Facility (9%, $n=13/151$). Overall, most respondents reported that their practice facility was affiliated with or within a not-for-profit health center or

hospital (35%, $n=39/110$), followed by working in an Academic Medical Center (23%, $n=25/110$) and with or within a for-profit health center or hospital (23%, $n=25/110$).

Screening for Opioid Use Disorder

Physicians were asked to indicate the percentage of all new patients that were screened for OUD and the percentage of patients that were treated for OUD. As seen in Figure 1, physicians most frequently reported that they screened all new patients for OUD (46%, $n=51/112$); 21% ($n=23/112$) indicated that they screened between 1-25% of all new patients; and 12% ($n=13/112$) indicated that they screened no new patients. Most physicians reported either treating between 1-25% of all their patients (34%, $n=38/111$) for OUD, or none of their patients (32%, $n=36/111$).

Figure 1. Prescriber Screening and Treatment Practices for Opioid Use Disorder ($n=112$)



When asked how they treat or manage OUD in their practice, physicians reported that they were most likely to “always” refer patients to specialist physicians (21%, $n=12/58$) or a Mental Health Therapist (22%, $n=13/58$). When asked about monitoring OUD among their patients, prescribers reported being highly engaged with monitoring and that they “Always” monitor opioid use through patient self-report of substance use (60%, $n=41/68$), observation of physical function or appearance (59%, $n=40/68$), patient self-report of cravings (52%, $n=34/66$), and/or urine or other drug screening (50%, $n=34/68$). Physicians reported “Never” using validated SUD screening tools (24%, $n=16/66$) and/or validated mental health screening tools (10%, $n=7/67$).

The majority of physicians (93%, $n=64/69$) reported that they enroll in a state prescription drug monitoring program, a tool to help monitor opioid use and misuse. Physicians also reported “Always” using the prescription drug monitoring program to check for potential negative drug interactions (58%, $n=37/64$), to identify whether a patient has a potential SUD (55%, $n=35/64$), and/or to identify doctor shopping (55%, $n=35/64$).

Buprenorphine

Prescribers indicated agreement that buprenorphine treatment should be supplemented with mental health counseling (72%, $n=73/102$); treatment efficacy is improved by adding mental health counseling (70%, $n=71/102$); treatment should be supplemented by participation in peer support groups (69%, $n=70/102$); and treatment works well in patients with co-occurring mental health disorders (52%, $n=53/102$). As seen in Figure 2, almost 40% of prescribers who participated in the survey indicated that they had obtained a SAMHSA waiver to prescribe buprenorphine for opioid use ($n=41/104$) and were currently prescribing buprenorphine, while 6% ($n=6/104$) reported having a waiver, but not currently using it to prescribe buprenorphine. The majority of physicians with SAMHSA waivers for buprenorphine (40%, $n=18/45$) could serve up to 100 patients. There was evidence of clustering and waiver status within practices among physician respondents, with 38% ($n=40/104$) reporting practicing with another physician who also has a SAMHSA buprenorphine waiver and 30% ($n=31/104$) reporting that they were the only member of their practice with a waiver. Twenty-three percent ($n=11/47$) of physicians who reported having a SAMHSA buprenorphine waiver reported supervising a nurse practitioner or a physician assistant who could also prescribe buprenorphine, but 7% reported that they currently were not doing so but were planning to in the future. The remaining 70% reported that they were not currently, nor were they planning on, supervising any other individuals to prescribe buprenorphine. Nine percent of prescribers who participated in the survey indicated that they had not obtained a SAMHSA waiver to prescribe buprenorphine for opioid use but were planning on obtaining one in the future ($n=9/104$). Forty-six percent of prescribers without a SAMHSA waiver indicated that they were not planning to obtain the waiver in the future ($n=48/104$).

Figure 2. Prescribers who Obtained the SAMHSA Buprenorphine Waiver to Prescribe for Opioid Use Disorder ($n=104$)

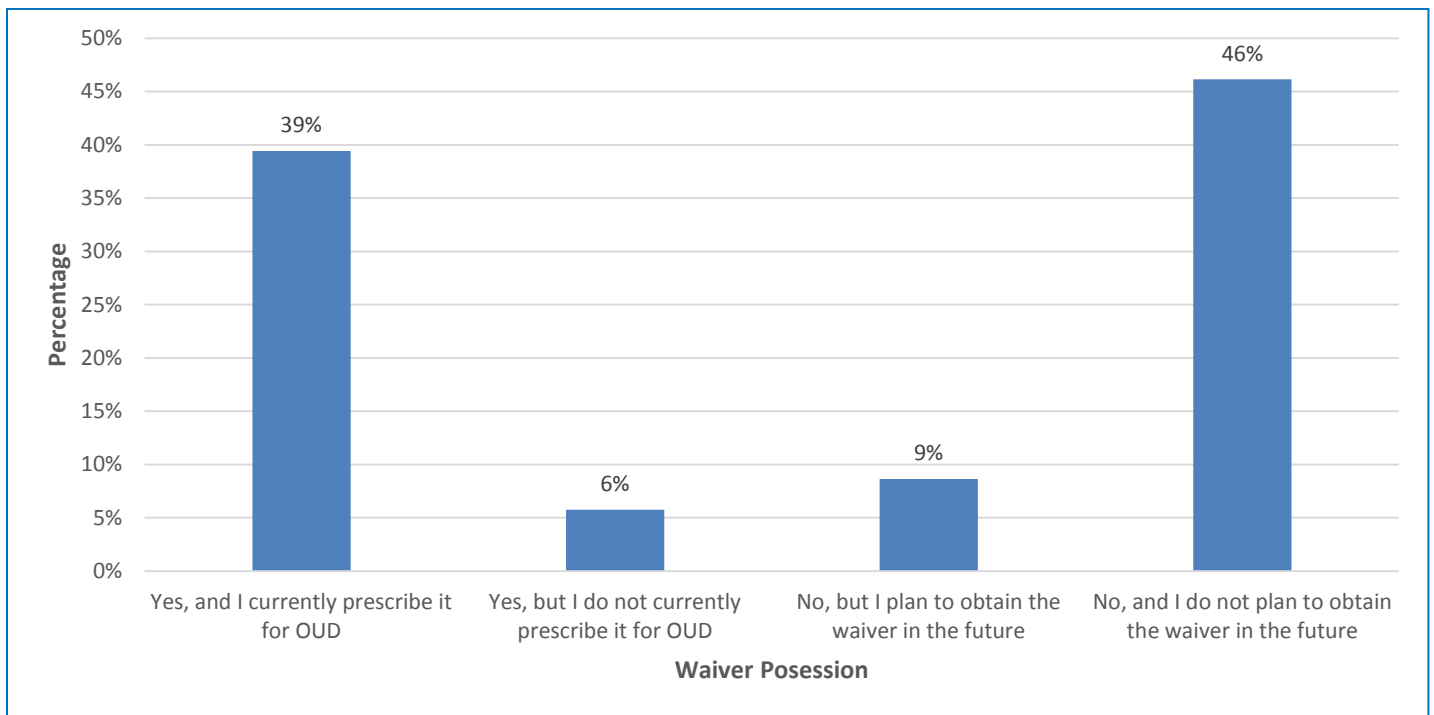
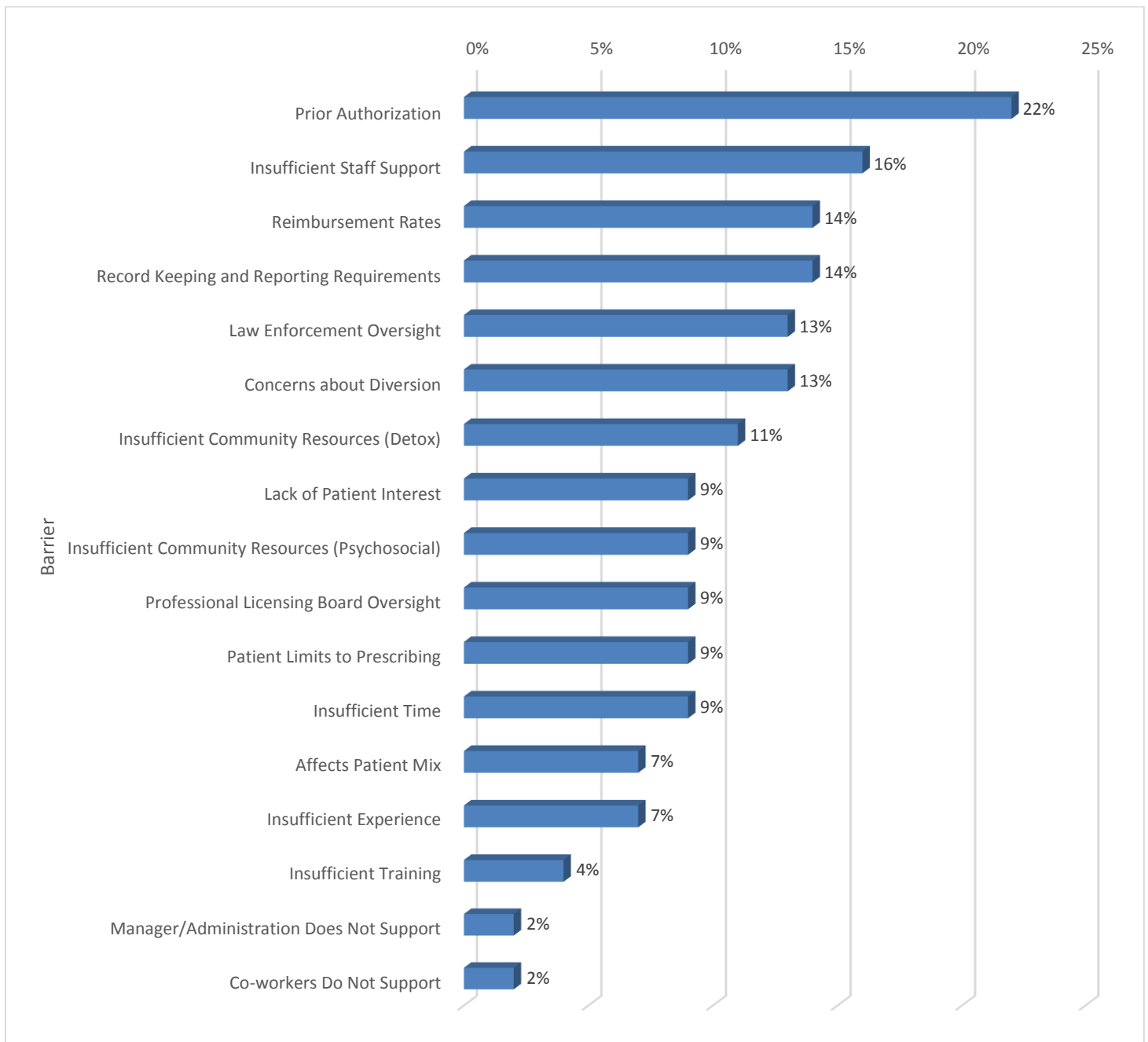


Figure 3 illustrates factors rated as “Strong Barriers” in the use of buprenorphine to treat OUD. Prescribers rated prior authorization as the strongest barrier. Prescribers also cited that they were less likely to prescribe buprenorphine if a patient had low treatment motivation (67%, $n=47/70$) or if a patient had previously diverted buprenorphine or methadone (76%, $n=55/72$).

Figure 3. Prescriber-Rated Barriers to the Use of Buprenorphine for Opioid Use Disorder (n=72)



Probuphine

Much less evidence exists of physicians having received the Risk Evaluation & Mitigation Strategy (REMS) certification to implant probuphine as treatment for OUD, unlike with the SAMHSA buprenorphine waiver. Seventy-six percent of prescribers reported that they had not obtained the certification and they did not plan to obtain it ($n=77/101$); 12% did not have the certification but were planning on obtaining in the future ($n=12/101$); 11% had the certification but were not currently implanting probuphine ($n=11/101$); and zero respondents had the certification and were implanting probuphine. This lack of certification

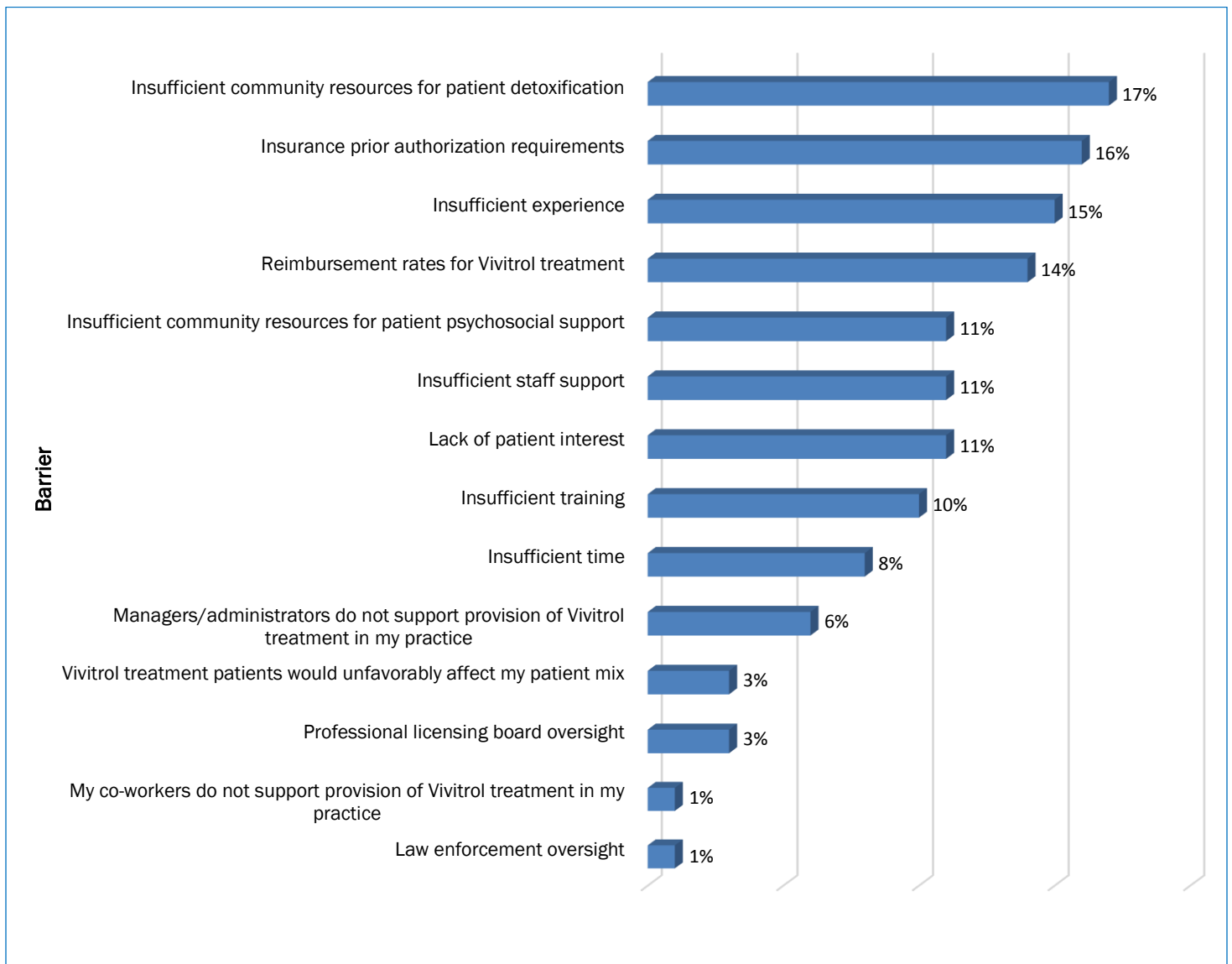
extends to additional members of the physicians practice, as only 5% of prescribers reported that a colleague had the certification ($n=5/101$).

Similar to buprenorphine, there was strong support for the efficacy of probuphine amongst respondents. Physicians indicated agreement that probuphine treatment should be supplemented by participation in peer support groups (33%, $n=33/100$); should be supplemented with mental health counseling (32%, $n=32/99$); treatment efficacy is improved by adding mental health counseling (31%, $n=31/99$); and treatment works well in patients with co-occurring mental health disorders (23%, $n=23/99$).

Vivitrol (Naltrexone for Extended-Release Injectable Suspension)

There was little evidence from physician responses about the pervasiveness of using Vivitrol for treating opioid use. Forty-five percent respondents indicated that no one in their practice currently prescribed Vivitrol, with only 22% ($n=22/101$) indicating that they or someone else in their practice did prescribe the medication. Figure 4 illustrates factors rated as “Strong Barriers” in the use of Vivitrol in the treatment of OUD. As seen, prescribers rated insufficient community resources for patient detoxification as the strongest barrier.

Figure 4. Prescriber-Rated Barriers to the use of Vivitrol for Opioid Use Disorder (n=97)



Similar to findings for other MAT modalities, there was strong agreement amongst respondents on the efficacy of Vivitrol. Prescribers indicated agreement that Vivitrol treatment efficacy is improved by adding mental health counseling (52%, $n=49/95$); treatment should be supplemented by participation in peer support groups (51%, $n=48/95$); treatment should be supplemented with mental health counseling (49%, $n=47/95$); and treatment works well in patients with co-occurring mental health disorders (37%, $n=36/96$). Prescribers also cited that they were less likely to prescribe Vivitrol if a patient was pregnant (74%, $n=48/65$), had low treatment motivation (65%, $n=42/65$), or if a patient suffers from chronic pain (62%, $n=41/66$).

Methadone

There is also limited evidence in the use of methadone in treating opioid use. Among physician respondents, 48% ($n=46/96$) reported that they “Sometimes” refer patients for methadone and 29% ($n=28/96$) “Never” refer patients for the medication. There was strong agreement amongst respondents, however, on the efficacy of methadone. Prescribers indicated agreement that methadone should be supplemented by participation in peer support groups (68%, $n=64/94$); should be supplemented with mental health counseling (67%, $n=61/93$); treatment efficacy is improved by adding mental health counseling (66%, $n=61/93$); and treatment works well in patients with co-occurring mental health disorders (57%, $n=54/94$). Prescribers also cited that they were less likely to prescribe methadone if a patient had low treatment motivation (64%, $n=45/70$), if the patient was relatively young (54%, $n=37/69$), or if a patient had previously diverted buprenorphine or methadone (63%, $n=45/71$).

Naloxone

Compared to other medications, there was less support overall for the use of naloxone treatment for OUD. Prescribers indicated that they never or rarely prescribe naloxone to patients at risk for OUD (53%, $n=37/70$). However, prescribers did report that they often (33%, $n=26/78$) or always (32%, $n=25/78$) discuss naloxone with patients who are at risk for OUD.

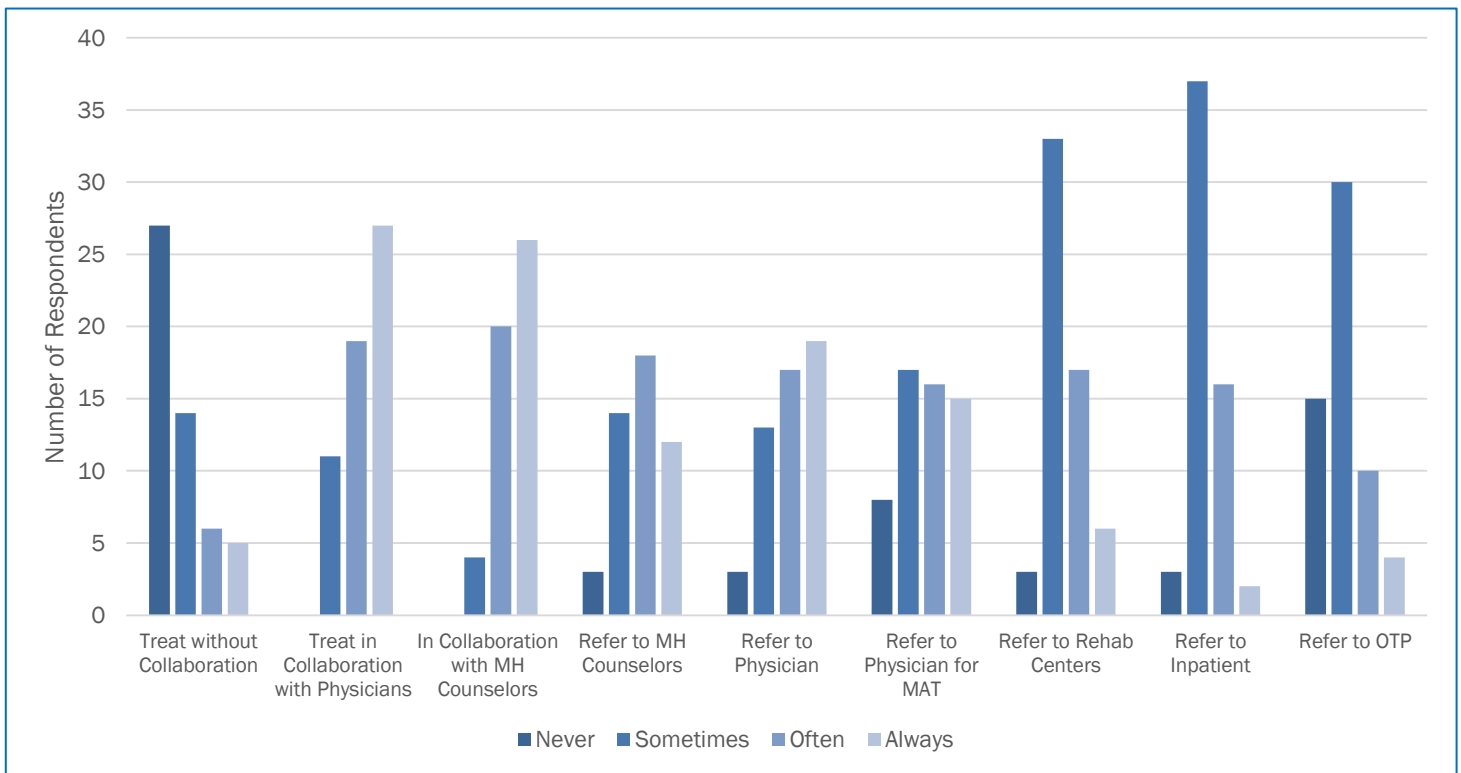
Non-prescriber Survey

Eighty-five non-prescriber behavioral health providers responded to the survey. About one third (29%, $n=25$) of respondents identified their profession as licensed professional counselor/clinical counselor, followed by licensed clinical social workers (22%, $n=19$). Fifty-one responders (60%) worked at either an outpatient mental health clinic or a community health center/public health clinic. The majority (68%, $n=58$) of providers surveyed reported that they screen all clients for SUDs; however, the proportion of patients seen specifically for OUD was low for many. Less than half of respondents (44%, $n=37$) reported that they treat OUD or manage OUD treatment for 1-25% of their clients; all other survey respondents indicated that they do not treat OUD or manage OUD treatment.

For non-prescribers who provide OUD treatment, current practices include a broad array of interventions (Figure 5). The majority of these providers never treat clients with OUD without collaboration (45%, $n=27/60$) and often or always treat in collaboration with other physicians (69%, $n=46/67$) or with other mental health counselors (64%, $n=46/72$). Referrals to rehabilitation centers, inpatient treatment facilities, or OTPs were low. According to these data, non-prescribers provide services as their scopes of

practice allow, although there may be other reasons for barriers to MAT provision. For example, the survey did not elicit reasons for low referrals; however, lack of referral options could impact these data.

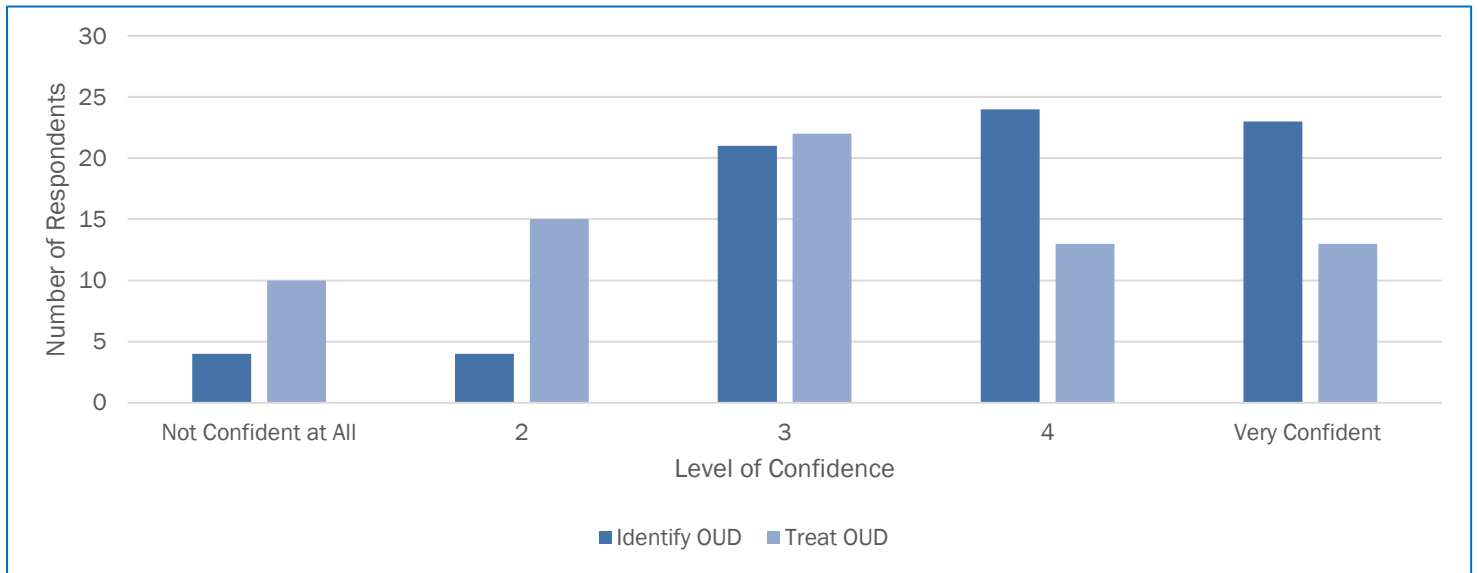
Figure 5. Common Practices for Non-Prescriber Behavioral Health Providers Treating Opioid Use Disorder



* MH – mental health; MAT – medication-assisted treatment; OTP – opioid treatment program

The non-prescriber survey also assessed knowledge and education barriers to the provision of MAT. Respondents displayed a disparity between identifying and treating OUD when asked to rate confidence of these two practices on a scale of one to five (Figure 6). Within this population, there was confidence about identifying OUD; however, fewer providers were confident in their abilities to treat this disorder. On average, over 50% of respondents received less than two hours of formal education for each MAT modality investigated. More education targeted at these non-prescribing providers could alleviate these noted barriers.

Figure 6. Confidence of Non-Prescriber Behavioral Health Providers in Identifying and Treating Opioid Use Disorders



Focus Groups

For non-prescriber practitioners, the largest barriers to implementing MAT were education and provider shortages. Specifically, non-prescribers felt ill-informed about MAT treatment options, and noted a lack of prescribers to receive client referrals for specialty services. Prescribers noted financing barriers to implementing a comprehensive MAT program—that is, all necessary clinical and organizational components to providing MAT.²⁴⁻²⁶ Financial barriers were highlighted particularly with regards to the staff time and cost of acquiring necessary continuing education to provide MAT, and the difficulties in ensuring financial sustainability across the diverse MAT billing codes and reimbursement rates. On a similar note, both provider groups expressed difficulties in establishing necessary workflows for providing MAT, particularly in the context of multidisciplinary teams. Both practitioner groups mentioned the barrier of negative perceptions associated with treating clients with OUD, the reluctance to take on this potentially challenging population, and the importance of psychosocial support as a component of MAT services.

Both the prescriber groups and non-prescriber groups noted the client-driven desire for MAT, and that in many cases clients had searched for MAT services on their own prior to them being referred by a provider. However, many focus group participants noted the lack of providers within the community who were actively providing MAT services as a barrier for clients.

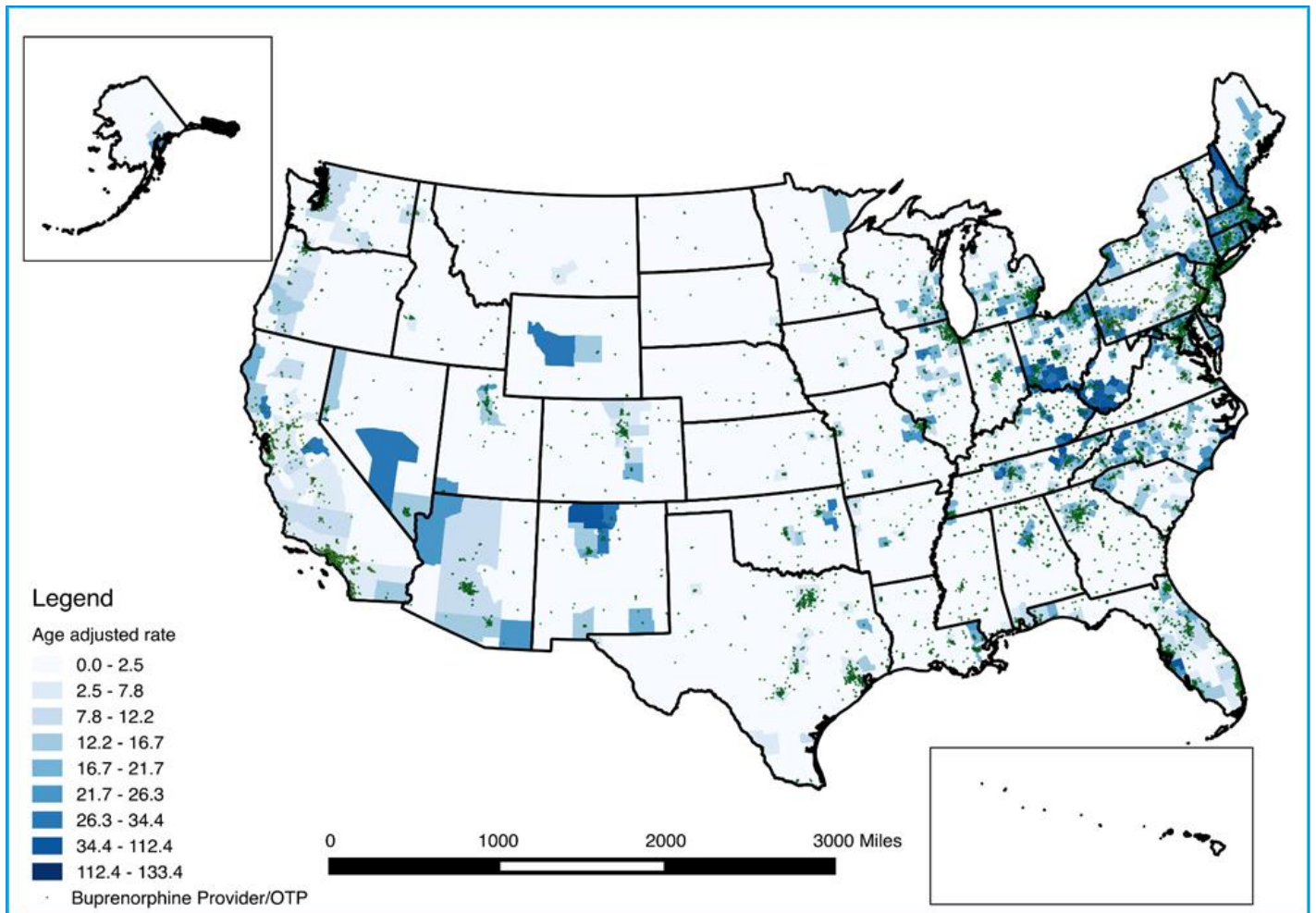
Geospatial Analysis

An examination of prescriber qualifications for MAT medications informed the elements of a geospatial analysis. The examination produced the following findings:

- Methadone: Eligibility to dispense methadone is restricted only to certified OTPs. Programs must also be registered with the DEA. These qualifications are federal in nature, and thus are found in all 50 states and the District of Columbia.²⁷
- Buprenorphine: Eligibility to prescribe buprenorphine is restricted to physicians, nurse practitioners, and physician assistants that have received a waiver from SAMHSA. To be eligible for a waiver, providers must meet several requirements, including: educational and licensing requirements to qualify as a physician, nurse practitioner, or physician assistant; 8-24 hours of training (depending upon practitioner type); and, a DEA number to prescribe Schedule III drugs.²⁸ While most states allow for qualifying nurse practitioners and physician assistants to prescribe buprenorphine, some variation does exist regarding prescribing, administering, and dispensing of this medication at the state level for these disciplines.²⁹
- Naltrexone: Any practitioner that is eligible to prescribe medications can prescribe and administer naltrexone for the treatment of opioid use disorder.³⁰

Geospatial analysis was performed to investigate the availability of methadone and buprenorphine, in comparison to need as determined by opioid overdose-related mortality rates. Naltrexone was not included in this analysis as no data source exists that lists the number or location of providers who are eligible to prescribe naltrexone. With each county assessed independently, analyses revealed an inverse relation between buprenorphine providers and opioid related overdoses. Fewer buprenorphine providers was associated with increased opioid related overdoses. There was a negative relation between buprenorphine providers and 2015 opioid related overdose mortality at the county level ($r = -0.298, p < 0.001$). Figure 7 provides a snapshot of this correlation. Certain areas of the country, such as the Southwest and Appalachia regions, have higher rates of overdose deaths involving opioids as well as lower numbers of methadone and buprenorphine providers. This demonstrates that there are fewer than needed prescribers to treat this public health emergency. Geographic analyses such as this can help local-, regional-, and state-level stakeholders target their interventions appropriately.³¹

Figure 7. Opioid Overdose Death Rates in the United States (2015)



CONCLUSIONS AND POLICY CONSIDERATIONS

As the use of opioids and opioid-related deaths in the U.S. continue to rise, innovative evidence-based specialty treatments are needed to address the epidemic. MAT is a specialized medication management treatment for OUD that combines the use of FDA approved medications, psychosocial therapy, patient engagement, and recovery support systems. Decades of research studies have supported its efficacy as it produces expected results during trials, as well as its effectiveness by proving it has a highly beneficial effect on patients as a treatment for OUD. Studies have also shown that these medications are cost effective and viable, and that the use of medications paired with psychosocial therapies results in cost savings for the entire healthcare system.

Despite all the research that has created a reliable evidence base for MAT as arguably the best treatment option for OUD, there is still a disparity in the prescribing of MAT medications and access to MAT programs. MAT is an underutilized intervention to treat OUD.^{32,33,34} The results of this multi-method study with non-prescribing and prescribing eligible participants support the CIHS-identified barriers to MAT implementation including workforce challenges and operational barriers to adoption.

Identified Barriers

Results from this study underscore some of the serious challenges related to the provision and treatment of OUD with MAT. The barriers to MAT implementation and utilization identified in this study included inadequate workforce training and education, lack of MAT providers, disparities in MAT program access, regulatory barriers, financial and operations barriers, as well as negative perceptions associated with OUD treatment.

Beyond the practice setting, prescribers also consistently highlighted how patient characteristics, including low motivation and a prior history of diversion, also negatively impacted the provider's willingness to treat a patient with MAT. Most of the non-prescriber study participants were licensed professional counselors, and clinical social workers that worked at outpatient mental health or community based behavioral health clinic. Almost half have treated or managed OUD treatment for patients. Barriers to implementing MAT as a treatment for OUD for these participants included a lack of provider knowledge and education about MAT that ultimately leads to lower provider confidence in treating OUD using MAT even though most did not lack confidence in identifying OUD.

A shortage of knowledgeable providers was also seen as a barrier to MAT implementation. Even though a client-driven desire for MAT treatment was identified, often clients searched for MAT services first without success before being referred by a provider. Providers also acknowledge a shortage of community based MAT providers, often leaving few choices for referrals for those seeking MAT treatment. Prescribing providers also noted a lack of client referrals for their specialty services.

A large body of research emphasizes that medications used in MAT are effective for addressing the chronic needs of individuals with OUD. However, there is still a large gap between those who need evidence-based treatment such as MAT, and those who receive it. The geospatial analysis identified disparities in the opioid-related mortality and the lack of availability of MAT medications in certain areas of the country, specifically

the Southwest and Appalachia regions which has the highest opioid-related mortalities and the lowest access to MAT medications for those populations.

Even among those who have access to MAT, it is often difficult to access FDA-approved addiction medication. All states must pay for all three FDA-approved addiction medications, but 19 states chose not to expand Medicaid programs leaving those who are uninsured to pay for MAT, or seek help from federally subsidized drug treatment programs and most do not provide medications.³⁵

The geospatial analysis also examined the prescriber's qualifications for MAT medications identified state, and federal requirements and regulations that can restrict certain providers from dispensing methadone and prescribing buprenorphine. For example, only certified OTPs registered with the DEA can dispense methadone and only physicians, nurse practitioners, and physician assistants with waivers from SAMHSA can prescribe buprenorphine.

Prescribers indicated financial barriers to implementing a comprehensive MAT program. The financial costs of all the required clinical, organizational, staff training and recertification costs can be a barrier to starting a program as well as having a viable, sustainable program. MAT programs are also subject to diverse and specific billing codes, and low reimbursement rates that may contribute to a shortage of MAT programs. Study participants also identified a lack of established workflows for providing MAT including the lack of multidisciplinary teams and referral systems for care coordination.

Attitudes or behaviors by health care providers have the potential to lead to a lack of access to care, underutilization, social marginalization, and can undermine the relationship between the patient and provider.³⁶ There remains a negative perception around behavioral health issues including addiction that may prevent the adoption of MAT programs. The reluctance to treat perceived challenging populations of patients with OUD are also informed by beliefs that prevent providers from adopting MAT at their health facilities, reducing patient access to necessary treatment.

When MAT is provided, it is important for practitioners to offer treatment that is catered to the unique needs of individuals with an addiction. For example, a study reports that patients felt more like a routine medical patient than an addiction patient when treated in a primary care buprenorphine clinic.³⁷ In general, developing motivation among patients once in treatment and helping patients connect with clinicians with

whom they can develop a strong therapeutic alliance (irrespective of psychotherapy modality or medication) are the most important predictors of success.

Policy Implications

To improve both the adoption, utilization, and access to MAT as a treatment model, the following should be considered by state-level agencies, payers, regional health systems, health professional educators, and providers:

1. Encourage all national higher education accrediting agencies and state certification/licensing bodies to adopt standardized educational and training guidelines on the topic of addiction. Prescribers reported that most of their knowledge came from continuing medical education. Additional resources and time given to educating students at the undergraduate, medical school, and residency rotations towards addiction medicine or MAT could increase the level of waivers and certifications among physicians, as well as reduce negative perceptions associated with treating OUD through MAT. Educational standards should ensure:
 - Baseline understanding of addiction as a chronic disease, including biological and social causes, prevalence, and manifestation;
 - Knowledge of the intervention continuum needed to address current and future drug epidemics: prevention, treatment, and recovery support;
 - Baseline understanding of the most appropriate medication/psychosocial intervention combinations for individual patients.
2. Create mechanisms by which MAT services can be accessed despite geographic barriers. Such mechanisms may include: provider reimbursement for MAT as part of telemedicine, reduction in utilization management techniques that restrict the timeliness and quantity of medications used to treat addiction, and increased support for mobile treatment services in rural populations. The DEA should establish regulations on a special telemedicine registration process under the Ryan Haight Online Pharmacy Consumer Protection Act. These regulations will help improve access to MAT via telemedicine for individuals suffering from SUDs in rural areas.
3. From a workforce perspective, there are also opportunities to examine further the relationship between physicians, nurse practitioners, and physician assistants who are able to prescribe MAT. There is some evidence that prescribers with waivers or certifications are more likely to work with NP and PA who also prescribe MAT.

4. Develop technical assistance and guidelines to support providers in navigating the clinical, financial, and operational considerations necessary for adopting and implementing MAT. This should be done in coordination with current SAMHSA-funded work in this space. The financing of MAT is consistently reported as a problem for the provision of care. Prior authorization and concerns over the patient mix of a practice are common barriers to care. Considering the role that government payers have in the provision of MAT, further streamlining of the financial mechanisms for the treatment should be considered.
5. Policymakers ensuring meaningful private and public insurance coverage for addiction medications, and access to all three FDA-approved medications for opioid addiction – methadone, buprenorphine/naloxone, and injectable naltrexone.³⁸
6. Enforce public and private insurance consumer protective requirements: Federal and state regulators, should concentrate on efforts to increase the availability of MAT options as part of effectively overseeing implementation of the federal parity law and enforcing other consumer protection laws.³⁹
7. Incentivize OTPs to develop capacity to dispense all three FDA-approved medications used within MAT to treat OUD. OTPs are the only facilities in which all three medications can potentially be made available, constituting an ideal and best practice.
8. Effective integration of prevention, treatment, and recovery services across health care systems can improve access to and quality of treatment.⁴⁰ Models that allow individuals to receive comprehensive mental health and SUD services (e.g., Certified Community Behavioral Health Clinics) will increase access to care and improve outcomes.

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REFERENCES

1. Rudd RA, Seth P, David F, Scholl L. "Increases in Drug and Opioid-Involved Overdose Deaths – United States, 2010–2015." Centers for Disease Control and Prevention, Morbidity and Mortality Weekly Report, (2016), <https://www.cdc.gov/mmwr/volumes/65/wr/mm655051e1.htm#suggestedcitation>.
2. "Medication and Counseling Treatment." Substance Abuse and Mental Health Services Administration, (2015), <http://www.samhsa.gov/medication-assisted-treatment/treatment>.
3. Alderks, C.E. "Trends in the Use of Methadone, Buprenorphine, and Extended-release Naltrexone at Substance Abuse Treatment Facilities: 2003- 2015 (Update). The CBHSQ Report." Substance Abuse and Mental Health Services Administration, (2017), https://www.samhsa.gov/data/sites/default/files/report_3192/ShortReport-3192.pdf
4. "The ASAM National Practice Guideline for the Use of Medications in the Treatment of Addiction Involving Opioid Use." American Society of Addiction Medicine, (2015), <https://www.asam.org/docs/default-source/practice-support/guidelines-and-consensus-docs/asam-national-practice-guideline-supplement.pdf>
5. Mattick RP, Breen C, Kimber J, Davoli M. "Methadone maintenance therapy versus no opioid replacement therapy for opioid dependence." *Cochrane Database of Systematic Reviews*, Issue 3, Art. No. CD002209, (2009).
6. Cornish, J. W., Metzger, D., Woody, G. E., Wilson, D., McLellan, A. T., Vandergrift, B., & O'Brien, C. P. "Naltrexone pharmacotherapy for opioid dependent federal probationers." *Journal of substance abuse treatment* 14.6 (1997): 529-534.
7. Dugosh, K, Abraham, A, Seymour, B, McLoyd, K, Chalk, M, and Festinger, D. "A Systematic Review on the Use of Psychosocial Interventions in Conjunction With Medications for the Treatment of Opioid Addiction." *Journal of Addiction Medicine* 10.2 (2016): 91–101.
8. "Research & Analysis Medication-Assisted Treatment Improves Outcomes for Patients with Opioid Use Disorder." The Pew Charitable Trusts, (2016), <http://www.pewtrusts.org/en/research-and-analysis/fact-sheets/2016/11/medication-assisted-treatment-improves-outcomes-for-patients-with-opioid-use-disorder>
9. Mohlman, MK, Tanzman, B, Finison, K, Pinette, M, Jones, C. "Impact of Medication-Assisted Treatment for Opioid Addiction on Medicaid Expenditures and Health Services Utilization Rates in Vermont." *Journal of Substance Abuse Treatment* 67 (2016): 9-14.
10. "Expanding the Use of Medications to Treat Individuals with Substance Use Disorders in Safety-Net Settings." Center for Integrated Health Solutions, The National Council for Behavioral Health, (2014), https://www.integration.samhsa.gov/clinical-practice/mat/FINAL_MAT_white_paper.pdf
11. Heinrich, CJ, Hill, CJ. "Role of State Policies in the Adoption of Naltrexone for Substance Abuse Treatment." *Health Services Research* 43.3 (2008): 951–970.
12. Ibid.
13. Chalk, M., Dilonardo, J., Rinaldo, S. G., & Oehlmann, P. "Integrating appropriate services for substance use conditions in health care settings: An issue brief on lessons learned and challenges ahead." Treatment Research Institute, (2010), <https://niatx.net/ari/UploadedFiles/pResourceID770.pdf>.
14. Knudsen HK, Roman PM, Oser OB. "Facilitating factors and barriers to the use of medications in publicly funded addiction treatment organizations." *Journal of Addictions Medicine* 4.2 (2010): 99-107.
15. "Federal Guidelines for Opioid Treatment Programs." Substance Abuse and Mental Health Services Administration, (2015), <https://store.samhsa.gov/shin/content/PEP15-FEDGUIDEOTP/PEP15-FEDGUIDEOTP.pdf>
16. "Expanding the Use of Medications to Treat Individuals with Substance Use Disorders in Safety-Net Settings." Center for Integrated Health Solutions, The National Council for Behavioral Health, (2014), https://www.integration.samhsa.gov/clinical-practice/mat/FINAL_MAT_white_paper.pdf
17. Ibid.

18. Cunningham, CO, Kunins, HV, Roose, RJ, Elam, RT, Sohler, NL. "Barriers to Obtaining Waivers to Prescribe Buprenorphine for Opioid Addiction Treatment Among HIV Physicians." *Journal of General Internal Medicine* 22.9 (2007): 1325-1329.
19. Hutchinson, E, Catlin, M, Andrilla, CHA, Baldwin, L, Rosenblatt, RA. "Barriers to primary care physicians prescribing buprenorphine." *The Annals of Family Medicine* 12.2 (2014): 128-133.
20. Ibid.
21. "Addiction Medicine: Closing the gap between science and practice." The National Center on Addiction and Substance Abuse at Columbia University, (2012), <https://www.centeronaddiction.org/addiction-research/reports/addiction-medicine-closing-gap-between-science-and-practice>
22. Knudsen HK, Roman PM, Oser OB. "Facilitating factors and barriers to the use of medications in publicly funded addiction treatment organizations." *Journal of Addiction Medicine* 4.2 (2010): 99-107.
23. Knudsen, HK, Abraham, AJ, Oser, CB. "Barriers to the implementation of medication-assisted treatment for substance use disorders: The importance of funding policies and medical infrastructure." *Evaluation and Program Planning* 34.4 (2011): 375-381.
24. "Buprenorphine Treatment Practitioner Locator." Substance Abuse and Mental Health Services Administration, (nd.), <https://www.samhsa.gov/medication-assisted-treatment/physician-program-data/treatment-physician-locator>
25. "Opioid Treatment Program Directory." Substance Abuse and Mental Health Services Administration, (nd.), <http://dpt2.samhsa.gov/treatment/directory.aspx>
26. "WONDER Databases." Centers for Disease Control and Prevention, (2017), <https://wonder.cdc.gov/>
27. "Methadone." Substance Abuse and Mental Health Services Administration, (2015), <https://www.samhsa.gov/medication-assisted-treatment/treatment/methadone>
28. "Qualify for a Physician Waiver." Substance Abuse and Mental Health Services Administration, (2016), <https://www.samhsa.gov/medication-assisted-treatment/buprenorphine-waiver-management/qualify-for-physician-waiver>
29. "Mid-Level Practitioners Authorization by State." Drug Enforcement Administration, (nd.), https://www.deadiversion.usdoj.gov/drugreg/practioners/mlp_by_state.pdf
30. "Naltrexone." Substance Abuse and Mental Health Services Administration, (nd.), <https://www.samhsa.gov/medication-assisted-treatment/treatment/naltrexone>
31. Mazumdar, Soumya & Mcrae, Ian & Islam, M. Mofizul. "How Can Geographical Information Systems and Spatial Analysis Inform a Response to Prescription Opioid Misuse? A Discussion in the Context of Existing Literature." *Current Drug Abuse Reviews* 8.2 (2015): 104-110.
32. Oliva EM, Maisel NC, Gordon AJ, Harris AHS. "Barriers to use of pharmacotherapy for addiction disorders and how to overcome them." *Current Psychiatry Reports* 13 (2011): 374.
33. "Confronting an epidemic: the case for eliminating barriers to medication-assisted treatment of heroin and opioid addiction." Legal Action Center, (2015), <https://lac.org/wp-content/uploads/2014/07/LAC-The-Case-for-Eliminating-Barriers-to-Medication-Assisted-Treatment.pdf>
34. Vestal C. "In fighting an opioid epidemic, medication-assisted treatment is effective but underused." *Health Affairs* 36.6 (2017): 1052-1057.
35. Vestal, C. "In some states, Medicaid rules make it more difficult to treat addiction." PBS.org, (2016), <https://www.pbs.org/newshour/health/medicaid-treating-addiction>
36. Solbakken, OA, Abbass, A. "Implementation of an intensive short-term dynamic treatment program for patients with treatment-resistant disorders in residential care." *BMC Psychiatry* 14.12 (2014): 1-11.
37. Fareed A, Vayalapalli, S, Casarella, J, Drexler, K. "Treatment outcome for flexible dosing buprenorphine maintenance treatment." *American Journal of Drug and Alcohol Abuse* 38.2 (2012): 155-160.

38. “Confronting an epidemic: the case for eliminating barriers to medication-assisted treatment of heroin and opioid addiction.” Legal Action Center, (2015), <https://lac.org/wp-content/uploads/2014/07/LAC-The-Case-for-Eliminating-Barriers-to-Medication-Assisted-Treatment.pdf>
39. “The Mental Health Parity and Addiction Equity Act (MHPAEA).” Centers for Medicare & Medicaid Services (CMS), (nd.), https://www.cms.gov/ccio/programs-and-initiatives/other-insurance-protections/mhpaea_factsheet.html
40. “Facing Addiction in America: The Surgeon General’s Report on Alcohol, Drugs, and Health.” Office of the Surgeon General, (2016), <https://addiction.surgeongeneral.gov/>

