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“You are not clean until you’re not on anything”: Perceptions of medication-assisted treatment in rural Appalachia

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Abstract

Background: Medication-assisted treatment (MAT) is an evidence-based strategy to treat opioid use disorder (OUD). However, MAT-related stigma reduces MAT uptake, which is particularly low in rural areas. To date, perceptions and attitudes towards MAT in rural settings have not been described.

Objective: This qualitative study aims to characterize perceptions and attitudes towards MAT and the environmental factors contributing to these views in Appalachian Ohio.

Methods: From February to July 2018, semi-structured interviews were conducted with 34 stakeholders (12 healthcare professionals, 12 substance use treatment providers, 7 law enforcement agents and judicial officials, and 3 members of relevant organizations) in three rural counties in Appalachian Ohio. Interviews were transcribed, coded, and analyzed to characterize the risk environment and participants’ perceptions and attitudes towards MAT.

Results: Participants expressed or described pervasive MAT-related stigma in the region. Participants consistently described three elements of the environment affecting stigma: (1) a

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“conservative” culture in which abstinence is necessary to be in recovery successfully; (2) fear of medication diversion and abuse; (3) drug court policies that keep MAT out of the criminal justice system.

Conclusion: MAT-related stigma will need to be addressed to tackle the opioid epidemic through evidence-based treatment effectively.

Keywords

Medication-assisted treatment; Opioid use disorder; Stigma; Appalachia; Rural; Risk environment

Background

Opioid use disorder (OUD) has serious health consequences, including overdose, HIV, hepatitis C (HCV), and neonatal abstinence syndrome (NAS), as well as social consequences, including unemployment and social alienation (Veilleux, Colvin, Anderson, York & Heinz, 2009). The misuse of and dependence on opioids – including both prescription painkillers and heroin – is a national health crisis, with more than 130 fatal opioid overdoses in the United States every day in 2018 (Center for Disease Control and Prevention [CDC], 2018). Rural Appalachia, a region disproportionately affected by poverty, unemployment, and poorer health outcomes, has been hit especially hard by the opioid epidemic (Pollard & Jacobsen, 2019). In particular, as of 2017, the Appalachian region of Ohio had rates of unintentional overdose death, HCV, and NAS that exceed the state and national averages (Ohio Department of Health [ODH], 2017a; ODH 2017b; ODH, 2018).

In many cases, OUD can be treated effectively with medication-assisted treatment (MAT), an evidence-based strategy supported by the National Institutes of Health (NIH), the Substance Abuse and Mental Health Services Administration (SAMHSA), the Centers for Disease Control and Prevention (CDC), the Food and Drug Administration (FDA), and the American Society of Addiction Medicine (ASAM) (ASAM, 2015; CDC, 2017; FDA, 2019; SAMHSA, 2019). FDA-approved MAT medications include methadone, buprenorphine, and naltrexone; these medications, when provided in combination with behavioral therapy, reduce opioid cravings, withdrawal symptoms, and the euphoric effects of narcotics (FDA, 2019; SAMSHA, 2019). ASAM guidelines have not established an optimal duration of MAT for any of these medications but note that long-term treatment is often needed (ASAM, 2015). Successful long-term maintenance MAT reduces overdose and prevalence of HCV and HIV risk behaviors and increases treatment retention and abstinence (FDA, 2019; Krupitsky et al., 2011; Schwartz et al., 2013; Tsui, Evans, Lurn, Hahn & Page, 2014; Fudala et al., 2003; Marsch, 1998).

Despite substantial evidence of effectiveness and consistent endorsement by federal agencies, both providers and patients underuse MAT (ASAM, 2015; CDC, 2017; FDA, 2019; SAMHSA, 2019; Jones, Campopiano, Baldwin & McCanace-Katz, 2015; Wu, Zhu & Swartz, 2016; Stein et al., 2012). MAT uptake is particularly low in rural areas, like the southern Appalachian region of Ohio (Andrilla, Coulthard, & Larson, 2017a; Andrilla, Coulthard, & Larson, 2017b). While there is limited data on the availability of MAT in this region specifically, in 2017, 60% of rural counties in the US did not have any DATA 2000-

waivered providers who can prescribe buprenorphine in an office-based setting (Andrilla, Coulthard, & Larson, 2017b). Additionally, as of 2012, almost 20% of Ohio's waivered providers were completely inactive (Parran et al., 2017). Patients also underuse MAT. Among those surveyed in the 2005–2013 National Surveys on Drug Use and Health, only 19% of people with OUD reported they are on MAT, and as of 2017, only 39% of OUD treatment admissions included MAT (Wu, Zhu & Swartz, 2016; SAMSHA, 2017).

There has been increasing acknowledgment among public health professionals that the 'risk environment' is an important determinant influencing the success of harm-reduction and treatment efforts (Rhodes, 2002; Rhodes, 2005; Rhodes 2009; Strathdee et al., 2010). The risk environment framework (REF) highlights the social and physical space in which factors interact to increase the chances of harm, shifting the emphasis from endogenous individual-level determinants towards four environmental influences of risk behavior: physical, social, economic, and policy (Rhodes, 2002; Rhodes, 2005; Rhodes 2009; Strathdee et al., 2010). These exogenous factors interact at the micro and macro levels to influence risk behaviors and their effects. In this framework, drug use harms are viewed as unintended consequences of larger environmental forces that operate synergistically to increase the risk of drug use.

MAT-related stigma is a known element of the drug use risk environment, contributing to low MAT uptake and use, low OUD treatment-seeking and retention, denial of access to MAT to people within the criminal justice system, fewer providers prescribing MAT, and poor prescribing practices (Semple, Grant & Patterson, 2005; Earnshaw, Smith & Coperhaver, 2013; Joseph, Stancliff & Langrod, 2000; White, 2009; Andraka-Christou & Capone, 2018; Huhn & Dunn, 2017; Cunningham, Kunins, Roose, Elam & Sohler, 2007). Patients have long reported experiencing stigma related to their engagement in MAT, feeling stigmatized by their substance use treatment counselors, healthcare workers, family, friends, and coworkers (Earnshaw, Smith & Coperhaver, 2013; Woods & Joseph, 2015; Semple, Grant & Patterson, 2005; Conner & Rosen, 2008). In this way, stigma is a powerful force influencing the success of efforts to address the opioid epidemic, especially in regions hit hardest by the epidemic like rural Appalachian Ohio. However, to date, stakeholder and community perceptions and attitudes towards MAT in rural settings have not been described. In this qualitative study, we aim to characterize the perceptions and attitudes towards MAT in Appalachian Ohio in the context of the REF.

Methods

We conducted in-depth interviews with key stakeholders as part of the formative phase of the Ohio Opioid Project (OHOP). Ohio is one of eight sites of the national, NIDA-funded Rural Opioid Initiative assessing the legal, healthcare, epidemiological, and social characteristics of opioid use in rural settings to identify service gaps in health care and substance use treatment. The ultimate goal of OHOP is to partner with communities to develop, implement, and assess a service delivery plan to reduce morbidity and mortality related to opioid use and injection.

Participants

We identified potential participants through community collaborators, including county health and drug coalitions and health departments, and sent an email inviting them to participate in an in-person interview. Inclusion criteria included: 1) working in the three-county area of interest; 2) having experience providing or supporting health- or drug-related services; 3) being able to provide informed consent. Participants were purposively selected to represent all three counties and to ensure a range of perspectives. Specifically, we identified and recruited 34 participants from three main groups of stakeholders: 1) healthcare professionals (providers and public health professionals); 2) substance use treatment providers; 3) law enforcement agents, and judicial officials (judges and probate officers) (Table 1). Recruitment continued until we reached thematic saturation, the point at which no new themes emerged.

Data Collection

Two interviewers, extensively trained in qualitative methods and the interview guide, conducted semi-structured interviews between February and July 2018 in private rooms at participants' places of work. Interviews lasted approximately 1 hour, and participants provided written informed consent before the interview commenced. An interview guide was used to ensure systematic coverage of topics relevant to participants' perceptions and attitudes towards MAT. The guide covered the following topics: 1) perceptions and attitudes towards people who use drugs (PWUD); 2) perceptions and attitudes towards MAT; 3) barriers and facilitators to providing services, including MAT, for PWUD. All interviews opened with broad questions about these topics and as interviews progressed, the interviewers used probing questions to understand the underlying elements of the risk environment contributing to participants' perceptions and attitudes. All interviews were audio-recorded and transcribed verbatim.

Analysis

While interviews covered a wide range of related topics, data analysis explicitly focused on stakeholders' and community members' perceptions and attitudes towards MAT in the context of the REF. Three researchers conducted thematic qualitative data analysis of transcribed audio recordings using *Dedoose* qualitative analysis software. Each reader coded one transcript independently using a codebook developed based on a priori research questions and themes that emerged from a preliminary reading of the transcripts. To ensure the rigor and reliability of the coding, each reader coded one transcript independently. Readers convened to review the transcript and reach a consensus on coding discrepancies. Codebooks were adjusted during the preliminary coding phase. For the remainder of the interviews, one reader initially coded each transcript, and a second reader checked each coded transcript, making adjustments to the coding as needed. After coding all transcripts, two researchers used a combination of charts and matrices to systematically organize coded excerpts. Rows were used to represent individual participants and columns were used to identify key topics, allowing the entire spectrum of experiences to be explored and facilitating the comparison of themes across participant groups. Once the data were organized, the first step of analysis involved identification of reportedly how available MAT

was in these three rural counties. In the second stage, researchers identified and compared MAT perceptions and attitudes across different groups of participants. Finally, researchers documented the contribution of environmental factors (physical, social, economic, policy) to the observed MAT-related stigma and the drug use risk environment.

This study obtained IRB approval from the Ohio State University.

Results

We conducted 34 in-depth interviews with stakeholders from three counties. Participants included: 7 law enforcement and judicial officials; 12 substance use treatment providers; 12 healthcare professionals; 3 members of relevant community organizations. Below, we present three thematic areas: 1) MAT availability in the region, 2) risk environment factors that affect attitudes and perceptions of MAT, including cultural attitudes towards drug use and addiction, the history of pill mills and medication diversion, and prohibition of MAT within the judicial system; 3) stakeholder and community member attitudes and perceptions of MAT.

MAT Availability

Participants explained that in the region, both opioid antagonists, in the form of naltrexone, and opioid agonist treatment, in the form of buprenorphine, were available. Methadone was reportedly not available in these three counties. Naltrexone is available as a monthly shot in multiple healthcare and substance use treatment centers in the region. Additionally, there are two different models of buprenorphine treatment available. In the first model, which is more common in the region, buprenorphine is prescribed short-term, for withdrawal only or a rapid taper of fewer than six weeks. In the second model, buprenorphine is prescribed long-term, with maintenance doses provided as long as the patient needs. Participants expressed that fewer programs offer this model.

Most buprenorphine programs include a behavioral therapy requirement. Participants explained that while insurance companies often require counseling documentation monthly, treatment agencies are a business and have a financial incentive “to require you to do this many sessions a week.” Some participants saw these requirements as overly restrictive, “making people jump through hoops,” and “creat[ing] the black markets by putting all these restrictions on how you get it.” Participants described situations in which most programs have these requirements. Alternatively, patients can pay cash for their prescriptions, often “driving 2 hours away and pay[ing] \$300, because they only have to do that once a month.”

Risk Environment Factors

Social: Cultural Attitudes towards Drug Use and Addiction—Participants described the tri-county region as having a “conservative” and “Appalachian” culture that had little tolerance for “mind-altering substances” or addiction. Many participants described a community that champions drug prohibition, seeing drug use as a moral issue to be addressed through the criminal justice system. These beliefs extend to community perception of buprenorphine and some extent, naltrexone. A diverse group of stakeholders noted that within this culture, buprenorphine is believed to be just as harmful as opioids and

methamphetamine, and the use of this treatment to be “trading one addiction for another.” These beliefs foster a culture where the community sees abstinence as the only form of successful recovery.

The idea that total abstinence is necessary to be “clean” is also pervasive within the recovery community, which participants described as being based heavily on the faith-based, 12-step Narcotics Anonymous (NA) philosophy. As an organization, NA does not endorse the use of buprenorphine, and stakeholders reported that local NA chapters and their members overtly criticize MAT. As a result, NA members on buprenorphine feel uncomfortable attending NA meetings, and when they do attend, they hide their medication status:

“My patients go to NA meetings, and they say they don’t say they are on Suboxone [buprenorphine] because they don’t want to be stigmatized because the people in NA meetings say you are not clean until you are not on anything.”

(healthcare provider)

As previously mentioned, participants explained that OUD is often treated as a moral or criminal issue rather than a medical issue. Within this culture, people are believed to be responsible for their actions, including their compulsive drug use. Participants explained that this emphasis on free will and self-determination influences both stakeholders’ and community members’ views of addiction as a “choice” as opposed to a “disease.” This view was prevalent among many, though not all, law enforcement, judicial officials, and first-responders:

“It [drug use] is a choice, I don’t give a shit what anybody says, and you are never going to change my mind...you are not ever going to convince me, ever, that it’s a disease from somebody who is shoving a needle in their arm or smoking that shit. Ever. I don’t give a shit what anybody says; I don’t care who orders me to do what. I see it; they make that choice.”

(law enforcement officer)

Unlike law enforcement and judicial officials and community members, healthcare and substance use providers were more likely to empathize with PWUD and describe addiction as a disease. During interviews, they emphasized the neurological underpinnings of OUD and expressed greater empathy for PWUD in general:

“They’re not bad people; they’re good people wrapped up in substance use. They are acting, they have a brain disease, and they make poor choices, not poor choices but awful choices that oftentimes lead to their death or crime, prostitution, uhm wow. I am just amazed that a drug can do that to ya, but it does.”

(substance use treatment provider)

Those who described addiction as a disease often believed that medication was necessary to treat the underlying biological mechanisms of OUD. But even among these stakeholders, PWUD were not blameless. For example, several stakeholders stated that addiction is a disease but that at some point, those who are addicted made a bad decision, typically pointing to the initial decision to try drugs.

Physical and Economic: History of Pill Mills & Medication Diversion—

Stakeholders from all groups discussed the effect that “pill mills” of the ‘90s and early ‘00s have had on attitudes towards MAT, especially buprenorphine. During the pill mill era, prescription drugs, primarily controlled substances, including opioids, were marketed aggressively by pharmaceutical companies and over-prescribed for cash profits by doctors. Participants described how the economic motives of pharmaceutical companies and providers resulted in a physical environment where readily available pills were diverted, purchased on the streets, and misused in the community. Stakeholders placed much of the blame on the pharmaceutical industry:

“And, it didn’t help that the pharmaceutical industry ya know, basically just, just drowned America in prescription opioids based on lies, lies about their addictiveness... So, it wasn’t just a bunch of Indians and hillbillies being irresponsible with their medicines after all. It, there was bona fide, deliberate corporate poisoning going on.”

(public health professional)

Stakeholders across all groups said that prescription opiates are no longer as available in the region, but that the pill mill model of prescription drug distribution still occurs for buprenorphine. These participants reported buprenorphine is currently distributed, diverted, and abused on the street. Perceptions of how often diversion occurs varied, but past experiences with opioid diversion and abuse, and examples of current buprenorphine diversion, fuel general mistrust in the healthcare system and MAT-related stigma. One judicial official noted:

“The doctors that prescribe it uh, unfortunately, you know nature takes over, and they do bad things with it [buprenorphine]. Which in turn gives it that stigma; hey, that’s a pill mill, or that’s a pain clinic. But their intentions are good, they’re trying to help and unfortunately a few, you know, a few rotten apples have ruined it for the rest of us.”

(judicial official)

Policy: Prohibition of MAT within the Judicial System—Stakeholders from all groups noted that until recently MAT was not allowed in most drug courts in the three-county region. Participants noted that judges and policymakers:

“...have blatantly said, outside of meetings, but in the community when they are out in the community, when they are out and about in a restaurant, or getting their haircut or whatever, ‘I know how to solve the problem. We should just let them all die... We’ll just leave them on the street, it’s fine.’”

(public health professional)

Participants expressed that this negative attitude towards PWUD from key decision-makers influences MAT availability both in the courts and in the community. Participants from all groups noted that until recently, neither short-term nor long-term buprenorphine services were allowed in most drug courts in the three-county region. Participants cited law enforcement and judicial officials’ use of “old information” as the primary explanation for

this policy. If MAT was offered, judges preferred injectable naltrexone over buprenorphine because patients cannot divert this medication. Participants reported that one judge in the area allowed buprenorphine in their drug court program. Instead, most law enforcement and judicial officials emphasized the importance of enforcement and incarceration as principal motivators in the recovery process. A few participants noted that the Ohio Attorney General recently cited the local drug courts' prohibition of MAT as violating the Americans with Disabilities Act, which they hoped would increase MAT availability in the courts.

Stakeholder Perceptions of MAT

Stakeholders' perceptions of MAT ranged from being against any use of MAT, to believing only in the use of naltrexone, to believing in the short-term or long-term use of buprenorphine. Positive views of buprenorphine and naltrexone were most often expressed by healthcare professionals and substance use treatment providers. While law enforcement agents and judicial officials most often expressed negative opinions of MAT, especially buprenorphine, these views were not isolated to one particular group of stakeholders. Participants from all stakeholder groups discussed their own, peer, and community stigma against MAT.

Though members of all groups expressed or described opposition to MAT, the expression of stigma differed across sectors. To justify their negative opinions of MAT, law enforcement agents and judicial officials most often explicitly expressed concerns about buprenorphine abuse, diversion, and the pill mill model of prescription drug distribution relative to other participants:

"I know they abuse it. I know it for a fact... It [buprenorphine] is a short-term drug with counseling. It probably works. I got no issues with that, but that shit where they are on Suboxone [buprenorphine] for two years. Really? Yeah, they are going to abuse it."

(law enforcement agent)

Additionally, law enforcement agents and judicial officials were more likely to endorse "conservative" ideas, see buprenorphine as continued drug use, and emphasize the importance of choice and free will. However, not all law enforcement and judicial officials expressed entirely negative opinions of MAT. A few stakeholders in this group endorsed the use of naltrexone, and some believed that buprenorphine, "as long as it is used correctly," can be "very helpful." Most law enforcement and judicial officials who were open to buprenorphine believed that to be used "correctly," it should be used short-term with a rapid taper. Only one judicial official endorsed the long-term use of buprenorphine.

Stakeholders from all groups echoed this preference for short-term use of buprenorphine with a rapid taper, and a few participants believed that some providers in the area did not support any buprenorphine use:

"So, [the patient] told me, she [the nurse] took my history, and she found out I was on Suboxone [buprenorphine], and she waxed on and on for about 10 minutes telling me how she didn't agree with that and then she left the room. And I can see the whole thing playing out in my head, ya know? When she [the nurse] walked in

with the doctor, you could tell that they had the talk. And so, they [healthcare providers] are uncomfortable.”

(substance use treatment provider)

Healthcare professionals and substance use treatment providers were also affected by the “conservative” culture, fearing ostracism from the community if they provided MAT (especially buprenorphine), and in some cases also believing abstinence was necessary for a successful recovery.

A small group of inter-connected interviewees, primarily in the healthcare sector, strongly supported long-term, evidence-based MAT. All of these participants saw addiction as a disease and emphasized the importance of adhering to evidence-based treatment. These pro-MAT stakeholders expressed frustration with key decision-makers from all sectors involved with the opioid epidemic for not using scientific evidence to guide their decisions around MAT. Pro-MAT participants explicitly stated that MAT is not “a magic fix” but that it is necessary to the “stabilization and minimization of harm.” These pro-MAT providers believed in the use of long-term MAT, but did often not believe their clients needed to be on the medication indefinitely; many expressed that they would like to get PWUD to that “ah-ha moment where they say ‘ah-ha,’ and they say ‘I need to separate from opioids if I am going to go any farther in recovery.’” However, they believed that “every person is obviously different” and that a one-size-fits-all approach to recovery would not be effective.

Discussion

In the study’s three-county area of interest, MAT uptake is low. Despite having a higher age-adjusted rate of unintentional overdose death than 70% of the state from 2012–2017, there are currently only three buprenorphine providers per 10,000 people in the area (ODH, 2017a; United States Census Bureau, 2018; SAMHSA, nd). Our findings suggest that in these counties, MAT-related stigma is endorsed widely, accepted culturally, and incorporated into policies. MAT-related stigma affects both treatment uptake and use, and our findings suggest that it may play a key role in the unavailability of MAT in the region (Semple, Grant & Patterson, 2005; Earnshaw, Smith & Coperhaver, 2013; Joseph, Stancliff & Langrod, 2000; White, 2009; Andraka-Christou & Capone, 2018; Huhn & Dunn, 2017; Cunningham, Kunins, Roose, Elam & Sohler, 2007).

This study is the first, to our knowledge, that highlights MAT-related stigma in the context of the rural Appalachian risk environment. Here, we define the risk environment as the exogenous factors that interact to increase the chance of risky drug use and concomitantly decrease the chance of PWUD engaging in treatment (Figure 1). MAT-stigma is itself a major characteristic of the risk environment, but it is also amplified by other factors and domains of the risk environment. Three main environmental factors emerged as both driving and working synergistically with MAT-related stigma to influence risky drug use practices and increase the risk of drug use harms: 1) social: the “conservative” culture that emphasizes that addiction is a choice and complete abstinence is required to be free of “mind-altering substances”; 2) physical and economic: the regional history of pill mills driving fear of the

diversion of MAT drugs; (3) policy: the policies that keep MAT inaccessible to criminal justice-involved individuals.

First, “conservative” culture has been associated with the belief that behaviors are based on individual choice (Brener, Von Hippel, Kippax & Preacher, 2010). Here, we observed that those with “conservative” beliefs often see addiction as a choice and MAT, particularly buprenorphine, as trading one addiction for another. Given the “conservative” culture that strongly believes any type of drug use is unacceptable, stakeholders’ and community members’ preference for abstinence-based treatments follows logically. Judicial officials and law enforcement agents commonly expressed that MAT is a crutch, hinders recovery, and trades one addiction for another. Many substance use treatment and healthcare providers shared this view and were less likely to prescribe long-term maintenance buprenorphine, as others have also observed (White, 2009). Consequently, our findings suggest few programs in the community offer long-term buprenorphine, and most people with OUD are offered short-term buprenorphine with a rapid taper. Further investigation into the availability of long-term MAT in the region is needed to confirm these findings.

Second, fear of diversion affects attitudes towards buprenorphine. Although the prevalence of buprenorphine diversion currently is unknown, economically motivated overprescribing and diversion of prescription opioids were once commonplace in Appalachian Ohio (Lavonas et al., 2014; Yokell, Zaller, Green & Josiah, 2011). Most participants believed the pill mill model is still pervasive, making buprenorphine readily available in the physical environment. We propose that this fear of diversion is founded in a misunderstanding of the factors contributing to buprenorphine versus opioid diversion. The primary use of diverted buprenorphine is for self-treatment, curbing withdrawal symptoms, and reducing the use of other opioids; diversion decreases with increased legitimate access to MAT (Cicero, Ellis & Chilcoat, 2018; Cicero, Ellis, Suratt & Katz, 2014; Shuman-Olivier et al., 2013; Bazazi, Yokell, Fu, Rich & Zaller, 2011). However, participants widely reported that they believe buprenorphine, like opioids, are primarily diverted for euphoric purposes. These fears create real barriers to evidence-based MAT prescribing practices. Among DATA 2000-waivered providers in the United States, those who believed the community had concerns about diversion were more likely to terminate a patient’s treatment when medication diversion was suspected (Lin, Lofwall, Walsh, Gordon & Knudsen, 2018). Consequently, concerns about diversion may lead to prescribing practices inconsistent with current ASAM guidelines.

Third, judicial officials’ and law enforcement agents’ addiction-related beliefs have led to drug court policies that limit MAT access among criminal justice-involved PWUD. Given that up to a quarter of all justice-involved people have OUD, the criminal justice system may be an ideal place to provide treatment to this hard-to-reach population (Karberger & James, 2005). In Australia, prison-based MAT reduced re-incarceration by one-fifth on average (Larney, Toson, Bruns & Dolan, 2011). Increasing access to MAT within the criminal justice system in Appalachian Ohio may be critical to curbing the behavioral problems associated with opioid use.

Responding to the social cultural context, physical and economic regional history, and policies that generate MAT-related stigma implies developing structural interventions. The

REF suggests that structural change is necessary to address structural- and environmental-level problems (Rhodes, 2005). How to reduce structural stigma, especially as it relates to substance use, is unclear, but multi-level strategies have been used to decrease stigma in other contexts. For example, social marketing and increased social contact have been used to shift cultural norms (Evans-Lacko et al., 2012). Social marketing and media campaigns increase peoples' willingness to have contact with someone with mental health problems, and this strategy could be similarly leveraged to address the "conservative" attitudes around drug use and drug users (Evans-Lacko et al., 2012). Effective media campaigns that focus on the biogenic explanations of OUD may reduce the blame and discrimination that those with OUD face in the community (Evans-Lacko et al., 2012; Kvalle, Gottdiener & Haslam, 2013; Kvalle, Haslam & Gottdiener, 2013).

Additionally, increased social contact may be effective at shifting attitudes towards discriminated groups (Shera, 2016; Corrigan, Kosyluk & Rusch, 2013; Evans-Lacko et al., 2012). Hosting community events where people with lived experience of OUD interact with the public and describe their MAT success stories may reduce interpersonal OUD and MAT-related stigma and empower those who can tell their stories (Corrigan, Kosyluk & Rusch, 2013). Peer support also decreases self-stigma and promotes longer and more regular treatment use (Deegan, 2012; Markowitz, 2001; Solomon, 2004). Finally, advocacy strategies that address drug court policies and decrease MAT-related stigma in healthcare settings may help to improve institutional practices and policies.

There are limitations to this work. First, no inferences can be made about the prevalence of MAT-stigma and related findings beyond the interviewed sample. Second, some stakeholders we reached out to, particularly those from law enforcement and faith-based treatment centers, refused to be interviewed. Given that we found law enforcement to have the least positive views of MAT, we may not have captured the most anti-MAT perspectives. Furthermore, those who we did speak to were recruited from previously established community partners, and as we work with many of these stakeholders, there may have been a social desirability bias when reporting their opinions of MAT. Additionally, participants were primarily from the county with the greatest access to MAT. It is possible these participants personally had more positive views of MAT, and their opinions may not be reflective of the broader community. Finally, we did not include PWUD in our analysis, and we cannot comment on how much MAT-stigma creates barriers to access on an individual level.

Despite these limitations, our findings highlight the pervasiveness of MAT-stigma in Appalachian, Ohio. Our work suggests that to effectively decrease the harms associated with opioid use and increase the use of harm reduction and evidence-based treatment, it will be necessary to address the risk environment. Interventions addressing MAT-related stigma and its environmental drivers are needed to increase uptake and use of evidence-based treatment.

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Figure 1.
Risk environment factors influencing the chance of risky drug use in rural communities
(Strathdee et al., 2010)

Table 1:

Sociodemographic characteristics of study participants

Characteristic	All participants (n = 34)
Mean age (range)	48 (25–73)
Male	19 (56%)
Female	15 (44%)
County *	
Scioto	16
Pike	9
Jackson	11
Mean years working with PWID (range)	14 (1–30)
Mean years living in southern Ohio (range)	35 (5–60)

* Note: may sum to more than 34, as some organizations/individuals served multiple counties.