

Organizational Facilitators and Barriers to Medication for Opioid Use Disorder Capacity Expansion and Use

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Abstract

Medication for opioid use disorder (MOUD) is a key strategy for addressing the opioid use disorder crisis, yet gaps in MOUD provision impede this strategy's benefits. The research reported here sought to understand what distinguishes low- and high-performing organizations in building and using capacity to provide MOUD. As part of a mixed methods MOUD implementation trial, semi-structured telephone interviews were conducted with personnel from low- and high-performing MOUD-providing organizations. Seventeen individuals from 17 organizations were interviewed. Findings demonstrate the importance of individual, organization, and community-level factors in supporting the building and use of MOUD capacity. Low- and high-performing organizations showed different patterns of facilitators and barriers during the implementation

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Journal of Behavioral Health Services & Research, 2020. 1–9. © 2020 National Council for Behavioral Health. DOI 10.1007/s11414-020-09706-4

process. The key difference between low- and high-performing organizations was the level of organizational functioning. A better understanding of an organization's assets and deficits at the individual, organizational, and community levels would allow decision-makers to tailor their approaches to MOUD implementation.

Introduction

One hundred and twenty people died per day in the USA in 2018 after overdosing on opioids.¹ The total economic burden of prescription opioid misuse is estimated to be \$78.5 Billion.² Increases to child welfare caseloads³ and neonatal abstinence syndrome⁴ have also occurred through opioid misuse. Coinciding with these trends, the use of medication has emerged as a promising strategy for treating both acute symptoms of opioid use disorder (OUD) and as a maintenance therapy supporting sustained recovery outcomes.^{5, 6} Medication for opioid use disorder (MOUD) has been shown to increase treatment retention for OUD,^{7, 8} to reduce opioid use,^{9, 10} to improve neonatal outcomes for babies born to women with OUDs,¹¹ and to reduce opioid-related mortality rates.^{12, 13} The American Society of Addiction Medicine, the Substance Abuse and Mental Health Services Administration, and the World Health Organization have relied on the published evidence-based practice to recommend the use of MOUD.¹⁴⁻¹⁶ Yet, significant performance gaps exist across the USA. There are entire geographic regions where MOUD is not widely available.¹⁷ In addition, many special treatment settings do not offer MOUD¹⁸ or underutilize it.¹⁹

The three common pharmacotherapies used to treat OUDs are buprenorphine, methadone, and extended-release naltrexone (Vivitrol®). Buprenorphine and methadone are opioid agonists that bind to the opioid receptors in the brain to reduce the effects of opioids. Buprenorphine can only be prescribed by health care providers who have completed training to obtain a waiver allowing them to treat a limited number of patients.²⁰ Patients take the medication daily via tablet or film formulations; a longer-acting implant formulation is also available.²¹ Methadone can only be dispensed from a location that is licensed to dispense methadone, and these entities tend to be stand-alone, not part of health care clinics. Extended-release naltrexone is typically injected once a month at the prescriber's office location. Buprenorphine and extended-release naltrexone are more imminently scalable due to fewer regulatory restrictions to offering them in office-based settings.

The implementation gap between scientific evidence and clinical practice is well documented, with many examples of underutilized evidence-based practices (EBPs) in general health care^{22, 23} as well as in substance use disorder specialty care.^{24, 25} Such an implementation gap exists for MOUD in office-based settings, despite the strong support for the use of these medications in response to the opioid overdose public health emergency.²⁶ Multiple barriers contribute to this persistent gap. For example, counselors and patients continue to resist medication-based approaches that conflict with the abstinence-based tradition of Alcoholics Anonymous and other self-help groups.^{27, 28} Additionally, the specialized induction and diversion prevention practices for extended-release naltrexone and buprenorphine can strain traditional clinical work systems. The lack of medical staff in many treatment organizations results in problematic barriers to the use of MOUD related to unmet needs for program monitoring and risk mitigation.^{29, 30} Due to the complex nature of office-based MOUD, successful implementation requires support at administrative and organizational levels. Administrators' support and the allocation of financial resources for staff education and training affect the prioritization and adoption of MOUD within organizations.³¹⁻³³ Combined, this complex mix of barriers contributes to the limited adoption and use of MOUD.

The research reported here used qualitative methods to develop a more in-depth understanding of both the barriers and facilitators to the successful implementation and expansion of MOUD

capacity and the use of that capacity as perceived by the people working on the frontlines of treatment organizations to implement MOUD.

Methods

Study setting

In a cluster-randomized trial focused on expanding access to MOUD (NCT02926482), 72 organizational sites in Florida, Ohio, and Wisconsin interested in improving their ability to provide buprenorphine/naloxone and extended-release naltrexone were recruited for a 24-month study of two sets of implementation strategies.³⁴ The study intervention consisted of a learning collaborative in each state that included a website listing promising practices, three face-to-face meetings, and monthly group coaching calls. In the control group, only the website was provided. The main outcome measures were monthly assessments of the number of MOUD slots the organizations created and filled. In this paper, we define slots created as “capacity” and slots filled as “use.”

Data collection

Data for the analysis described in this paper were collected through a qualitative component embedded in the larger trial.³⁴ During month 11 (roughly the midpoint of 24-month trial), key informants at a sample of 19 of the 72 sites were invited to participate in interviews. Key informants were individuals at each organization who were familiar both with the site’s buprenorphine prescriber slots available, buprenorphine slots used, extended-release naltrexone use, and the organization’s experience in attempting to implement MOUD. Key informants played varied roles at their organizations. The majority ($n = 10$) served in administrative capacities (e.g., executive director, vice president, or business manager). Four key informants were practitioners (e.g., counselor or LPN.) Three of the key informants were both administrators and practitioners (e.g., an MD that served as a medical director or an RN who served as nursing manager and program coordinator.) Two criteria drove site-level sampling: performance in building capacity for and using MOUD and study condition. Within each state, high-performing organizations from the intervention arm were selected [$n = 2$ from Florida, 3 from Ohio, and 2 from Wisconsin]. High performers were defined as organizations that showed continuous improvement in the percentage of buprenorphine slots available or used, or in the amount of extended-release naltrexone capacity used. Second, low performers from the intervention arm were also selected [$n = 2$ from Florida, 2 from Ohio, and 3 from Wisconsin]. Low performers were defined as organizations that either had no available slots for buprenorphine or extended-release naltrexone capacity (i.e., had not adopted these treatments) or had buprenorphine slots or extended-release naltrexone capacity but were not using that capacity despite the desire to do so at the trial’s onset. Finally, interviews were conducted with key informants at high performers drawn from the control organizations in all three states [$n = 1$ from Florida, 2 from Ohio, and 2 from Wisconsin]. In total, 17 of the 19 organizations invited participated in interviews. All key informants provided verbal informed consent, and all study procedures were reviewed and approved by the University of Wisconsin’s Institutional Review Board.

Semi-structured telephone interviews with the key informants lasted an average of 27 min, with a range of 15 to 57 min. Interviews were conducted by project staff, using a standardized interview guide. At the beginning of each interview, informants were given the opportunity to review their organization’s most recent buprenorphine and extended-release naltrexone slots data, then were asked (1) to interpret the data (“What do these data tell you?”); (2) to explore what had helped or hindered their ability to increase their organization’s MOUD capacity, and (3) to explore what had

helped or hindered their ability to use that capacity. All interviews were audio-recorded and transcribed verbatim.

Transcripts were checked for accuracy and uploaded into ATLAS.ti qualitative data analysis software. Using a preliminary coding framework that focused on identifying facilitators and barriers to MOUD capacity building and use, project staff conducted an initial pass through the data. At this point, coded data were reviewed, and a set of categories were developed to describe the facilitators and barriers identified. Additional reviews of the data were conducted first to finalize and refine the categories and then to look for similarities and differences between high and low performers. Following further discussions, project staff generated a series of reports that described the facilitators and barriers and identified patterns distinguishing high and low performers.

Another perspective came from a series of debriefing discussions between the investigators and the three coaches who supported the intervention sites. (The three coaches are not included in the sample size of 17 key informants from the study sites.) Coaches participated in monthly teleconferences with the investigators to talk about coaching plans and practices. At several of these meetings, investigators asked coaches to reflect on the factors that they saw as promoting successful capacity building and use at the organizations they were supporting. In the final stage of the qualitative analysis, the study team compared and integrated the factors coaches described with the list of facilitators and barriers identified in the analysis of the key informant interview data. Key informants and coaches identified similar facilitators and barriers, but provided different perspectives. While key informants were able to speak in detail about conditions at their organizations, the coaches' view was broader, cutting across organizations.

Results

Capacity

Assessment of capacity through the number of treatment slots created over time provides a snapshot of an organization's ability to build the basic scaffolding for a MOUD program. The qualitative data increased our understanding of the specific factors that seem to either promote or hinder organizations' ability to build their MOUD capacity (Table 1).

Key informants spoke about several categories of factors as facilitating organizations' ability to build MOUD capacity. A number of government *policies* promoted capacity building. For example, several key informants noted that the 2017 expansion of buprenorphine prescribing privileges to advanced practice nurse practitioners (APRNs) facilitated their ability to build their programs. A second facilitator described by key informants was the *outreach* organizations conducted to create a receptive environment and community demand for MOUD. While some organizations instituted formal educational and marketing campaigns, others relied on informal "word-of-mouth"-type outreach that staff conducted voluntarily. One result of outreach, and another facilitator, was the support for MOUD by *local institutions*, such as criminal justice or health systems. Such support was demonstrated, for example, by local drug courts' promotion of extended-release naltrexone.

Conversely, key informants saw *negative attitudes* toward MOUD, on the part of individuals both external and internal to the organization, as a major barrier to building MOUD capacity. As described by the key informants who observed them, negative attitudes encompassed everything from stigma and discrimination against persons with substance use disorders to managerial arguments that MOUD provision is too expensive, to the persistence of abstinence-only philosophies on the part of treatment providers.

Several factors acted as either facilitators or barriers to capacity expansion, depending on how they were manifested. Prescriber *certification* was viewed as both a facilitator and a barrier. As noted earlier, the expansion of certification to APRNs for providing buprenorphine treatment was viewed as a boon to

Table 1
Facilitators and barriers to MOUD capacity and use

	Facilitators	Barriers
Capacity	Policies (e.g., 2017 expansion of buprenorphine prescribing privileges to APRNs) Outreach (e.g., marketing campaigns) Support from local institutions (e.g., criminal justice systems) Certification (e.g., ability to increase prescriber slots) Funding (e.g., ability to access state grants for MAT provision) Staffing (e.g., ability to recruit MAT prescriber)	Negative attitudes toward MAT (e.g., on the part of counselors) Certification (e.g., reluctance of prescribers to complete certification tasks) Funding (e.g., singular focus on MAT costs) Staffing (e.g., unable to recruit MAT-friendly counselors)
Use	Funding (e.g., ability to bill private insurance for MAT provision) Outreach (e.g., public education designed to increase awareness of MAT availability) Partnerships with local institutions (e.g., establishing referral mechanism with the local emergency department)	Funding (e.g., inability to develop revenue streams to defray MAT costs) Staffing (e.g., inability to fully staff MAT program) Negative attitudes (e.g., the community rejects MAT philosophy) Lack of referrals (e.g., highly competitive environment for service providers) Patient issues (e.g., high attrition among patients admitted to MAT program)

building capacity, while the seeming reluctance of some providers to complete the tasks necessary to either become buprenorphine prescribers or increase the number of slots they could be certified for appeared to be a barrier. Similarly, some organizations saw the increased availability of *funding* from public or private insurance or governmental grants for MOUD as a major facilitator to building capacity. Other organizations experienced difficulties accessing the funds or remained focused on the costs of MOUD provision, and described their organization's resource constraints as a major barrier to developing a MOUD program. Those organizations that viewed *staffing* as a facilitator spoke of their success in identifying and recruiting prescribers and either hiring or re-training existing staff members to provide the support necessary to develop a MOUD program. Other organizations, however, had not been able to find either prescribers or program staff and described staffing as a hurdle to building MOUD capacity that they had yet to overcome.

Use

Quantitative assessment of use—the number of available slots filled over a specified period—provides a rough indication of an organization's ability to establish and maintain a MOUD program. The qualitative data increased our understanding of the specific factors that seem to either promote or hinder organizations' ability to use their existing MOUD capacity (Table 1).

Just as with capacity expansion, an organizations' ability to obtain and efficiently use the available *funding* facilitated use. Several key informants noted, for example, that insurance companies' decisions to reimburse for MOUD allowed them to fill their available slots. Key informants also emphasized the importance of formal and informal *outreach* and partnerships with *local institutions*, including hospitals, counseling agencies, detox facilities, and county governments, in helping them to build reliable sources of client referrals. Some informants also described the role of current clients in referring their acquaintances to the organization's MOUD services.

Barriers to use included a lack of *referrals*, often attributed to a highly competitive local environment for treatment organizations. Again, similar to capacity expansion, key informants cited the importance of being unable to access adequate *funding*, of the difficulty of fully *staffing* their organizations with prescribers or counselors, and of *negative attitudes* toward MOUD among providers and community members as barriers to filling all of their organizations' available treatment capacity. *Patient issues*, such as a lack of motivation or interest in MOUD, attrition, resistance to meeting organization requirements for participating in MOUD programs, and shifts to other drugs of abuse, such as methamphetamine and other stimulants, were also described as important barriers to reaching full capacity.

Comparison of high and low performers

Comparison of high- and low-performing organizations revealed several patterns. Low performers reported that *staffing*, primarily hiring a prescriber, was their main means of building capacity. High performers reported that new sources of *funding*, often state grants, and *outreach* were facilitators to building capacity. For low performers, *negative attitudes* toward MOUD appeared to be a major barrier, while the high performers reported barriers related to bureaucratic difficulties with *certification* and *funding*, particularly obtaining reimbursement from private insurance. Being able to take advantage of available *funding* appeared to be an important facilitator to using capacity for high performers. High performers took advantage of available funding by setting up billing systems that could procure funds through Medicaid and private insurance. High performers were also able to capture available grants to pay for these services. The most salient set of barriers reported by high performers were the *patient issues* described above, such as a lack of motivation to undertake MOUD, resistance to meeting MOUD program requirements, and attrition among patients started on MOUD. Low performers, on the other hand, struggled to identify any facilitators to using their capacity and did not emphasize any one category of barrier over any other.

Differing facilitators and barriers make sense if MOUD implementation is viewed as a process rather than an event. Organizations at different stages of the process are helped by different resources and opportunities and hindered by different deficits and problems. For example, organizations that have been unable to take the first step of hiring a prescriber will be unable to implement a MOUD program until they do so. Organizations that have been successful in building a MOUD infrastructure are more likely to face barriers such as patient attrition further along the implementation trajectory.

High and low performers within each state faced similar external environments. What seemed to distinguish their divergent abilities to build and use MOUD capacity was their general level of *organizational function*, encompassing organizational characteristics, structure, and process. Successful organizations had strong leadership from medical directors or administrators, an organizational history of successfully taking risks and embracing change, strong intra-departmental co-operation, and the ability to embrace organizational policies and procedures that supported MOUD workflows. On the other hand, organizations that reported difficulty establishing a MOUD program appeared to be experiencing higher levels of organizational dysfunction, characterized by difficulty hiring and retaining staff, inability to adjust to new payment and regulatory environments, and a history of problems implementing service innovations.

Discussion

Many factors affect an organizations' ability to build MOUD capacity and to use that capacity. As with many other EBPs, the preferences and attitudes of individuals play a central role in building and using capacity.³⁵ Negative attitudes toward an EBP impede its adoption.³⁶ Negative attitudes on the part of counselors,³⁷ physicians,³⁸ patients,²⁸ and administrators³⁹ can impact MOUD capacity building and use rates.

However, the results reported here suggest that factors related to organizational function are equally important as those related to the attitudes and behaviors of individuals. MOUD implementation involves an organization's management practices, climate, and culture, creating a highly complex process dependent on workflows and business models. MOUD is not unique in this regard; management practices, climate, and culture have been linked to a successful implementation of other EBPs.^{22, 40, 41}

An organization's leadership approach to implementing MOUD does influence organizational systems. For senior leadership, establishing MOUD as a clinical and business strategy builds the foundation for its use in the organization.⁴² Top leadership can be resistant to MOUD implementation if they believe this product line affects "payer mix" or will result in a financial loss. Leaders who champion the use of MOUD can overcome the adverse impact of negative attitudes from counselors and physicians. Support for clinical EBPs should also be present from clinical supervisors because of the role they play in clinician behavior.⁴³

In this study, the organization and its leadership played a key role in MOUD adoption and use by addressing the established barriers of financial support and prescriber and staff availability, which are foundational to a MOUD program.^{29, 44} Medicaid expansion and federal and state programs to address the opioid use disorder crisis have increased access to funds.⁴⁵ These or other funds to pay for buprenorphine and associated services must be present, but organizations must be willing to accept Medicaid for payment and have the capacity to bill for services. Without prescribers and staff, a MOUD program cannot function.⁴⁶ Successful programs establish policies and processes that address the physician's key barriers to MOUD and prioritize the recruitment and retention of qualified staff.

Community influence, a factor external to the organization, plays an important role in MOUD implementation. The opinions and preferences of community stakeholders are not always considered in EBP adoption.²² However, in many communities, stakeholders have become advocates for MOUD as a result of the opioid use disorder crisis and its devastating local impact. Such advocacy could be a consideration as organizational leaders decide how much they want to support MOUD.

Limitations

Although many of the findings of this study are consistent with those from other research, its generalizability may be limited. The organizations participating in the broader trial in which this qualitative study was embedded were all motivated enough to implement MOUD that they joined the trial. The barriers and facilitators to implementation may or may not be the same in a group of less-motivated organizations—presumably, the lack of motivation itself would constitute a major barrier. The organizations invited to participate in interviews were selected purposefully, based on either high or low performance; it is not known if the barriers and facilitators they report are common to all organizations. The key informants interviewed were single individuals. Although they were invited to participate based on their familiarity with the organization's MOUD data and implementation experiences, they may not have been fully aware of all of the factors that hindered or helped implementation in their settings.

Implications for Behavioral Health

Individual attitudes and behavior, organization management systems, financial considerations, organizational leadership, and community advocacy all play a role in the implementation of MOUD. The complexity and variety of these factors suggest a need to better understand, predict, and manage them. Organizational readiness assessment tools exist that can gauge an organization's readiness for change.^{47, 48} This research highlights the need to develop a readiness tool focused on the broader set of individual, organizational, and community factors that this study suggests are necessary to support MOUD implementation. Such a tool would allow decision-makers in provider organizations to consider a complex array of factors that span clinician, organization, and community issues; to conduct an inventory of the specific assets and barriers the organization might possess in each of these domains; and, armed with this knowledge, to tailor their implementation approach.

Conclusion

MOUD implementation is affected by factors at the individual, organizational, and community levels. As organizations adopt MOUD, first building capacity and then using the capacity created, different factors become more prominent. An overarching facilitator to implementation is an organizational function, encompassing leadership, an organization's ability to take risks, to support strong intra-departmental co-operation, and to recognize and embrace the organizational policies and procedures that promote efficient MOUD workflows. A readiness tool that allows organizational decision-makers to identify assets and barriers in the domain of organizational function, as well as the other domains identified in this research, would ensure that these important characteristics are fully considered during implementation and help implementers to tailor their approach at each stage of this process.

Acknowledgments

The study team gratefully acknowledges the contributions of those who participated in interviews. Editorial assistance from Maureen Fitzpatrick and Judith Ganch was also greatly appreciated.

Funding Information This study was supported by a grant from the National Institute on Drug Abuse (NIDA Grant R01DA030431; PI: Molfenter).

Compliance with Ethical Standards

All key informants provided verbal informed consent, and all study procedures were reviewed and approved by the University of Wisconsin's Institutional Review Board.

Conflict of Interest The authors declare that they have no conflicts of interest.

Disclaimer NIDA has played no role in the study design or preparation of this manuscript. The authors are solely responsible for the content of this manuscript, which does not represent the official views of the National Institutes of Health or NIDA.

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