

Improving Access to Evidence-Based Medical Treatment for Opioid Use Disorder: Strategies to Address Key Barriers within the Treatment System

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NOTE FROM AUTHORS: The World Health Organization declared COVID-19 a global pandemic on March 11, 2020, while this manuscript was undergoing peer review and copyediting. Many people with opioid use disorder are at risk of devastating impacts from this new crisis: people with substance use disorders often have medical comorbidities that can put them at high risk of poor outcomes with respiratory infections, and those with multiple structural vulnerabilities such as poverty and housing insecurity may be unable to take steps to protect themselves from infection. As access to nonprescribed drugs is reduced, more people who use nonprescribed opioids will seek treatment. At the same time, substance use treatment capacity is shifting rapidly as providers reduce in-person visits and are recruited to the care of COVID-19 patients.

The need to address barriers to evidence-based treatment is more urgent now than ever. Recent regulatory changes have taken steps to facilitate care for patients with opioid use disorder, demonstrating some flexibility during this moment of unprecedented crisis. But more significant, long-term action is necessary to address the treatment system's historic deficiencies. We hope the strategies outlined in this paper are a useful guide to transforming the current treatment system into the system that people with opioid use disorder need – both in the midst of the COVID-19 crisis and in its wake, hopefully soon to come.

ABSTRACT | *Even though evidence-based treatment for opioid use disorders (OUD) is effective, almost four in five Americans with OUD do not receive any form of treatment. The gap in access to evidence-based care, including treatment with medications for OUD, stems in part from barriers to change within the health care system. This paper includes nine key barriers that prevent access to evidence-based care, including stigma; inadequate clinical training; a dearth of addiction specialists; lack of integration of MOUD provision in practice; regulatory, statutory, and data sharing restrictions; and financial barriers. Action from a number of actors is urgently needed to address this crisis.*

Introduction

The opioid epidemic has had a devastating impact on health in the United States, contributing to declining life expectancy for three consecutive years after 2014 [1]. The most recent national survey estimates that at least 2.35 million people in the United States have opioid use disorders (OUD) [2]. People with OUD may use prescription opioids such as hydromorphone or codeine, illicit opioids such as heroin and fentanyl, or a combination of these. Meeting the clinical criteria for an OUD can result in numerous adverse health consequences. In addition to the risk of early death from overdose, individuals with OUD are at higher risk of trauma, suicide, and contracting infectious diseases than the general population [3,4].

These adverse health outcomes can be reduced substantially, because effective treatment for OUD exists. Comprehensive treatment for OUD includes medications and opportunities to receive additional services such as behavioral counseling, case management, and peer support. Treatment programs can tailor their services to meet the needs of the diverse patient population that has OUD. An emphasis on treatment with medications for opioid use disorder (MOUD), specifically the FDA-approved medications methadone, buprenorphine, and extended-release naltrexone, is warranted because these medications have been shown to be highly effective in saving lives [5]. Methadone and buprenorphine are opioid agonists that reduce symptoms of opioid craving and withdrawal. Naltrexone is an opioid antagonist that blocks the effects of opioid agonists. The use of any of these medications increases the duration of patient engagement with treatment and reduces the use of illicit opioids [6]. Treatment with methadone and buprenorphine has additional, well-established benefits. Methadone and buprenorphine substantially decrease the risk of overdose, opioid-related and all-cause mortality, and the spread of infectious diseases such as human immunodeficiency virus (HIV) and hepatitis C virus (HCV)[6,7]. In a large randomized trial, the use of extended-release injectable naltrexone in conjunction with psychosocial therapy resulted in significantly more weeks of abstinence than placebo [8].

However, access to treatment in the United States is woefully inadequate. In 2017, over 70 percent of people who needed treatment for OUD did not receive it [2]. Multiple studies illustrate that access to MOUD is even more restricted. Among existing substance use disorders (SUD) treatment programs, only 36 percent

offer at least one medication to treat OUD, and only 6 percent offer access to all three medications [9]. Even opioid treatment programs—explicitly dedicated to the treatment of OUD—do not have access to all forms of medication treatment. One recent survey of opioid treatment programs found that only 32 percent reported using all three medications [10]. Rates of MOUD utilization have increased in the past few years, demonstrating a positive trend [11], but the continued toll of the opioid epidemic highlights the persistence of a concerning treatment gap.

The aim of this paper is to identify strategies to increase access to effective medical treatment for OUD, with a focus on addressing barriers limiting access to MOUD in health care settings that patients with OUD are likely to encounter. These include traditional health care settings, such as primary care offices, emergency departments, and specialty SUD treatment settings. Our recommendations also address settings where vulnerable populations are likely to need access to treatment, such as jails and prisons. Obstacles and barriers to treatment exist for other special populations such as adolescents, pregnant women, indigenous peoples, elderly people, and people with comorbid HIV. The rising toll of the opioid crisis makes this an opportune time to catalyze and expand MOUD treatment within the health care system.

In March 2019, the National Academies of Sciences, Engineering, and Medicine published *Medications for Opioid Use Disorder Save Lives*, a pivotal report on the importance of MOUD [5]. The report highlighted barriers to greater use of medications, including stigma, inadequate education, and restrictive regulations. We have built on this important foundation by identifying 25 specific strategies (summarized in Table 1) that can address the barriers that limit access to effective medical treatment. We call on federal and state actors, payers, and educational institutions to align their efforts to transform the treatment system to respond to this national crisis.

TABLE 1 | Barriers to Change Within the Treatment System and Strategies to Address Them

Barrier	Strategy
Provider Barriers	
1. Many clinicians, pharmacists, and support staff have stigmatizing attitudes toward patients with opioid use disorder and toward medications for opioid use disorder.	1. The Centers for Disease Control and Prevention should partner with professional associations and others to develop and implement an evidence-based stigma reduction campaign targeting clinicians, pharmacists, and support staff.
2. Many clinicians have insufficient training to provide evidence-based care for patients with opioid use disorder.	2. Accreditation agencies should require that clinicians receive training in screening, diagnosis, and treatment of opioid addiction. These requirements should cover medical students, residents, physicians, and advanced practice clinicians (e.g., nurse practitioners and physician assistants). Recommended credentialing agencies include the Liaison Committee on Medical Education, Accreditation Council for Graduate Medical Education, Commission on Collegiate Nursing Education, Accreditation Commission for Education in Nursing, and Accreditation Review Commission on Education for the Physician Assistant.
3. There were insufficient numbers of addiction treatment specialists at the time of this manuscript's publication in 2020.	3A. Congress should increase opportunities to train addiction psychiatrists and addiction medicine specialists by appropriating funding for the Mental and Substance Use Disorders Workforce Training Demonstration Program, which was authorized under the 21st Century Cures Act.
	3B. Congress should increase funding for loan repayment programs for addiction specialists who treat substance use disorders in underserved areas.
Institutional Barriers	
4. The provision of medications for opioid use disorder is often not standardized within medical and psychiatric care.	4A. The National Institutes of Health and the Agency for Healthcare Research and Quality should support standards and metrics for primary care, community health centers, certified community behavioral health clinics, emergency departments, detention facilities, and mental health programs to screen for and treat opioid use disorder.
	4B. Agencies or organizations responsible for the accreditation and licensing of substance use treatment facilities, including the Joint Commission and the Commission on Accreditation of Rehabilitation Facilities, should ensure that providing access to effective medications is a condition of accreditation and licensure for treatment of opioid use disorder.

	<p>4C. The Substance Abuse and Mental Health Services Administration, National Institute on Drug Abuse, and the Centers for Medicare & Medicaid Services should evaluate programs receiving federal funding to support service provision. These agencies should phase out funding for addiction treatment programs that do not offer evidence-based care, including medications to treat opioid use disorder.</p>
<p>5. There is inadequate attention to developing systems of care that are centered around patient needs.</p>	<p>4D. States should organize and fund evidence-based technical assistance for clinicians prescribing buprenorphine and naltrexone, linking them to specialists and other resources.</p>
	<p>5A. States should implement and fund models that address patient needs at varying levels of complexity.</p>
	<p>5B. The Substance Abuse and Mental Health Services Administration, National Institute on Drug Abuse, and the Centers for Medicare & Medicaid Services should implement and evaluate programs that expedite access to medications for opioid use disorder.</p>
	<p>5C. The Substance Abuse and Mental Health Services Administration, National Institute on Drug Abuse, and the Centers for Medicare & Medicaid Services should fund and evaluate innovative models of treatment delivery that address social determinants of health and racial and geographic disparities in access to care.</p>
<p>Regulatory Barriers</p>	
<p>6. Laws and regulations currently limit access to treatment for addiction.</p>	<p>6A. Once there is an assurance of appropriate training for all prescribing clinicians, Congress should repeal the requirement to obtain a waiver to prescribe buprenorphine.</p>
	<p>6B. States should consider expanding the training and scope of practice for nurse practitioners in order to facilitate greater access to medications for opioid use disorder.</p>
	<p>6C. The Drug Enforcement Administration and Substance Abuse and Mental Health Services Administration should encourage innovation on methadone delivery.</p>
	<p>6D. Congress should preempt state laws that add unnecessary additional barriers to the provision of medications for opioid use disorder.</p>
	<p>6E. Public and private payers should eliminate utilization policies that limit access to quality treatment.</p>

<p>7. Restrictions on data sharing currently impede quality care.</p>	<p>7A. To improve care coordination among clinicians, the Substance Abuse and Mental Health Services Administration should revise restrictions on data sharing specific to substance use treatment programs.</p> <p>7B. The National Institute on Drug Abuse should fund research exploring the impact of prescription drug monitoring programs and other data sharing tools on overdose mortality and other opioid-related health outcomes.</p>
<p>Financial Barriers</p>	
<p>8. Financial barriers still prohibit access to care for many patients.</p>	<p>8A. All states should expand Medicaid to childless adults to gain the benefits of health coverage.</p> <p>8B. Congress should permit Medicaid funds to be used for medications for opioid use disorder for incarcerated individuals.</p> <p>8C. States should ensure that incarcerated individuals have active health coverage immediately upon release.</p> <p>8D. Public and private payers should provide coverage that facilitates access to all three FDA-approved medications for opioid use disorder.</p> <p>8E. States should enforce mental health parity laws.</p>
<p>Other Barriers</p>	
<p>9. There is inadequate attention to the reasons why many people who use drugs are not engaged in treatment.</p>	<p>9A. Treatment systems should consult with people who use drugs to improve services targeted at them.</p> <p>9B. The National Institute on Drug Abuse should fund research on strategies to increase patient engagement and motivation to receive treatment.</p>

Provider Barriers and Strategies to Address Them

***Barrier:** Many clinicians, pharmacists, and support staff have stigmatizing attitudes toward patients with OUD and toward MOUD.*

Stigma

Stigma against people with OUD is an impediment to improving the treatment system. Stigma can be defined as stereotyping, prejudice, discrimination, exclusion, avoidance, rejection, and loss of status of individuals. Stigma against people with OUD permeates social and cultural attitudes and is associated with greater support for punitive policies, denial of services, and in some cases, reluctance to engage in treatment [12,13,14].

Stigma against people with OUD and stigma against MOUD is prevalent within the health care system, and fuels many of the barriers outlined in this paper. It has played an important role in limiting education on SUD in clinician training, the formation of silos that segregate substance use treatment from other forms of medical care, limiting access to MOUD, and discouraging patients from accessing care. Removing stigma is a critical factor in the development of high-quality treatment services needed for reducing the burden of OUD.

Stigma Toward Patients with OUD

Stigma against patients with OUD is prevalent among health care providers in a variety of settings, including primary care offices, hospitals, emergency departments, counseling centers, and detention facilities. It can be expressed as the belief that OUD represents willful misconduct or choice, that patients with OUD cannot be treated, or that patients with OUD have a disruptive influence on a practice. A systematic review of attitudes toward patients with SUD among physicians, nurses, psychologists, social workers, and other health professionals found evidence that providers see patients with SUD as violent, manipulative, and unmotivated [15]. In a study of general internists, one-third believed SUD are a choice and therefore different from other chronic diseases [16]. Providers with negative attitudes toward patients with OUD may be less engaged and empathetic with these patients [15]. Notably, many clinicians cite negative attitudes against patients with SUD as a major reason for not provid-

ing care to this patient population [16,17]. Negative attitudes and discrimination among providers undermine patients' sense of empowerment and can worsen health outcomes by decreasing engagement in treatment [15,18,19].

Stigma Against MOUD

Methadone, buprenorphine, and extended-release naltrexone are safe and effective FDA-approved treatments for OUD. People treated with opioid agonist medications are less likely to die from overdose or prematurely from any other cause [7]. They are also more likely to remain engaged with treatment, have improved social functioning, and be less likely to inject drugs and transmit infectious diseases [5].

Despite these proven benefits, there is stigma against lifesaving MOUD. This stigma is reflected in the fact that fewer than 10 percent of physicians in the United States have completed training required for prescribing buprenorphine [20]. Furthermore, abstinence-based residential programs are still a common therapeutic modality even though clinical trials show high rates of relapse without the use of MOUD. Many clinicians are hesitant to prescribe MOUD, in part because they are unaware of the efficacy of medications, are ideologically opposed to MOUD, have a rigid adherence to abstinence-based approaches, and have other concerns related to the treatment of SUD [21,22,23,24]. Clinicians who do offer MOUD can sometimes experience discrimination and prejudice from other health care professionals [25].

Negative attitudes toward MOUD among other health care staff can also limit access to treatment. Studies demonstrate that stigma among pharmacists can lead to reluctance to provide naloxone and MOUD [26,27].

Finally, there is also reluctance among patients with OUD to consider medications. Some adolescents, young adults, and families believe that medications should be measures of last resort, not first-line treatments for OUD [28,29,30].

Addressing stigma toward MOUD among health care providers may enable them to better counsel their patients across multiple settings and therefore increase patient engagement in evidence-based care.

Strategy to Address Stigma

There is not yet strong evidence pointing to strategies that effectively reduce stigma against people with OUD among health care professionals. However, emerging literature does illustrate some promising directions,

and action to address this barrier is imperative.

Targeted education early in training can abate stigmatizing attitudes, such as pessimism or uncertainty on the effectiveness of treatment, perceptions that caring for people with SUD is not rewarding, perceptions that patients who abuse substances are “difficult and unpleasant,” and beliefs that OUD treatment resides outside the domain of medical practice [31]. Highlighting the efficacy of medications, portraying SUD as treatable conditions, and illustrating sympathetic personal narratives of people who use drugs are also strategies that can reduce stigmatization by the general population against people who use drugs [31,32]. Finally, academic detailing is an interactive educational strategy that involves visits to health care providers by trained professionals who can provide tailored training and technical assistance. It has been used to train physicians to engage in evidence-based opioid prescribing and to support pharmacists starting to distribute naloxone to the public [1]. It is possible that the use of academic detailing may reduce stigma while equipping providers to offer MOUD.

A stigma reduction campaign, which could include integrating early education, mass media campaigns, and academic detailing, should be initiated. In addition to clinicians, this intervention should target other individuals who frequently encounter people with SUD, including pharmacists, first responders, and administrative staff. The Centers for Disease Control and Prevention is well positioned to lead this effort, in collaboration with professional organizations and others working to reduce stigma.

Proposed Strategy 1 | Tackling Stigma

The Centers for Disease Control and Prevention should partner with professional associations and others to develop and implement an evidence-based stigma reduction campaign targeting clinicians, pharmacists, and support staff.

Barrier: *Many clinicians have insufficient training to provide evidence-based care for patients with OUD.*

Insufficient Clinician Training

Despite the impact and pervasiveness of the opioid epidemic, most clinicians cannot confidently diagnose and treat patients with SUD. For instance, a 2016 survey of general internists found that the majority felt unprepared to screen, diagnose, refer, or discuss treatment options with patients with SUD [16]. In 2019, only 7 percent of physicians had a waiver from the Drug Enforcement Administration (DEA) to provide MOUD [20]. The inadequacy of the clinician workforce reflects major gaps in training. Currently, standard medical school and residency training are deficient in detailed training in recognizing or managing OUD, including providing MOUD. In 2008, only 12 medical schools reported a separate required SUD course and 45 schools offered an elective course [33]. These numbers have improved recently, but do not approach appropriate levels of training. Currently, the accrediting body for U.S. medical schools requires each school to include “behavioral subjects” without referring to SUD training. Curriculum topics on screening for and diagnosis of SUD, brief interventions, treatment, or referral to specialty treatment are scant. The accrediting body for medical residencies requires all programs to “provide instruction in pain management if applicable for the specialty including recognition of the signs of addiction,” but does not require training in the treatment of addiction [34]. There are also gaps in OUD training for allied team members [5].

Strategy to Address Insufficient Training

There is an urgent need to systematically increase the number of clinicians who are equipped to identify and treat OUD. Studies show that early training in evidence-based treatment provision—for example, training in prescribing buprenorphine during medical residency—is associated with greater willingness and confidence to provide OUD treatment in later practice [35,36]. This suggests that one of the most effective strategies to address the treatment gap may be to require health care provider training on the screening, diagnosis, and treatment of OUD. The increasing prevalence of OUD has meant that clinicians in a variety of settings—hospitals and primary care clinics, rural settings and urban ones, operating rooms and emergency rooms—care

for patients with OUD. This suggests strongly that education on SUD should not be specialty specific, but part of basic training for a wide variety of clinicians. Institutions can rely on a variety of existing, high-quality resources as they bolster efforts to educate trainees on OUD treatment. For example, SAMHSA funds the Providers Clinical Support System, a program led by the American Academy of Addiction Psychiatry aimed at training primary care providers on OUD treatment and prevention. The American Society of Addiction Medicine also organizes an educational program called Fundamentals of Addiction, an in-depth course aiming to empower primary care providers to treat OUD and other SUD in their practice.

Training should also include education on standardized screening. On August 13, 2019, the United States Preventive Services Task Force (USPSTF) issued a draft recommendation on preventive screening for SUD: The USPSTF recommends screening for illicit drug use in all adults age 18 years or older when services for accurate diagnosis, effective treatment, and appropriate care can be offered or referred [37]. All clinical trainees should be advised of this recommendation and trained on effective screening for OUD. Positive screens can be addressed with office-based MOUD or referral to specialty care [38]. Nonjudgmental motivational interviewing skills, strategies on motivating individuals to engage in treatment, interprofessional communication skills and tools to address other patient concerns such as employment, social stigma, and health care coverage should also be incorporated into addiction training. Also needed is training in respect, compassion, and integrity [39].

Special attention should be paid to increasing substance use treatment training for fields that are likely to treat patients with SUD. The Accreditation Council for Graduate Medical Education (ACGME) requires only 1 month of addiction treatment experience during 4 years of psychiatry training [40], which is insufficient for a field whose scope of practice explicitly includes patients with SUD.

These changes will be most effective if coupled with cultural shifts in attitudes, because training alone does not ensure translation to practice. Novel approaches to diminish these weaknesses will help inspire a generation of trainees and practicing clinicians to address the challenge.

Proposed Strategy 2 | Training Clinicians

Accreditation agencies should require that clinicians receive training in screening, diagnosis, and treatment of opioid addiction. These requirements should cover medical students, residents, physicians, and advanced practice clinicians (e.g., nurse practitioners and physician assistants). Recommended credentialing agencies include the Liaison Committee on Medical Education, Accreditation Council for Graduate Medical Education, Commission on Collegiate Nursing Education, Accreditation Commission for Education in Nursing, and Accreditation Review Commission on Education for the Physician Assistant.

Barrier: There were insufficient numbers of addiction medicine specialists at the time of this manuscript's publication in 2020.

Specialist Shortages

Providing basic training to a wide range of clinical providers is an important first step toward addressing the treatment gap, but it is not enough. The United States, with a population of 320 million people, is served by fewer than 2,000 board-certified addiction psychiatrists and 2,500 physicians certified in addiction medicine. Experts have noted that the mental health and addiction workforce is insufficient to address diverse treatment needs across the country [41]. Indeed, in a recent survey of opioid treatment programs, facilities listed the lack of behavioral health and clinical providers as major barriers to expanding access to care [20]. To support the complex needs of patients with SUD, we also need to increase the number of addiction treatment specialists.

Physicians trained in addiction medicine—with training in fields such as internal medicine and family medicine—are uniquely positioned to treat patients with OUD and complex comorbid medical conditions. As the prevalence of OUD has increased, so too have its medical consequences. People who snort opioids can develop perforations in nasal passages, and people who inject opioids can suffer from skin abscesses, heart infections, and chronic diseases such as HIV and hepatitis C [26]. Serious medical consequences of injection drug use have increased in number: in one

study, the incidence of hospital admissions for drug dependence combined with endocarditis increased 12-fold between 2010 and 2015 [42]. There is a need to increase the number of addiction medicine specialists, who are equipped to address these challenges.

Also needed are more addiction psychiatrists. Approximately 8.9 million adults with SUD also have co-occurring psychiatric disorders [43]. A 2012 report commissioned by the National Institute on Drug Abuse discovered that 43 percent of persons in treatment had a diagnosed co-occurring substance abuse and mental health disorder [44]. Addiction psychiatrists can contribute important skills to the comprehensive care of people with SUD [45]. As with SUD, major psychiatric illnesses are chronic relapsing diseases, requiring an ongoing relationship with a patient, a continuum of care, and frequent evaluation and management. A patient-centered development of OUD treatment that incorporates recovery-related, life-activity outcomes can be informed by addiction psychiatry [46]. Psychiatric expertise in detecting OUD, in motivational interviewing, and in excavating the root causes for continued use could be valuable for recruiting patients into an appropriate level of care. Psychiatrists can also serve as a resource for training others in the tracking of clinical, environmental, health-related quality-of-life and socioeconomic changes (e.g., patient characteristics, employment, criminal history).

Finally, expanding the number of advanced practice clinicians (e.g., nurse practitioners and physician assistants) represents an important opportunity to increase access to treatment. One recent study found that nurse practitioners and physician assistants accounted for 56 percent of the increase in waived providers in rural counties between 2016 and 2019 [47]. This increase had a significant impact on access to care for rural Americans: the study found that nurse practitioners and physician assistants alone accounted for a 36 percent decrease in the number of people in the United States without a waived provider in their county [47].

Strategy to Address Specialist Shortages

Incentivizing future generations of clinicians to pursue specialty training in SUD may be a compelling strategy to address the shortage. In addition to ensuring sustainable funding to support advanced training in addiction medicine and addiction psychiatry, Congress can increase funding for loan repayment programs for addiction specialists who treat SUD in underserved areas. Loan repayment programs have long been used as strategies to recruit health professionals to rural

and medically underserved areas [48], and may be especially useful considering the impact of the opioid epidemic on rural communities.

Proposed Strategy 3A | Train Specialists

Congress should increase opportunities to train addiction psychiatrists and addiction medicine specialists by appropriating funding for the Mental and Substance Use Disorders Workforce Training Demonstration Program, which was authorized under the 21st Century Cures Act.

Proposed Strategy 3B | Encourage Practice in Underserved Areas

Congress should increase funding for loan repayment programs for addiction specialists who treat SUD in underserved areas.

Institutional Barriers and Strategies to Address Them

Barrier: The provision of medications for opioid use disorder is often not standardized within medical and psychiatric care.

Treatment Standards

The medical community has been slow to adopt standards for the integration of substance use treatment into medical and psychiatric care, shaping a treatment system that misses key opportunities to engage patients at risk of the serious consequences of OUD.

Resistance to Providing MOUD in Treatment Settings

Over 70 percent of people with OUD do not get substance use treatment [2]. Of those who do get access to specialty care, a minority (under 30 percent) receive treatment with methadone or buprenorphine [49]. Among those in treatment, the numbers of people who receive evidence-based medications such as buprenorphine, methadone, and naltrexone are rising, but remain low [49,50,51].

One key challenge is the lack of evidence-based practice in existing substance use treatment facilities. The percentage of substance use treatment centers offer-

ing at least one MOUD rose from 20 percent in 2007 to 36 percent in 2016 [9]; this rise is commendable, but the persisting low prevalence of evidence-based care in specialty treatment facilities is concerning. Furthermore, as late as 2016, only 6 percent of substance use treatment facilities offered all three medications [9].

Another factor contributing to this gap is the lack of integration of substance use screening and treatment in primary care settings. In many rural U.S. counties lacking access to specialty addiction care, primary care providers are the first line of care for patients with OUD. Studies suggest that insufficient numbers of primary care providers in these settings are screening for SUD: one survey of rural Medicaid enrollees with a diagnosis of OUD found that only a minority (19 percent) received an OUD diagnosis during a visit to a primary care physician [52]. Rural counties are also less likely to have providers certified to treat OUD with medications. As of December 2017, approximately half of the counties in the United States did not have access to a buprenorphine prescriber [53]. Nearly a third of rural Americans live in a county without a buprenorphine prescriber, compared to 2.2 percent of urban Americans [53]. Further exacerbating the treatment gap, of the clinicians waived to prescribe buprenorphine, most treat far fewer patients than the waiver limit allows. For instance, among one sample of rural physicians with the 100-patient waiver, the average patient panel size was only 57 [54]. This treatment gap has harmful effects on patients, including prohibitive travel distances to access care: in one rural sample, patients traveled an average of 49 miles to reach medication prescribers, and those traveling a mean distance greater than 45 miles to prescribers were less likely to regularly receive MOUD [55].

Finally, in recent years evidence has illuminated promising strategies to reduce the risk of opioid-related mortality for populations that are at high risk of overdose, such as people presenting to emergency departments after an overdose or people with OUD in detention. However, these interventions have not been widely implemented.

Initiating buprenorphine treatment for OUD in emergency departments (EDs) increases treatment engagement [56]. In some studies, up to 70 percent of ED physicians consider themselves prepared to screen for OUD, diagnose it, and counsel patients on the use of naloxone to treat overdose [24]. However, fewer than 30 percent initiate buprenorphine for treatment, perceiving barriers to administering buprenorphine such as not wanting to be one of the few prescribers in

their department [24]. Despite the high effectiveness of treatment initiation in the ED, this practice has not been widely adopted [57].

The majority of people incarcerated in prisons and jails have experienced problems with substance use. According to the most recent national report from the Bureau of Justice Statistics, between 2007 and 2009, 58 percent of people in state prisons and 63 percent of people in state jails met criteria for a SUD [58]. Many of them have an OUD: 12-13 percent of incarcerated populations reported regular use of opioids [58], and about one-third of people who use heroin pass through correctional facilities annually [59]. Few receive opioid agonist treatment during incarceration, and nearly three-quarters relapse to heroin use within 3 months of release [60]. Institutional barriers prevent treating the incarcerated with medications, a status quo recently challenged in court [61]. Policies such as forced detoxification in prisons and jails can shape the reluctance of people released from detention to avail themselves of MOUD [60]. Following release from incarceration, many people voiced concern about medications because of a desire to rely on willpower, fear of dependency on medications, and uncertain access to buprenorphine [60].

Additional Gaps in the Continuum of Care

The engagement of patients with OUD in treatment after overdose or hospital discharge is a key strategy in preventing subsequent opioid overdose. Transitions from the administration of rescue medication to engaging individuals in treatment are a major challenge. For example, as access to naloxone is increasing, there is still much to be done to bridge patients who receive rescue medication into treatment. A study of more than 17,000 survivors of overdose in Massachusetts found only 6-17 percent received MOUD in the subsequent year [62]. A smaller study of 301 West Virginia Medicaid recipients who survived overdose demonstrated that patients were more likely to receive buprenorphine post-overdose than before the event, but only 7 percent were receiving treatment at 12 months post-overdose [63].

In addition to the scarcity of a strong continuum of care after rescue, arbitrarily short terms of medication utilization and shorter lengths of engagement in outpatient treatment are associated with higher rates of overdose and greater use of inpatient and emergency services [64]. Longer periods of treatment that extend medication use during recovery and address mental health needs contrast sharply with the usual clinical

treatment period and timeframes embedded in quality measures. The evidence is mounting that long-term therapy and MOUD are protective factors against the high risk of mortality associated with early phases of abstinence [65]. Quality measures need to incorporate current data showing the importance of long-term care in patient outcomes. Notably, long-term treatment with MOUD does not require residential or inpatient care, but is often best delivered in outpatient settings with connection to other community services.

Finally, there is also insufficient coordination of care between clinicians and inadequate access to specialists such as mental health and substance use counselors trained in evidence based treatment. Studies show that the inability to refer to behavioral health and psychosocial services are major barriers for primary care clinicians wanting to treat SUD [66,67]. We should increase efforts across the health care system to ensure that patients get the services they need. Notably, complementing MOUD with psychosocial and behavioral health services might be helpful in many cases, but the absence of behavioral health services should not be a barrier to prescribing MOUD.

Strategies to Standardize Evidence-Based Care

One strategy to address the slow implementation of high-quality care in treatment centers across the country is to establish clear quality metrics for clinical settings, including primary care settings, emergency departments, and detention facilities, where people with OUD are likely to encounter health care providers. Agencies that license or accredit substance use treatment facilities can also incorporate these metrics in their assessment of programs.

Such metrics should aim to encourage screening for OUD (and all SUD) and provision of MOUD across all health care settings where people with OUD are likely to seek care. They should promote rapid access to treatment at all points of care, including medication initiation in primary care settings and hospitals. High rates of comorbidity with mental health disorders also warrant substance use screenings when a mental health diagnosis has been made, and efforts to address treatment of comorbid psychiatric and SUD when they arise. The majority of patients with OUD have co-occurring psychiatric disorders, especially trauma-related disorders such as PTSD, depression, and anxiety disorders. Patients with OUD who do not receive treatment for these mental health conditions generally have poor treatment outcomes. Finally, patients should have access to adjunctive psychosocial treatment that may

include group therapy, individual counseling, family therapy, relapse prevention, other psychosocial treatment. Notably, while access to these services is important, the provision of MOUD should not be restricted if counseling is declined by the patient [5].

To ensure the provision of treatment based on evidence across the country, the National Institutes of Health and the Agency for Healthcare Research and Quality can support efforts to develop and deploy quality metrics across clinical programs. Technical assistance can increase the confidence of nonspecialist clinicians to offer addiction care [67], and may support clinicians across disciplines as they adopt quality metrics in their practices.

Another strategy is to stop licensing, accrediting, and funding for addiction care not based on evidence. Reducing low-value or no-value care preserves resources for care that will be more effective at saving lives and promoting recovery [68]. To facilitate the transition to higher quality care, technical assistance should be provided for key services, including offering MOUD in a variety of settings.

The development of a public health framework could improve system-level practice and treatment outcomes. For example, the Pennsylvania Department of Human Services recently initiated an example of incentivized reform [69]. It established an incentive program to improve OUD follow-up treatment among Medicaid patients after discharge by offering hospitals a financial sum in exchange for hospital participation in distinct clinical pathways, such as inpatient initiation of OUD treatment. Research on the outcomes of this initiative may soon illustrate whether this model is adaptable for other communities.

Proposed Strategy 4A | Create Quality Metrics for OUD Treatment in Health Care Settings

The National Institutes of Health and the Agency for Healthcare Research and Quality should support standards and metrics for primary care, community health centers, certified community behavioral health clinics, emergency departments, detention facilities, and mental health programs to screen for and treat OUD.

Proposed Strategy 4B | Promote Evidence-Based Care in Substance Use Treatment Facilities

Agencies or organizations responsible for the accreditation and licensing of substance use treatment facilities, including the Joint Commission and the Commission on Accreditation of Rehabilitation Facilities, should ensure that providing access to effective medications is a condition of accreditation and licensure for treatment of OUD.

Proposed Strategy 4C | Phase Out Funding for Addiction Care Not Based on Evidence

SAMHSA, NIDA, and CMS should evaluate programs receiving federal funding to support service provision. These agencies should phase out funding for addiction treatment programs that do not offer evidence-based care, including MOUD.

Proposed Strategy 4D | Offer Technical Assistance

States should organize and fund evidence-based technical assistance for clinicians prescribing buprenorphine and extended-release naltrexone, linking them to specialists and other resources.

Barrier: *There is inadequate attention to developing systems of care that are centered around patient needs.*

Inadequate Development of Systems of Care

Patients with OUD have complex needs. OUD is a chronic brain disease, and patients may be in different stages of change regarding substance use. Patients may have differing levels of disease severity, use other substances, or have comorbid medical and psychiatric conditions requiring care. Finally, when addressing barriers to effective treatment and offering solutions to increase access, the perspective of people who use drugs also illuminates another source of barriers. Patients face a range of structural and logistic challenges

when seeking and continuing care. There is an urgent need to develop flexible systems of care that are centered around patient needs.

Even as greater financial resources have been appropriated to the opioid epidemic by Congress, many clinics lack resources such as staff, clinic space, visit time, and institutional support necessary to provide quality substance use treatment. A national study of substance use treatment programs found that many programs—even those already providing evidence-based care—reported a significant need for more resources, particularly medical staff trained to prescribe MOUD [70]. There is a need to develop effective care teams that include a variety of allied team members with specialized training, including psychiatrists, behavioral health counselors, peer recovery coaches, and social workers. Allied health professionals decrease the patient management burden on prescribing clinicians through their specialized training in connecting patients in recovery with housing, home health care, and other forms of assistance [71,72]. Peer recovery programs decrease substance use, increase treatment retention, and improve mental health outcomes [73] by helping patients with system navigation, behavior change, harm reduction, and relationship building [74]. These comprehensive care services not only directly support patients, they increase clinician willingness to provide treatment [66,67,75].

Social determinants of health impact the health outcomes of people with SUD. Patients name navigating life priorities such as finding employment and housing as important barriers to seeking treatment [76]. Patients also face a number of other challenges when seeking care, such as long travel distances to treatment facilities and difficulty finding child care and transportation [76]. Furthermore, many treatment facilities do not conduct effective outreach to people who may benefit from their services. In a national survey of people who qualified for substance use treatment but did not access it in the previous year, 20 percent reported that they either did not know where to go for treatment or that they were unable to identify a program that offered treatment they desired [2]. Support services such as assistance with housing, employment, child care, and transportation are important components of an overall treatment and recovery plan. Federally funded opioid treatment programs (OTPs) are required to provide medical, counseling, vocational, educational, and other assessment and treatment services and must be available at the primary facility, unless the program

sponsor has entered into an agreement with another institution to provide these services to patients [77]. Efforts to document compliance with these requirements is needed, and future research should explore the policies, funding, and other relevant barriers that prevent OTPs from providing these services and strategies to increase their provision [10].

Finally, recent literature has shown alarming racial and geographic disparities in access to MOUD. One analysis of nationally representative data reported that white patients had over fourfold greater odds of receiving buprenorphine than black patients [78]. This reinforces findings from other studies, which demonstrated that as access to MOUD has grown it has done so in areas with high income and low diversity [79]. These findings are especially distressing as overdose mortality rates among minority populations have been rising rapidly in recent years [80]. Many factors might contribute to this important gap: stigma and racial bias among health care providers can lead to differential patient management [81], and mistreatment within the health care system can also disincentivize minority patients from seeking care. Historians have argued that racial bias has even contributed to restrictive regulation of medications [82].

In recent years, rural areas have witnessed greater increases in opioid-related deaths than nonrural areas [83]. These deaths are propelled in part by significant barriers to accessing treatment, including stigma against MOUD, severe provider shortages, and a weak health infrastructure resulting in long distances to access care [5]. According to a recent survey, more than half of rural counties still lack a buprenorphine provider, leaving almost 33 percent of rural Americans without access to buprenorphine within their county [53]. Often, accessing an OTP is even more challenging [5].

The treatment system should assess racial and geographic disparities in access to MOUD and develop strategies to address them.

Strategies to Address Patient Needs

Public health leaders should implement treatment delivery models that address patient needs in their communities at varying levels of complexity. One example of a successful treatment delivery approach is the hub-and-spoke program in Vermont. The state identified a need for a specialized clinic to induct patients onto buprenorphine, retain complex patients, receive returning patients who destabilized on MOUD, and create a network of providers for office-based maintenance. It

adopted a center of addiction expertise (or a “hub”), with a network of providers (“spokes”) in regional catchment areas. This novel hub-and-spoke model for expanding OUD treatment in Vermont is a paradigm for integrating services with qualified experts in one location with satellite providers. It also dramatically increased the state’s capacity for providing MOUD: over the course of 4 years, implementation of the program led to a 64 percent increase in the number of physicians waived to prescribe buprenorphine and a 50 percent increase in patients served per waived physician [84]. The hub-and-spoke model’s success in Vermont does not, of course, mean that it is the best model for other states and localities.

Telemedicine is another service model with potential to expand treatment, including MOUD in underserved urban, rural and remote populations [85]. Telemedicine can dramatically increase access to treatment, and in some studies has demonstrated greater retention in care than in-person treatment [86]. Strengthening the infrastructure for substance use treatment delivery and providing clear guidance under applicable law will not only improve access to care for people with OUD, but will benefit patients with a range of SUD. This effort is especially important as polysubstance use is increasingly implicated in overdose fatalities [87]. Despite great potential, substantial barriers hinder wide-scale adoption of telemedicine for MOUD. The Ryan Haight Act prohibited physicians from prescribing controlled substances electronically until they conducted an in-person examination, or if they meet the federal definition of practicing telemedicine. To lessen the burden of this law, a 2018 law, the Special Registration for Telemedicine Act of 2018, required DEA to activate a special registration allowing physicians and nurse practitioners to prescribe controlled substances via telemedicine without an in-person exam. According to DEA’s *Use of Telemedicine While Providing Medication Assisted Treatment (MAT)* statement, DEA-registered practitioners acting within the United States are exempt from the in-person medical evaluation requirement as a prerequisite to prescribing or otherwise dispensing controlled substances via the Internet if the practitioner is engaged in the “practice of telemedicine.” States also need to respond by authorizing buprenorphine prescribing by approved providers through telemedicine without in-person examination. SAMHSA should train providers with a waiver to prescribe buprenorphine in best telemedicine practices, but foster more evidence-based improvements and standards [88]. These strat-

egies have the potential for rapid expansion of treatment in underserved populations. Current research on effectiveness is limited, but when evidence-based treatments are not readily available, telemedicine-delivered treatments are a promising alternative.

Other strategies to center treatment around patient needs include lowering the threshold to access MOUD, for instance by providing treatment in more convenient locations such as mobile clinics and shelters for people experiencing homelessness, or eliminating requirements such as attending group therapy [76]. Recent studies have demonstrated that programs lowering the threshold for accessing buprenorphine—for example, by eliminating the requirement for abstinence from other drugs, allowing unobserved or home initiation, or offering induction on a mobile van—show promise in engaging patients who are disconnected from care [89,90,91]. Novel strategies, such as equipping paramedics to provide buprenorphine in the field after an overdose, are currently being piloted and studied [92].

There is an urgent need for innovation on treatment delivery models that are able to address the social determinants of health that contribute to substance use and difficulty accessing care. While the root causes of some disparities, such as geography, are well understood, others have received less attention in the scientific community in recent years. Potential factors contributing to racial disparities in OUD outcomes and access to MOUD include a lack of waived providers in communities with minority populations and stigma against minority patients. Federal agencies can provide a leadership role in understanding racial and geographic disparities in access to evidence-based care and developing strategies to address them.

Proposed Strategy 5A | Address Complex Patient Needs

States should implement and fund models that address patient needs at varying levels of complexity.

Proposed Strategy 5B | Expedite Access to Medications

SAMHSA, NIDA, and CMS should implement and evaluate programs that expedite access to medications for OUD.

Proposed Strategy 5C | Address Social Determinants and Disparities

SAMHSA, NIDA, and CMS should fund and evaluate innovative models of treatment delivery that address the social determinants of health and the racial and geographic disparities in access to care.

Regulatory Barriers and Strategies to Address Them

Barrier: Laws and regulations currently limit access to treatment for addiction.

Treatment Access Restrictions

Laws and regulations not rooted in evidence at multiple levels of government create additional barriers to treatment access.

Federal Laws Limiting Access to Buprenorphine

Although clinicians can prescribe controlled substances such as fentanyl and morphine without mandatory training in substance use or pain management, agonist treatment medications have increased regulatory and logistic barriers. The Drug Addiction Treatment Act of 2000 requires licensed clinicians to complete additional training to qualify for a waiver to prescribe buprenorphine. This additional requirement disincentivizes prescribers from providing treatment. Furthermore, even certified prescribers can only prescribe buprenorphine to a limited number of patients. Patient caps on buprenorphine prescribing limit the efficacy of dedicated clinicians who are committed to using evidence-based care to combat the epidemic. Although in 2016 the federal maximum cap on patients of a single prescriber was raised from 100 to 273, effects of its use and increase in access remain to be seen. Fear of overregulation by DEA can be a powerful deterrent to providing effective care. Data show that nonprescribers are significantly more likely than other clinicians to cite the potential for DEA intrusion into clinical practice as a barrier to providing MOUD [93].

Furthermore, although physicians and advanced practice clinicians are all allowed to obtain waivers to prescribe buprenorphine under federal law, state restrictions limit the numbers of nurse practitioners and

physician assistants who seek and use the waiver [94]. A recent study found that greater state practice restrictions for nurse practitioners (e.g., physician oversight) were associated with a lower percentage of nurse practitioners with buprenorphine waivers [94].

Federal Laws Limiting Access to Methadone

The Narcotic Treatment Act of 1974 restricts methadone prescribing ability to clinicians in federally regulated clinics called OTPs. Physicians outside of OTPs are unable to prescribe methadone for OUD, even for long-time stable patients. In addition to major geographic gaps in access, the majority of existing OTPs are running at more than 80 percent capacity [95]. In other countries, such as Australia, Great Britain, and Canada, methadone is routinely prescribed in office-based settings and can be filled in community pharmacies [96]. Pilot studies in the United States have previously demonstrated that delivering methadone in a primary care setting is feasible and effective [97].

State Laws Limiting Access to MOUD

Some states have created additional barriers to accessing MOUD. For example, some states or state payers require buprenorphine provision to be paired with counseling. However, MOUD should not be withheld because counseling is not available or is declined by the patient [5]. These additional requirements put undue strain on already-limited clinicians and limit much needed care. Some states have also established regulations that prevent clinicians in nonspecialty settings from billing for SUD treatment, effectively restricting the ability of primary care providers to offer office-based buprenorphine treatment [98]. In one compelling example, a study of rural family physicians cited lack of counseling availability as the top barrier to providing OUD treatment [67]. In another recent study, approximately 10 percent of OTPs cited state regulations as barriers to expanding treatment [10].

Payer Policies Limiting Access to MOUD

Finally, payers often introduce policies that limit and delay access to lifesaving treatment. These policies include prior authorization requirements, which can disincentivize clinicians from providing MOUD [23,66,99]. A recent report found that Medicaid programs were more likely to require prior authorization for medications than for counseling [100]. They were also more likely to require prior authorization for MOUD than for medications to treat alcohol use disorder [100]. They also include limits on medication duration and dos-

ages, requirements that patients receive counseling in order to be able to access medication, or requirements that patients fail other forms of treatment before initiating medications [101]. Notably, a recent survey of OTPs found that insurance reimbursement or requirements were one of the most common barriers to accepting additional patients in their programs [10]. Payers can also introduce unnecessary practices such as denying behavioral health claims from physicians who are not psychiatrists, unnecessarily restricting access to MOUD from primary care providers and other qualified clinicians.

Strategies to Address Legal and Regulatory Barriers to Treatment

Public health leaders can take action to address laws and regulations that limit provider capacity to treat patients in need of care. Once there is an assurance that training on the diagnosis, treatment, and continuum of care for SUD, including OUD, will be required, Congress should repeal the requirement for clinicians to obtain a practitioner waiver to prescribe buprenorphine and should preempt state laws that add barriers to the provision of MOUD. States can also consider expanding the scope of practice for nurse practitioners to expand the pool of potential treatment providers, a strategy that may be especially useful in rural and underserved areas. DEA and SAMHSA can partner to explore methadone delivery models that can increase access to this lifesaving medication. For example, the agencies should approve pilot programs with evaluation that include pharmacy and office-based methadone treatment for patients. Finally, payers can eliminate policies that disincentivize clinicians from providing medications and limit or delay access to treatment.

Proposed Strategy 6A | Reform Legal Requirements for Buprenorphine

Once there is an assurance of appropriate training for all prescribing clinicians, Congress should repeal the requirement to obtain a waiver to prescribe buprenorphine.

Proposed Strategy 6B | Reduce Restrictions on Nurse Practitioners

States should consider expanding the training and scope of practice for nurse practitioners in order to facilitate greater access to medications for OUD.

Proposed Strategy 6C | Support Innovation in Methadone Delivery

DEA and SAMHSA should encourage innovation on methadone delivery.

Proposed Strategy 6D | Eliminate Unnecessary Barriers

Congress should preempt state laws that add unnecessary additional barriers to the provision of medications for OUD.

Proposed Strategy 6E | Reduce Utilization Management Policies for Medications

Public and private payers should eliminate utilization policies that limit access to quality treatment.

***Barrier:** Restrictions on data sharing currently impede quality care.*

Data Sharing Restrictions

A key component to comprehensive substance use treatment is the ability for clinicians to share data in an efficient, effective way that improves outcomes.

Unfortunately, special privacy regulations impair data sharing for patient care. Title 42, Part 2 of the *Code of Federal Regulations* (CFR) prohibits certain types of treatment programs from disclosing that patients have SUD without patient consent or court order [2]. This regulation was intended to protect the privacy of patients and decrease stigma of care seeking. However, this regulation may contribute to the fragmentation of SUD treatment from the rest of the health care system and hinder care coordination among clinicians caring for patients with SUD.

Prescription drug monitoring programs (PDMPs) are often among the programmatic strategies that states

employ to combat overdose mortality rates [102]. PDMPs help support high-quality care when reliable information and guidance are made readily available to clinicians. However, evidence suggests that these programs show uncertain effectiveness in changing prescribing behavior, reducing misuse and diversion of controlled substances, and reducing opioid-related mortality [103,104,105]. This is in part because the programs vary widely across states in their reliability, consistency, ease of use, and utilization [106].

Strategies to Improve Data Sharing for High-Quality Care

SAMHSA can directly improve care coordination among providers caring for patients with OUD by revising regulations that restrict data sharing.

To evaluate the impact of data sharing initiatives on health outcomes, Congress can fund research on the impact of prescription drug monitoring programs and other data sharing tools. Research is also needed on emerging systems to alert clinicians that a patient may be in a high-risk category for addiction, often on the basis of prior history, screening, and other factors. These systems are being implemented with little empirical basis. If proven effective in helping improve outcomes and patient care, models of integration with prescription drug monitoring programs should be considered.

Proposed Strategy 7A | Revise Restrictions on Data Sharing

To improve care coordination among clinicians, SAMHSA should revise restrictions on data sharing specific to substance use treatment programs.

Proposed Strategy 7B | Fund Research on Data Sharing

NIDA should fund research exploring the impact of prescription drug monitoring programs and other data sharing tools on overdose mortality and other opioid-related health outcomes.

Financial Barriers and Strategies to Address Them

Barrier: *Financial barriers still prohibit access to care for many patients.*

Too many patients do not access substance use treatment because they cannot afford it. One study demonstrated that the rate of forgoing substance use treatment due to financial barriers declined from 51 percent in 2008 to 38 percent in 2014 [107]. In a more recent national survey of people with SUD who did not access substance use treatment, 30 percent indicated that they did not seek treatment because they did not have health insurance coverage or could not afford care [2]. While this declining trend is encouraging, the number of patients with financial barriers to seeking care remains far too high. The cost of extended-release naltrexone, in particular, can be prohibitively expensive [108].

The Affordable Care Act of 2008 (ACA) significantly improved our national capacity to treat people with SUD. It gave states the option to expand Medicaid to adults with incomes under 138 percent of the federal poverty level and required expansion states to provide substance use treatment as a benefit within Medicaid. Studies show that Medicaid expansions under the ACA have resulted in significant increases in substance use treatment utilization [109]. Fourteen states have yet to adopt Medicaid expansion under the ACA.

Special efforts should be made to ensure that populations at high risk of overdose, especially incarcerated and recently incarcerated persons, have access to affordable medications. The use of MOUD significantly reduces the risk of mortality both during and after incarceration [110,111]. But there are barriers to ensuring access to lifesaving treatment during and after periods of detention. People are often tapered off of medications in jails and prisons, and often lack health insurance upon release [5]. Although the use of MOUD in jails and prisons is increasing with support of federal and state grant funding, concerns about the sustainability of these efforts remain. Furthermore, federal laws currently prohibit the use of Medicaid funds during incarceration [112], and recently incarcerated persons can experience dangerous delays in health insurance coverage when enrolling or re-enrolling after release.

Public and private payers do not have adequate coverage of MOUD. One recent analysis of plans offered on Health Insurance Marketplaces in 2017 found that almost 14 percent did not cover any forms of buprenorphine/naltrexone [113]. Plans were also 80 percent less likely to cover long-acting injectable naltrexone than oral naltrexone, although only the former is recommended for the treatment of OUD [113]. Only 32 states (including the District of Columbia) have Medicaid coverage of all three MOUD [114]. Notably, methadone coverage within Medicaid lags behind that of other treatment modalities [114,115].

The Mental Health Parity and Addiction Equity Act of 2008 (MHPAEA) intended to ensure that mental health and substance use were treated like medical and surgical conditions in insurance plans. But payers have not yet met this legal standard, for instance by denying substance use treatment claims at higher rates than other medical claims, adding prior authorization requirements that delay care, or failing to provide timely access to in-network mental health and addiction treatment providers.

Strategies to Address Financial Barriers

A growing body of literature provides evidence that Medicaid expansion increases medication access and treatment utilization among people with OUD. Multiple studies illustrate that utilization of MOUD and naloxone increased in expansion states significantly more than nonexpansion states [109,116,117,118,119]. For example, one study found that rates of per-enrollee buprenorphine and naltrexone prescribing increased more than 200 percent for expansion states, compared to less than 50 percent for nonexpansion states [116]. Increased access to lifesaving treatment has had a tangible impact: a recent nationwide analysis found that states expanding Medicaid were associated with a 6 percent lower rate of opioid overdose deaths compared to nonexpansion states [120]. States should expand Medicaid to childless adults to gain the benefits of health coverage, including increased utilization of MOUD, greater opportunities for remission and recovery, and greater workforce participation.

Recent studies estimate that 80 percent of people released from prison are uninsured, and nearly all of them are eligible for Medicaid in expansion states [121]. To ensure a sustainable mechanism for providing MOUD in jails and prisons, Congress should amend federal statutes to permit the use of Medicaid funding for MOUD during detention. States should also ensure

that incarcerated individuals have active health coverage immediately upon release. Public and private payers should cover all evidence-based treatment for OUD, including treatment with methadone. Finally, states should pursue more aggressive enforcement of the MHPAEA. The 2017 President's Commission on Drug Addiction and the Opioid Crisis called for treatment on demand.

Proposed Strategy 8A | Expand Medicaid

All states should expand Medicaid to childless adults to gain the benefits of health coverage.

Proposed Strategy 8B | Provide Medication Coverage in Detention

Congress should permit Medicaid funds to be used for medications for OUD for incarcerated individuals.

Proposed Strategy 8C | Facilitate Coverage for Recently Incarcerated Populations

States should ensure that incarcerated individuals have active health coverage immediately upon release.

Proposed Strategy 8D | Improve Insurance Coverage

Public and private payers should provide coverage that facilitates access to all three FDA-approved medications for OUD.

Proposed Strategy 8E | Enforce Parity

States should enforce mental health parity laws.

Other Barriers and Strategies to Address Them

***Barrier:** There is inadequate attention to the reasons why many people who use drugs are not engaged in treatment.*

Surveys also show that many people do not seek treatment because they do not perceive a need for it [2,122]. It is critical for clinicians and other service providers to better understand this population and develop nuanced strategies to engage them in care that will decrease their risk of opioid-related morbidity and mortality.

Barriers to seeking care may include some of the others discussed in this paper. For example, people may be wary of seeking treatment because of the stigma from their communities, employers, or health care providers. Others may not know where to find treatment, or may be unable to find available treatment slots when they are motivated to seek care. Some may forgo treatment because it is too costly, because it is too far from where they live, or it may interfere with their employment commitments. To increase interest in treatment among people who use drugs, it is necessary to understand their perceptions of barriers to care. Barriers to seeking and receiving treatment include not knowing where to go for treatment and not finding a program that matches patient needs [123]. A recent survey of opioid treatment programs also cited the lack of patient demand as a common barrier [10]. Clearly, outreach strategies are needed to recruit patients where treatment providers have availability.

Strategies to Incorporate the Perspective of People Who Use Drugs

To improve the quality and accessibility of OUD treatment, treatment systems should actively solicit feedback from people with lived experience of OUD, including individuals who are not interested in treatment. Future research efforts should endeavor to better understand those who do not utilize the treatment system and identify strategies that might engage them in care. This effort should include funding research initiatives that explore how harm reduction approaches can facilitate engagement and reengagement in treatment.

Engaging in direct outreach and marketing to health care providers, health systems, and the public might reach at-risk populations not aware of treatment facilities. One example of a tool directly engaging the public

was recently published online by SAMHSA [124]. This tool educates patients on MOUD and directs individuals to tools to locate providers. Research should investigate the impact of this tool and other similar initiatives to illustrate whether they effectively recruit patients into using MOUD.

Proposed Strategy 9A | Incorporate Patient Perspectives

Treatment systems should consult with people with lived experience of opioid use to improve services..

Proposed Strategy 9B | Improve Treatment Engagement

NIDA should fund research on strategies to increase patient engagement and motivation to receive treatment.

Conclusion

Multiple barriers to change within the treatment system undermine access to care. There are many opportunities to address these barriers, increase the number of people receiving treatment and save lives. Taking advantage of these opportunities should be an urgent priority for all concerned about the opioid epidemic.

Evidence Illustrating Barriers	Evidence for Proposed Strategy
Provider Barriers	
<p>1. Many clinicians, pharmacists, and support staff have stigmatizing attitudes toward patients with opioid use disorder and toward medications for opioid use disorder.</p> <ul style="list-style-type: none"> • Stigma is associated with greater support for punitive policies, denial of services, and reluctance to engage in treatment [12,13,14]. • Clinicians display stigma against patients with SUD [15,16,17,18,19,21, 53, 99, 125,126 ,127,128,129,130,131,132,133,134]. • Clinicians have a lack of knowledge about MOUD efficacy and fear that prescribing MOUD will result in diversion [21,22,23,24,25, 125, 130,135,136,137]. • Negative attitudes among clinicians can limit their willingness to treat those with SUD [26,27]. 	<p>1. The Centers for Disease Control and Prevention should partner with professional associations and others to develop and implement an evidence-based stigma reduction campaign targeting clinicians, pharmacists, and support staff .</p> <ul style="list-style-type: none"> • Targeted education early in clinical training decreases stigma and discrimination [31]. • Highlighting the efficacy of MOUD and relaying personal stories of people who use drugs decreases stigma in the general population [31,32]. • Using nonstigmatizing language can improve outcomes for people with SUD [133]. • Academic detailing has been used effectively to train clinicians in evidence-based opioid prescribing and naloxone distribution [1].
<p>2. Many clinicians have insufficient training to provide evidence-based care for patients with opioid use disorder.</p> <ul style="list-style-type: none"> • Clinicians report being unprepared to screen, diagnose, refer, manage, or treat patients with SUD [16,20]. • Training standards and practices in SUD are inadequate for clinicians—including psychiatrists [33,34,40]—and allied team members [5]. • Clinicians receive inadequate training in SUD detection and the frequent co-occurrence of SUD with mental health disorders [15,17,99,128,136]. • Clinicians are insufficiently trained on diagnosis and office-based treatment of OUD [66,99,128,130,138]. • Clinicians are insufficiently trained in pain management [139,140]. 	<p>2. Accreditation agencies should require that clinicians receive training in screening, diagnosis, and treatment of opioid addiction. These requirements should cover medical students, residents, physicians, and advanced practice clinicians (e.g., nurse practitioners and physician assistants). Recommended credentialing agencies include the Liaison Committee on Medical Education, Accreditation Council for Graduate Medical Education, Commission on Collegiate Nursing Education, Accreditation Commission for Education in Nursing, and Accreditation Review Commission on Education for the Physician Assistant.</p> <ul style="list-style-type: none"> • Early training in treating those with OUD is associated with greater willingness and confidence to provide OUD treatment in later practice [35,36]. • Requiring training in SUD screening is a key component of a recent 2019 USPSTF recommendation [37]. • It is important to provide free, easy-to-access OUD treatment and MOUD management education for trainees and clinicians [16,17,99].

<p>3. There were insufficient numbers of addiction treatment specialists at the time of this manuscript's publication in 2020.</p> <p>At the time of this paper's publication, there were inadequate numbers of</p> <ul style="list-style-type: none"> • Mental health and addiction medicine professionals [20,41], • Psychiatrists with specialized training in addiction [44,45,46,67,141,142], • Behavioral health counselors [17,66,67,143], and • Advanced practice clinicians certified to provide MOUD [47]. 	<p>3A. Congress should increase opportunities to train addiction psychiatrists and addiction medicine specialists by appropriating funding for the Mental and Substance Use Disorders Workforce Training Demonstration Program, which was authorized under the 21st Century Cures Act.</p>
	<p>3B. Congress should increase funding for loan repayment programs for addiction specialists who treat substance use disorders in underserved areas.</p> <ul style="list-style-type: none"> • Loan repayment programs have long been used as strategies to recruit health professionals to rural and medically underserved areas [48].
<p>Institutional Barriers</p>	
<p>4. The provision of medications for opioid use disorder is often not standardized within medical and psychiatric care.</p> <ul style="list-style-type: none"> • A minority of patients receiving treatment for OUD receive MOUD [49,50,51]. • SUD treatment facilities do not provide adequate access to MOUD [9]. • Many clinical settings are inadequately prepared to prescribe MOUD to patients, despite evidence showing success in delivering this treatment in primary care practices [16,52], emergency departments [24,57], and detention centers [58,59,60,61]. • There many gaps in the continuum of care, including inadequate transitions from rescue to treatment [62,63], arbitrarily short periods of medication utilization [64,65,], and poor care coordination [17,125]. 	<p>4A. The National Institutes of Health and the Agency for Healthcare Research and Quality should support standards and metrics for primary care, community health centers, certified community behavioral health clinics, emergency departments, detention facilities, and mental health programs to screen for and treat opioid use disorder.</p> <ul style="list-style-type: none"> • Standards and metrics can be derived from primary care MOUD integration models such as the Massachusetts Collaborative Care Model [72,144]. • It has been shown that emergency department initiation of treatment increases treatment engagement and decreases mortality; this should be adopted as standard practice [56]. • Both government and private sector resources should be increased to expand access to treatment [141].
	<p>4B. Agencies or organizations responsible for the accreditation and licensing of substance use treatment facilities, including the Joint Commission and the Commission on Accreditation of Rehabilitation Facilities, should ensure that providing access to effective medications is a condition of accreditation and licensure for treatment of opioid use disorder.</p>

	<p>4C. The Substance Abuse and Mental Health Services Administration, National Institute on Drug Abuse, and the Centers for Medicare & Medicaid Services should evaluate programs receiving federal funding to support service provision. These agencies should phase out funding for addiction treatment programs that do not offer evidence-based care, including medications to treat opioid use disorder.</p> <ul style="list-style-type: none">• Reducing low-value or no-value care preserves resources that will be more effective at saving lives and promoting recovery [68].
	<p>4D. States should organize and fund evidence-based technical assistance for clinicians prescribing buprenorphine and naltrexone, linking them to specialists and other resources.</p> <ul style="list-style-type: none">• Technical assistance can increase the confidence of nonspecialist clinicians to offer addiction care [67].• State-specific guidance exists on the provision of office-based MOUD and should be shared broadly to allow for greater adoption [145].

<p>5. There is inadequate attention to developing systems of care that are centered around patient needs.</p> <ul style="list-style-type: none"> • There is inadequate institutional, clinical, and peer support for people with OUD [15,17,67,70,126] including <ul style="list-style-type: none"> • allied health professionals who can help patients manage aspects of their health care needs [71,72] and • peer recovery specialists that increase patient retention in ongoing treatment [73,74]. • Comprehensive care services should be implemented more broadly, as they are shown to support patients and increase clinician willingness to provide treatment [66,67,75]. • Patients report many challenges when seeking care, such as not knowing where to seek care [2], long travel distances to treatment facilities, and difficulty finding child care and transportation [76]. • There are significant racial disparities in ability to access MOUD [78,79] and overdose mortality [80]. • There are significant geographic disparities in access to MOUD [52,53,54,55,99,135,142,147,148,149]. 	<p>5A. States should implement and fund models that address patient needs at varying levels of complexity.</p> <ul style="list-style-type: none"> • After ensuring that these initiatives address the needs of local communities, expand models such as hub-and-spoke and telemedicine that meet the needs of diverse patient populations at varying levels of complexity [72,84,146].
	<p>5B. The Substance Abuse and Mental Health Services Administration, National Institute on Drug Abuse, and the Centers for Medicare & Medicaid Services should implement and evaluate programs that expedite access to medications for opioid use disorder.</p> <ul style="list-style-type: none"> • Explore and pilot other methods to lower the threshold to accessing treatment, including providing treatment in more convenient locations (e.g., mobile clinics and shelters) or eliminating requirements such as attending group therapy or observed initiation, because removing these barriers has demonstrated greater patient engagement [76,89,90,91].
	<p>5C. The Substance Abuse and Mental Health Services Administration, National Institute on Drug Abuse, and the Centers for Medicare & Medicaid Services should fund and evaluate innovative models of treatment delivery that address social determinants of health and racial and geographic disparities in access to care.</p>

Regulatory Barriers	
<p>6. Laws and regulations currently limit access to treatment for addiction.</p> <ul style="list-style-type: none"> • Federal law requires prescribers to obtain additional training and a waiver to prescribe buprenorphine, which reduces an individual provider's ability to prescribe buprenorphine, an FDA-approved MOUD. • Federal law prevents physicians outside of opioid treatment programs to prescribe methadone, limiting an individual provider's ability to prescribe methadone, an FDA-approved MOUD. • Some state laws limit access to MOUD by imposing additional restrictions not rooted in evidence (e.g., required counseling and mental health services) [10,98]. • State restrictions limit the numbers of nurse practitioners and physician assistants who can seek and use the buprenorphine waiver, further reducing those in a community who can prescribe buprenorphine, an FDA-approved MOUD [94]. • Payer policies limit access to MOUD through insurance prior authorization regulations [23,66,99,100], nonevidence-based limitations on medication duration and dosages, or the required failure of other modalities before MOUD prescribing can begin [101]. • DEA surveillance serves as a significant deterrent to many prescribers pursuing a buprenorphine prescribing waiver, and MOUD prescribing more generally [16,17,21,130,141,150]. 	<p>6A. Once there is an assurance of appropriate training for all prescribing clinicians, Congress should repeal the requirement to obtain a waiver to prescribe buprenorphine.</p> <ul style="list-style-type: none"> • Eliminate buprenorphine waiver requirements for those licensed to prescribe controlled substances [17].
	<p>6B. States should consider expanding the training and scope of practice for nurse practitioners in order to facilitate greater access to medications for opioid use disorder.</p> <ul style="list-style-type: none"> • Greater state practice restrictions for nurse practitioners (e.g., requiring physician oversight) were associated with a lower percentage of nurse practitioners obtaining buprenorphine prescribing waivers [94].
	<p>6C. The Drug Enforcement Administration and Substance Abuse and Mental Health Services Administration should encourage innovation on methadone delivery.</p> <ul style="list-style-type: none"> • In other countries, such as Australia, Great Britain, and Canada, methadone is routinely prescribed in office-based settings and can be filled in community pharmacies [96]. • Pilot studies in the United States demonstrated that delivering methadone in a primary care setting is feasible and effective [97].
	<p>6D. Congress should preempt state laws that add unnecessary additional barriers to the provision of medications for opioid use disorder.</p> <ul style="list-style-type: none"> • Remove counseling requirements for access to MOUD and increase access to counseling through increased funding and reimbursement for counselors [5].
	<p>6E. Public and private payers should eliminate utilization policies that limit access to quality treatment.</p>

<p>7. Restrictions on data sharing currently impede quality care.</p> <ul style="list-style-type: none"> • The 45 CFR part 2 privacy provision prohibits federally funded programs from sharing information around SUD without patient consent, which increases barriers to care coordination among clinicians [2]. • PDMPs are a commonly used state strategy to combat excessive opioid prescribing through data sharing. However, it is unclear that they have a beneficial impact on opioid prescribing, opioid misuse and diversion, and opioid-related mortality [102,103,104]. This may in part be a result of varying utilization and usability of PDMPs in different states [106,151,152,153,154]. 	<p>7A. To improve care coordination among clinicians, the Substance Abuse and Mental Health Services Administration should revise restrictions on data sharing specific to substance use treatment programs.</p>
	<p>7B. The National Institute on Drug Abuse should fund research exploring the impact of prescription drug monitoring programs and other data sharing tools on overdose mortality and other opioid-related health outcomes.</p>
<p>Financial Barriers</p>	
<p>8. Financial barriers still prohibit access to care for many patients.</p> <ul style="list-style-type: none"> • Inability to afford care is often cited as a reason to not seek treatment that otherwise would be sought [2]. • A particularly underinsured and undertreated population are those in jails and prisons [5,131] due to federal laws that prohibit use of Medicaid funds during incarceration [112]. • Public and private payers do not currently cover MOUD prescriptions adequately [113,114,115]. • There is generally inadequate reimbursement for prescribing MOUD and for clinicians treating OUD and SUD [17,23,66,99,114]. 	<p>8A. All states should expand Medicaid to childless adults to gain the benefits of health coverage.</p> <ul style="list-style-type: none"> • State Medicaid expansions under ACA resulted in significant increases in SUD treatment utilization [109,116,117,118,119] and lower rate of opioid overdose deaths [120].
	<p>8B. Congress should permit Medicaid funds to be used for medications for opioid use disorder for incarcerated individuals.</p> <ul style="list-style-type: none"> • Use of MOUD significantly reduces the risk of mortality both during and after incarceration [110,111].
	<p>8C. States should ensure that incarcerated individuals have active health coverage immediately upon release.</p> <ul style="list-style-type: none"> • The vast majority of people released from prison are uninsured, and nearly all of them are eligible for Medicaid in expansion states [121].

	<p>8D. Public and private payers should provide coverage that facilitates access to all three FDA-approved medications for opioid use disorder.</p> <ul style="list-style-type: none"> • Require coverage of evidence-based MOUD as an essential health benefit [17]. • Increase the insurance reimbursement for providing behavioral health care [99]. • Provide insurance coverage incentives for providing mental and behavioral health services [99].
	<p>8E: States should enforce mental health parity laws [17,114].</p>
<p>Other Barriers</p>	
<p>9. There is inadequate attention to the reasons why many people who use drugs are not engaged in treatment.</p> <ul style="list-style-type: none"> • Barriers to seeking treatment include not perceiving the need to seek treatment [2,122], not knowing where to go for treatment, and not finding a program that matches patient needs [123]. A recent survey of opioid treatment programs also cited the lack of patient demand as a common barrier [10]. 	<p>9A. Treatment systems should consult with people who use drugs to improve services targeted at them.</p> <p>9B. The National Institute on Drug Abuse should fund research on strategies to increase patient engagement and motivation to receive treatment.</p> <ul style="list-style-type: none"> • SAMHSA’s online tool educates patients on MOUD and directs individuals to tools to locate providers [124].

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