



Treating the Rural Opioid Epidemic

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I. Executive Summary

Abuse of prescription and illicit opioids has become a top priority public health issue in the past decade, and its effects on rural communities cannot be understated. Effective, evidence-based treatment of opioid use disorders is urgently needed in small towns across America. However, multiple barriers stand in the way of appropriate treatment availability and quality. These include a decaying rural mental health and substance abuse treatment infrastructure, lack of regional coordination of treatment resources, lack of support of rural physicians providing substance abuse treatment, administrative barriers against the most effective form of opioid abuse treatment, and a shortage of rural physicians who provide Medication Assisted Treatment (MAT). We review several key opportunities to remedy this problem, most importantly a dual focus on making MAT an option in all rural communities and fully funding rural mental health infrastructure.

II. Introduction

The abuse of prescription and non-prescription opioids is one of the greatest threats facing public health in the United States today. It is estimated that as many as 2.5 million people in the US are suffering from opioid addiction related to prescriptions, and an additional 467,000 are addicted to heroin.¹ Factors such as increased quantities of opioids prescribed, increased social acceptance around prescription medications, and aggressive marketing by pharmaceutical companies have all led to the dramatic upsurge in opioid abuse.¹ As many as 80% of those who are currently addicted to opioids are estimated to have begun their addiction with prescription pain medications.²

These numbers are especially intimidating given the unique challenges rural communities face. While all states have reported increases in opioid mortality and injury, the largest increases are reported in heavily rural states like Kentucky, West Virginia, Alaska, and Oklahoma.³ These discrepancies are largely due to significantly lower Emergency Medical Service (EMS) response times due to sparse population concentrations, mountainous terrain, and longer transit times for EMS providers.^{4,5}

As a result of rising rates of opioid use disorders, drug overdoses are now the number one cause of accidental deaths in Americans with an estimated 47,055 deaths in 2014 alone, exceeding the death rate from automobile accidents.¹ Additionally, the rate at which heroin and fentanyl are abused increased along with the rate of prescription opiate abuse.⁶ This implies a disturbing trend of tolerance to prescription opioids leading to substitution of heroin in its stead.⁷



Opiate use disorders, defined by the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5), as the use of opioid analgesics in ever-increasing doses for the purposes of generating a feeling of euphoria, have been successfully treated using a variety of methods.⁸ Abstinence, supported by Cognitive Behavioral Therapy (CBT) and Medication Assisted Treatment (MAT) are the most common forms of treatment for substance use disorder; however, MAT has been shown to have greater success rates.^{6,9} There are three predominate forms of Medication Assisted Treatment (MAT) that have proven effective in combating opioid use disorder. Methadone, buprenorphine, and naltrexone have all shown to be effective in the treatment of substance use. When prescribed and monitored properly, MAT has been shown to reduce illicit drug use and reduce the rate of accidental overdose. However, while as many as 2.5 million people are suffering from substance use disorder, less than 40% have access to MAT.¹

There are many barriers to increasing access to MAT. Many substance use treatment providers view utilizing MAT as switching from one form of addiction to another and, therefore, may favor abstinence models. One study showed that MAT was being systemically under-prescribed across the board due to a lack of confidence in the form of treatment.⁶ As a result, many individuals relapsed due to inadequate dosage, further reinforcing the prescriber's belief in the ineffectiveness of the treatment. Additionally, many insurance policies dictate limits on dosage, lifetime quotas, and "fail first" policies requiring abstinence treatment to be attempted first.¹

Since the 1970s, MAT treatments have mostly been limited to those physicians who receive a special waiver to distribute the medication.⁶ Because of these restrictions, many physicians have been unable to offer MAT. For the few who do provide MAT services, they tend to be clustered around urban centers and, therefore, inaccessible to those living in rural areas, as do mental health and substance abuse treatment resources in general.^{10,11} Developing universal access to MAT in rural areas and fully funding rural health infrastructure will allow more affected patients to seek out treatment and help slow the epidemic of overdose deaths.

III. Data on Need for Treatment

Treatment of opioid use disorders is necessary to return dependent patients to normal functioning and quality of life, and to avoid the many major complications of opioid dependence including trauma, suicide, HIV and Hepatitis C infection and early death. Mortality in these patients is increased by a factor of twenty.⁸ Furthermore, increasing access to treatment has been shown to decrease rates of overdose deaths, infectious disease transmission rates, and engagement in criminal activity, and to improve retention in treatment and social functioning.^{12,13}



However, while treatment is clearly needed and effective, there are many barriers to its provision. Education about treatment of pain and addiction is very limited in US medical schools, occupying 0.3% of the formal curriculum on average, and leaving graduates underprepared and lacking in confidence when treating patients with these issues.^{14,15} In addition, physicians must obtain a waiver under the Drug Addiction Treatment Act (DATA) in order to prescribe the most common medication used for outpatient treatment, buprenorphine, but only 2.2 % of practicing US physicians are approved to use it.¹⁶ Of these physicians, 90% practice in urban counties, leaving 53% of rural counties without any prescribing physician and 30 million 3 people living in counties where treatment is unavailable.^{10,17} Rural providers who are able to prescribe buprenorphine report a demand far beyond their capacity¹⁸ and that they lack the resources to adequately support themselves and patients in treatment.¹⁹ Additionally, wait times for treatment are prolonged, particularly in rural areas.^{20,21}

As a result, eighty percent of people addicted to opioids do not receive treatment, and those who do are severely limited by the types of treatment available.²² In 2004, only 25% of people received opioid treatment in physician's offices, many receiving buprenorphine; this number increased to a modest 35% in 2013.²³ In the US, 91.9% of the substance use treatment facilities are located in urban areas.¹¹ Rural areas are also faced with fewer resources regarding inpatient and day treatment.¹⁸

Other barriers exist for rural individuals seeking opioid treatment, often at a disproportionate rate compared to their urban counterparts, including transportation issues (e.g. lack of public transportation, longer travel distances), health workforce shortages, and stigma associated with mental health and substance abuse conditions.¹⁸ Additionally, many state Medicaid programs create further barriers. While Medicaid typically covers addiction treatments, the program has not been updated to reflect current practice, including the coverage of MAT. While buprenorphine has the widest coverage among state Medicaid programs, it is also "increasingly subject to highly specific and complex Medicaid limitations and requirements that have been adopted in many states."²⁴ Individuals with private insurance may also be faced with a lack of or no coverage provided for MAT, resulting in excessive out-of-pocket costs.²⁴

The use of MAT may actually result in cost savings for insurance programs and government programs such as Medicaid because of longer periods of abstinence. One study of individuals covered by Medicaid found a cost savings of 30% in the first year after treatment.¹⁸ Similarly, Mohlman et al. found that general health care costs related to inpatient and emergency room visits by Medicaid beneficiaries were reduced with the use of MAT.²⁵ Additionally, the use of MAT may result in cost savings for the criminal justice system. It is estimated that for every \$1 spent on medication-assisted treatment, \$2 to \$6 is saved, partly due to decreases in criminal behavior and re-incarceration.²²

There is an additional need for the mental health infrastructure to support MAT for clients who are also suffering from concurrent mental illness (e.g. bipolar disorder,



anxiety, depression, schizophrenia). These patients offer additional challenges and more complex treatment needs for the provider. Unfortunately, the problem of opioid addiction coupled with a concurrent mental illness disproportionately affects rural populations due to the additional lack of mental health providers.¹⁷

IV. Data on Treatment Availability

Rural populations have long had poorer access to mental health services than their urban counterparts and patients living in rural areas face specific challenges accessing treatment for opioid use disorders. Rural-urban disparities in the supply of behavioral health providers include psychiatrists, clinical psychologists, psychiatric nurse practitioners, social workers, and 4 counselors. Thirteen percent of rural counties have no behavioral health providers and, in the counties where there are providers, the provider to population ratio is much lower than in urban counties. Nationally, 65% of rural counties do not have a practicing psychiatrist, 47% lack a psychologist, and 81% lack a psychiatric nurse practitioner. More than a quarter (27%) of rural counties do not have a social worker, and 18% lack a behavioral health counselor. As rurality increases, the percentage of counties with a psychiatrist or a psychologist diminishes. Among more remote rural counties, 80% lack a psychiatrist, 61% lack a psychologist, and 91% lack a psychiatric nurse practitioner. Thirty-five percent of non-urban counties do not have a social worker and 24% lack a behavioral health counselor.^{11,18,26}

As discussed above, MAT for opioid use disorder has been shown to be effective. However, the lack of availability of providers with a Drug Enforcement Agency (DEA) waiver to prescribe buprenorphine in rural areas provides a barrier to buprenorphine treatment for rural populations. Between July 2012 and April 2016, the percentage of all US counties with at least one physician with a waiver increased from 46.6% to 54.5%. However, in 2016, less than half of all rural counties (38.7%) and less than a quarter (22.9%) of the most remote rural counties had a waived physician. Additionally, in 41.3% of the rural counties where there was a waived provider, there was a single waived provider, making the county vulnerable to losing the service.²⁷

V. Data on Treatment Options and Success Rates

Though there are a variety of approaches to treating opioid use disorders, these approaches are not equally effective. Given disproportionately limited resources for substance use and mental health treatment in rural areas, they should be prioritized based on cost, success rates and other factors. The three most common approaches to opioid use disorders are Opioid Treatment Programs (OTPs), Office Based Opiate Treatment Programs (OBOTs), and abstinence-based models. Harm reduction approaches are also used but these are less common and will not be reviewed in detail here.²⁸



In contrast to abstinence-only approaches such as Narcotics Anonymous or some inpatient models, OTPs and OBOTs replace illicit opioids with safer, long-acting oral opioids (buprenorphine and methadone), thereby decreasing cravings, lowering the risk of relapse, and decreasing risks of incarceration, personal and family disruption, and early death.⁸

Because of their licensing, the first model, the OTP, requires daily visits by patients to the program facility, which is a significant burden for most patients, especially rural residents who are frequently required to drive extended distances every day to receive their needed medication and shoulder the burden of these transportation costs.²⁹ In addition, wait lists for OTPs are generally significant (up to two years in several cases) and patients on those lists are at high risk for mortality until they are able to enter treatment.³⁰ Finally, many rural residents enrolled in OTPs report that the transportation requirements are so extensive that they ostensibly prevent them from working.³¹ This is the only setting in which methadone can be legally prescribed for treatment of opioid dependence; it cannot be prescribed in office-based settings.⁵

In contrast, OBOTs are often a more practical option for lower risk patients and those who have been previously stabilized in OTPs. This is also the most common model for less populated areas.³² OBOTs do not require daily visits or a specialized prescriber and are far more accessible to rural populations. A waived physician in a variety of clinic settings including primary care typically prescribes weeks to months of buprenorphine at an outpatient office visit. The medication is then retrieved by the patient from his or her pharmacy. Enrolled patients are strongly encouraged but not typically required to seek counseling or other mental health treatment as studies are mixed about whether non-pharmacological treatment improves retention and long-term abstinence from opioids.^{33,34}

Based on recent systematic reviews, buprenorphine and methadone are clearly superior to placebo for treatment of opiate use disorders, both in terms of immediate retention in treatment as well as long term abstinence and mortality reduction.³⁵ At moderate and high doses, which are the most common doses currently prescribed, buprenorphine appears to be equivalent to methadone in retaining patients in treatment, but has a better safety profile and fewer barriers for patients in terms of requirements to take a daily dose of methadone at a treatment facility.^{9,36,37} Buprenorphine is also coming to be preferred to methadone for treatment of pregnant women because of its lower rates of neonatal abstinence syndrome in exposed neonates.⁹ In addition, while the cost of the buprenorphine medication is 10-60% higher than methadone, this does not take into account administrative costs of running stand-alone OTPs, or the transportation and other costs for the patient. Both medications do have measurable rates of diversion, though they are lower in the US than in other countries and the evidence to date shows that despite diversion and misuse, treatment expansion of MAT results in a net



decrease in overdose deaths in the populations in which it has been studied.^{38, 39, 40}

Table 1: Comparison of Treatment Options for Opiate Use Disorder

Treatment Type	Retention in treatment (first 12 months)	Cost of Treatment ⁴¹	Safety Profile	Long term Abstinence Rates	Diversion Rates
Buprenorphine	56-90% ³⁵	\$430-640/month	Overdose much less likely ⁴²	61-70% ^{43,44}	6-19% ^{39,45}
Methadone	70-80% ^{46,47}	\$391/month	Compared to buprenorphine, increased risk of -Cardiac arrhythmias (QT prolongation) -Respiratory depression -Neonatal abstinence syndrome -Overdose	60-90%	18% ³⁸
Abstinence-based treatment	20% ^{48,49}	Variable	Compared to MAT, increased mortality (overdose) ^{12,50}	8.6-50% ⁴³	N/A

The most successful treatment programs nationally often combine OTPs and OBOTs in a “Huband Spoke” model which incorporates in-person and telemedicine support of community prescribers in OBOTs, consultation, referral services, and case management.^{51,52} Frequently 6 described models include the state of Vermont^{53,54} and the Eastern Band of Cherokee.⁵² Project ECHO has been a template for support and education of community providers specifically.⁵⁵ These models address some of the barriers to primary care physicians prescribing buprenorphine, including lack of mental health and psychosocial support, lack of specialty backup, and lack of physician confidence with prescribing.⁵⁶ They also frequently include training in addiction and pain management to help train and support new prescribers.⁵⁷ While creating the infrastructure for substance use treatment is paramount, awareness of opioid use disorders/available treatment options and community support of vulnerable individuals also remains a major challenge. Successful programs including those listed above also typically include funding for public awareness campaigns, coalitions, and social supports for patients in treatment and their families.¹⁸ Finally, developing community strategies to address the opioid epidemic and supporting community collaborations and partnerships remain paramount to any efforts to treat and prevent addiction going forward.

VI. Policy Recommendations

Given the challenges discussed above, the National Rural Health Association supports the following policies in order to address and reverse the current nationwide opioid epidemic that has hit hardest in vulnerable rural communities.

1. Make MAT (buprenorphine or methadone) an option in all rural communities by



removing barriers to treatment.

- a. Eliminate Medicaid and Medicare caps on length of treatment, lifetime limits and prior authorization requirements for buprenorphine.
 - b. Continue to allow Nurse Practitioners and Physician Assistants to prescribe buprenorphine with proper training, support and oversight.
 - c. Reduce barriers to methadone treatment services by easing unnecessarily restrictive licensing standards, enhancing payment for methadone services by state Medicaid programs and Medicare, and educating community members to reduce opposition to methadone programs.
 - d. Strongly encourage engagement in mental health services concurrent with MAT and develop a variety of treatment models to support recovery, but do not require counseling or mental health treatment as a condition of obtaining treatment, especially because these mental health services are unavailable to many rural Americans.
 - e. Provide cost-based reimbursement for buprenorphine services to encourage Hub and Spoke programs to use the safest and most effective medication option for all patients regardless of cost, and reimburse transportation costs through Medicaid/Medicare for those patients who are required to travel extensively for an OTP due to lack of access to OBOT.
 - f. Use group visits and other innovative models to deliver care and improve cost effectiveness. Ensure state and federal insurance reimburses for these innovative models.
 - g. Assure reservations, tribal populations, etc. are included in these conversations and Indian Health Services (IHS) continues to fund these initiatives.⁷
 - h. Support efforts to make MAT available to all incarcerated individuals with an opioid use disorder.
 - i. Fund coordination efforts with prisons, jails, and other correctional facilities to ensure a smooth transition for recently incarcerated individuals into communitybased treatment settings and prevent relapse, overdose, and acute withdrawal.
 - j. Consider elimination of a waiver for buprenorphine for physicians after appropriate review of potential concerns.
 - k. Support efforts to require continuing education of all physicians, NPs and PAs prescribing opiates for chronic pain.
 - l. Support efforts to minimize diversion of buprenorphine and methadone and their associated harms.
 - m. Integrate substance abuse treatment and recovery services into all rural community health centers/primary care offices in some form.
2. Improve the availability of MAT prescribers, chemical dependency professionals



and mental health professionals in rural areas.

- a. Strongly promote pain management, behavioral health and addiction education in all US allopathic and osteopathic medical schools through accreditation requirements, faculty development, curriculum modules, protected curricular time, and other avenues.
 - b. Extend eligibility for National Health Services Corps loan repayment and other programs to licensed/certified substance use professionals.
 - c. Support the pipeline of rural students interested in pursuing careers as behavioral health and substance use professionals through AHECS and other mechanisms.
 - d. Support rural physicians who prescribe buprenorphine through regional or statebased Hub and Spoke models that include referral services and specialty consultation.
 - e. Provide direct funding for Hub and Spoke programs at the state or regional level, such as what has been done in Vermont, and design the locations of the hubs and other resources so as to support the maximum number of providers and clients needing services.
 - f. Fund telemedicine consultation services for addiction and pain management, as discussed in the recently enacted Comprehensive Addiction and Recovery Act.⁵⁸
 - g. Fund research on the implementation of the hub and spoke model in rural settings to identify the most important barriers to providing these services and creative ways to address them. Use CARA and 21st Century CURES funds to specifically study rural interventions and policies.
 - h. Fund regional programs that provide organizational support including case management and consultation services and for providers who prescribe MAT so that every qualified provider has support needed to provide treatment.
 - i. Proactively identify “MAT deserts” and target training, and treatment availability in those areas.
3. Improve availability of outpatient mental health, recovery, and peer recovery services in rural settings.
- a. Fully fund mental health infrastructure in rural communities.⁸
 - b. Include funding for mental health and recovery services delivered through telehealth specifically.
 - c. Explore the use of telehealth technology to provide access to peer recovery and support programs through collaboration with the Addiction Technology Transfer Center Network.
 - d. Continue to support psychologists, psychiatrists, and counselors through NHSC and state loan repayment programs.



- e. Support and fund community strategies to address the opioid epidemic and community collaborations and partnerships that address the root causes of the opioid epidemic.
4. Improve availability of inpatient facilities that treat substance use disorders.
 - a. Eliminate barriers so that MAT may continue during inpatient stays for detoxification of other substances and allow for coordination of outpatient treatment prior to discharge.
 - b. Allow patients to be induced on buprenorphine while in inpatient settings so as to improve continuity between inpatient and outpatient treatment and reduce side effects and treatment dropout.
 - c. Develop specialized treatment programs that allow pregnant women with cross dependence to be maintained on MAT.
5. Make Naloxone available to every patient suffering from an opiate use disorder and to concerned friends, loved ones and other bystanders who have been properly trained in its use.
 - a. Make Naloxone availability and training a part of every treatment program for patients with opioid use disorders.
 - b. Encourage providers to prescribe naloxone for every patient with an opioid use disorder or at risk of accidental overdose from standard opioid prescriptions.
 - c. Develop Good Samaritan laws in every state/jurisdiction to support the availability and use of Naloxone in the setting of opioid overdose.
6. Provide funding for research on treatment of opioid issues specifically in rural settings to better document what works in these environments and develop innovative solutions to this burgeoning problem. Specifically, research programs in the following realms should be supported:
 - a. Provider supply;
 - b. Treatment availability and its variation depending on geography;
 - c. Outcomes of specific treatment models in rural settings;
 - d. Outcomes of educational models and provider support programs;
 - e. Best practices research;
 - f. Use of registries and prescription monitoring programs to limit misuse and diversion of prescription opioids including buprenorphine and methadone; and
 - g. Policy-based research to evaluate the impact of recovery and treatment services of opioid disorders per dollar spent.

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