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State Opioid Response 2 Grant:

Medication Assisted Treatment Expansion Evaluation

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Acknowledgement

We would like to thank the program staff who work each day to provide life-saving MAT services. We appreciate the time you spent sharing your experiences with us for this evaluation.

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Background

The Substance Abuse and Mental Health Services Administration (SAMHSA) funded a fiscal year (FY) 2020 cohort of the State Opioid Response grant program (referred to here as SOR2). The purpose of SOR2 was to address the opioid crisis by providing resources for increasing access to FDA-approved medications for the treatment of opioid use disorders (OUD) and to help reduce unmet treatment needs and opioid-related overdose deaths across the United States.

In 2020, 91,799 overdose deaths occurred in the United States and 74.8% were opioid-related,[1] Underscoring the need for OUD treatment approaches that can improve patient survival and support sustained recovery. Medication-assisted treatment (MAT) is an evidence-based approach to treating OUD by providing a controlled level of naltrexone, buprenorphine, or methadone to relieve withdrawal symptoms.[2]

The Oregon Health Authority (OHA) contracted with Portland State University (PSU) to conduct an impact evaluation of SOR2 funding. As part of the evaluation, PSU conducted a sub-study (referred to as the "MAT evaluation") focused on MAT program implementation, and whether SOR2 funding expanded access to and utilization of MAT services in Oregon. PSU aligned the MAT evaluation with OHA's definition of health equity:

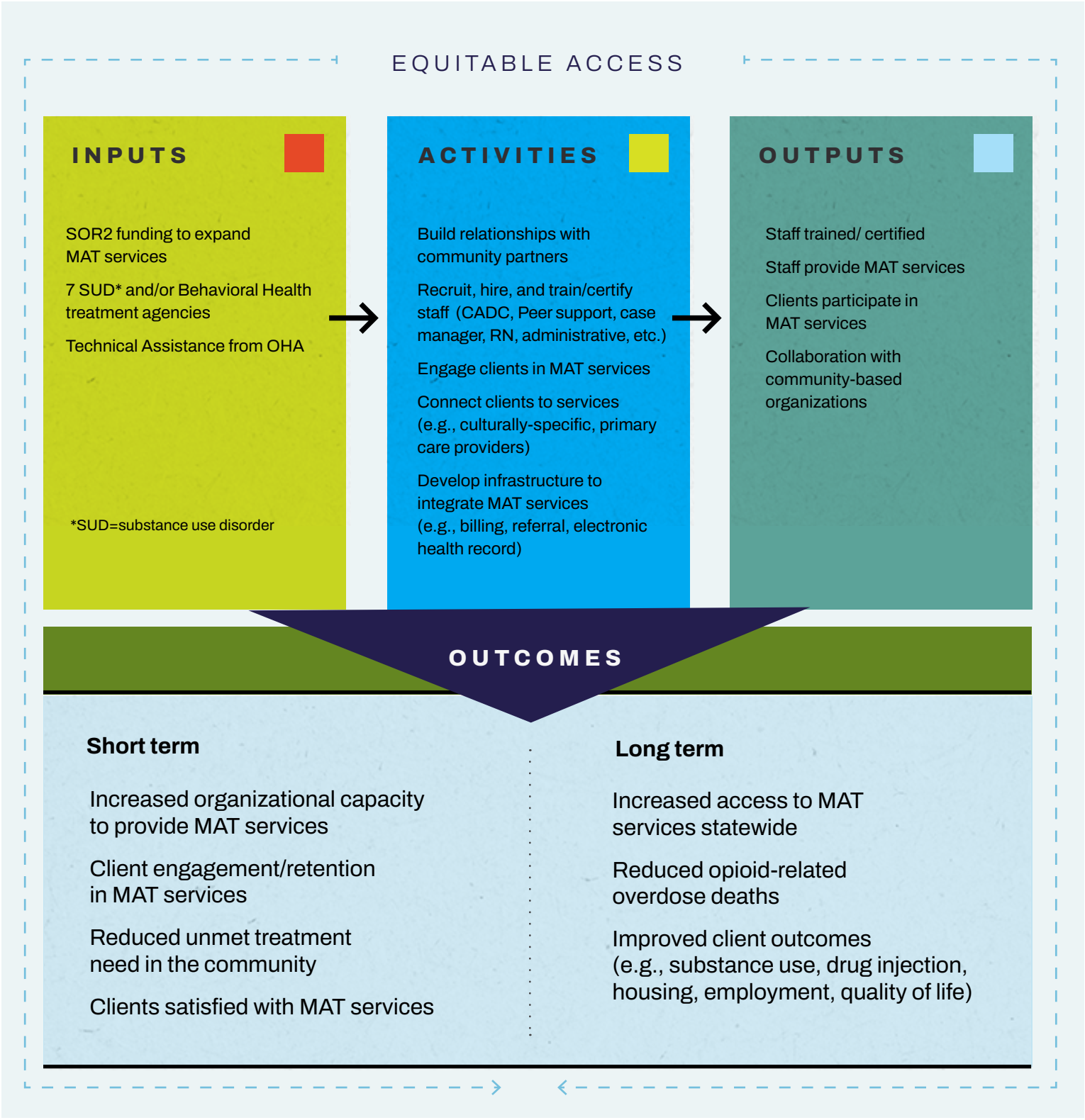
> *"a health system that creates health equity when all people can reach their full health potential and well-being and are not disadvantaged by their race, ethnicity, language, disability, age, gender, gender identity, sexual orientation, social class, intersections among these communities or identities, or other socially determined circumstance."* [3]

Disinvested and marginalized communities are disproportionately affected by the effects of OUD.[4,5] As such, the MAT evaluation sought to examine the equitable distribution of resources, including culturally-specific and -responsive services; identify systemic barriers to utilization of and access to MAT services and whether these barriers placed specific groups at a disadvantage; and to implicate the system as perpetuating the root causes of health inequities.

PSU developed a logic model to frame the evaluation (see Figure 1).
The questions guiding this MAT evaluation were:

1. How were MAT services implemented and what were the challenges (Activities and Outputs)?
2. Did SOR2 funding increase access to MAT services in Oregon (Short-term Outcomes)?
3. To what extent did people with OUD use and benefit from SOR2-funded MAT services (Long-term Outcomes)?

Figure 1.
Logic Model



Description of SOR2-funded Agencies Providing MAT Services

Seven agencies were included in this evaluation, most newly providing MAT or expanding MAT in new locations. As such, most locations had been providing MAT services for less than two years. Six agencies were office-based opioid treatment (OBOT) programs, which allow primary care or general care providers with an X waiver (created by the Drug Addiction Treatment Act, or DATA) to prescribe MAT medications (e.g., buprenorphine, buprenorphine/naloxone, naltrexone).[6]

One agency was an opioid treatment program (OTP). OTPs integrate substance use disorder (SUD) treatment with various recovery support services and are certified to dispense methadone as well as buprenorphine.[7] Additionally, three of the OBOTs were primarily behavioral health clinics – two provided some degree of primary care access in addition to behavioral health services, and one was an OBOT-only located on a hospital campus.

Most of these agencies adopted a MAT-first model, where clients receive medication as quickly as possible prior to lengthy assessments. Two agencies were bridge clinics, providing short-term services to increase speed of access to medications and then working to connect clients with long-term access. The MAT-first model is consistent with SAMHSA's treatment guidelines that emphasizes the need to get clients into treatment as soon as possible and for as long as it is beneficial.[8]

Agencies were located in a mix of rural and urban settings. Most agencies saw a need to implement or expand MAT services in their communities due to growing numbers of opioid-related overdose deaths, a lack of services in the community, and/or to provide follow-up support for individuals on probation and emergency department (ED) admissions due to overdoses.

Although agencies worked with all community members, they also reported providing additional supports for one or more of the following priority populations: monolingual Spanish speakers/non-English speakers, Latine/Hispanic,* Native American, unhoused, low income, incarcerated or parolees, LGBTQIA2S+, and rural/frontier. Other equity-focused efforts included using culturally-responsive tools, practices, and services (e.g., interpreters, translated materials), and/or connecting clients to culturally-specific programs. Most agencies also reported a diverse staff and/or had the goal of further diversifying staff.

MAT Grantee Characteristics

- 6 OBOT, 1 OTP
- Most adopted MAT-first model
- 2 bridge clinics
- Mix of rural & urban settings
- Goals related to serving priority populations

*In this report we use the term "Latine" as a gender-neutral alternative to "Latino" that is more natural to pronounce when communicating in Spanish. We use the term "Hispanic" to refer to people who speak Spanish.

Methods

The MAT evaluation included three primary data sources: grantee interviews, SOR2 grantee progress reports, and GPRA (Government Performance and Results Act) client outcome interviews. In this section, we describe the procedures for data collection and analysis for each data source.

Grantee Interviews

PSU conducted interviews with key staff at each grantee agency to gather information on how MAT services were implemented and the challenges agencies faced.

Data Collection

Data collection took place between June 2021 and July 2022. In consultation with OHA, PSU identified the MAT expansion agencies and their key staff (e.g., supervisors, project coordinators, prescribers, CEOs, directors, program leaders). OHA compiled contact information for the key staff and PSU invited them to participate in an interview.

PSU conducted two rounds of interviews. For the first round, PSU worked with OHA to develop a semi-structured interview protocol that focused on the MAT grantees' implementation successes and barriers, approach to health equity, and collaboration efforts (see Appendix A for the interview questions).

Before starting the interview, PSU reviewed an informed consent form with participants and received verbal consent. Interviews were conducted using a video conferencing platform and audio recorded for transcription. Interviews lasted 60 minutes for each agency, with the exception of one agency that included an additional 30-minute interview to learn more about their Diversity, Equity, and Inclusion (DEI) initiative from the person leading it. A total of ten key staff from seven agencies participated in the first round of interviews.

For the second round of interviews, PSU followed up with key staff from the first round. PSU again worked with the OHA team to create a semi-structured interview protocol, which was also informed by preliminary findings from the first round of interviews. Round two interviews facilitated open-ended conversations about MAT grantees' implementation supports and program changes, their approach to addressing barriers to health equity, and handling misconceptions about MAT (see Appendix B for the interview questions). Interviews lasted 60 minutes and procedures were the same as those described for the first round of interviews. Nine key staff from seven agencies participated in the second round of interviews.

Coding and Analysis

Recordings for both rounds of interviews were professionally transcribed before analysis. All interview transcripts were de-identified and Atlas.ti was used for data management and analysis. Interviews were coded in two cycles. In the first cycle, data were coded deductively using a framework created by the PSU team to broadly capture topics covered in the interview questions, such as implementation successes and challenges, supports, collaborations, plans to support health equity, and approaches in handling misconceptions about MAT. After sorting the data into broad categories, the second cycle consisted of capturing additional themes that emerged by open-coding a subsample of the data.

SOR2 Grantee Progress Reports

PSU used information from each grantee's set of bi-annual progress reports to evaluate the impact of SOR2 funding on expanding access to MAT services in Oregon.

Data Collection

Grantees were required to complete progress reports every six months of the two-year SOR2 funding period. For this evaluation, PSU reviewed each grantee's Year 1 mid-year, Year 1 end-of-year, and Year 2 mid-year progress reports (as available). We focused on two SAMHSA-required questions included on all three progress reports:

- How many unduplicated clients received treatment services for OUD?
  Received methadone?
  Received Buprenorphine?
  Received Naltrexone?

- Describe your major accomplishments related to your SOR2-funded activities during the report period.

Coding and Analysis

PSU developed a data extraction tool to organize progress report information for each grantee over time. First, we reviewed the goals that each grantee copied into their progress report from their contract or scope of work. For this analysis, we focused on goals related to expanding the availability of MAT services. Second, we reviewed each progress report and extracted any information pertaining to each goal, thereby "tracking" progress made over time (Year 1 mid-year, Year 1 end-of-year, and Year 2 mid-year). We also looked for evidence of equitable access to MAT services (e.g., disaggregated client numbers) and/or descriptions of efforts made to ensure equitable access for priority populations. Analysis involved identifying patterns across grantees in terms of progress made on similar goals (outcomes). We also compiled the OUD treatment numbers that grantees logged in their progress reports as another indicator of the availability of MAT services.

Government Performance and Results Act Client Outcome Measurement Tool

The Government Performance and Results Act (GPRA) requires all Federal departments and agencies to develop strategic plans and annually report their progress toward meeting their identified goals. Agencies are expected to regularly conduct evaluations of their programs and to use the results of those evaluations to explain their successes and failures based on the performance monitoring data. SAMHSA's data strategy includes the use of "National Outcome Measures" for measuring how effective the implementation of substance abuse treatment services is in communities across the nation.

SOR2 grantees providing treatment and recovery services were required to use the US Center for Substance Abuse Treatment (CSAT) GPRA Client Outcome Measures for Discretionary Programs Tool to collect outcome data from their clients at the time of intake and six months after intake (6-month follow-up). The GPRA interview included questions about demographic information, treatment, trauma, and substance use during the past 30 days.RMC Research oversaw GRPA data collection for the SOR2 grantees, and grantee staff conducted the interviews with clients. Because PSU did not have access to client-level GPRA data, we worked with RMC Research to develop an analysis plan to assess the degree to which clients utilized and benefitted from SOR2-funded MAT services.

Data Analysis

RMC Research used SPSS to analyze GPRA data for clients receiving services from the seven MAT agencies included in this evaluation. Analysis included descriptive statistics (frequencies, means) at intake and the 6-month follow-up, as well as statistical tests of change (McNemar tests and paired t-tests) over time for clients with data at both time points (referred to as the "6-month follow-up sample") for GPRA variables related to past 30-day drug use, harm reduction practices, quality of life, employment, satisfaction, and demographics. PSU met with RMC Research and OHA partners to discuss and make meaning from the results.

Description of MAT Clients at Intake

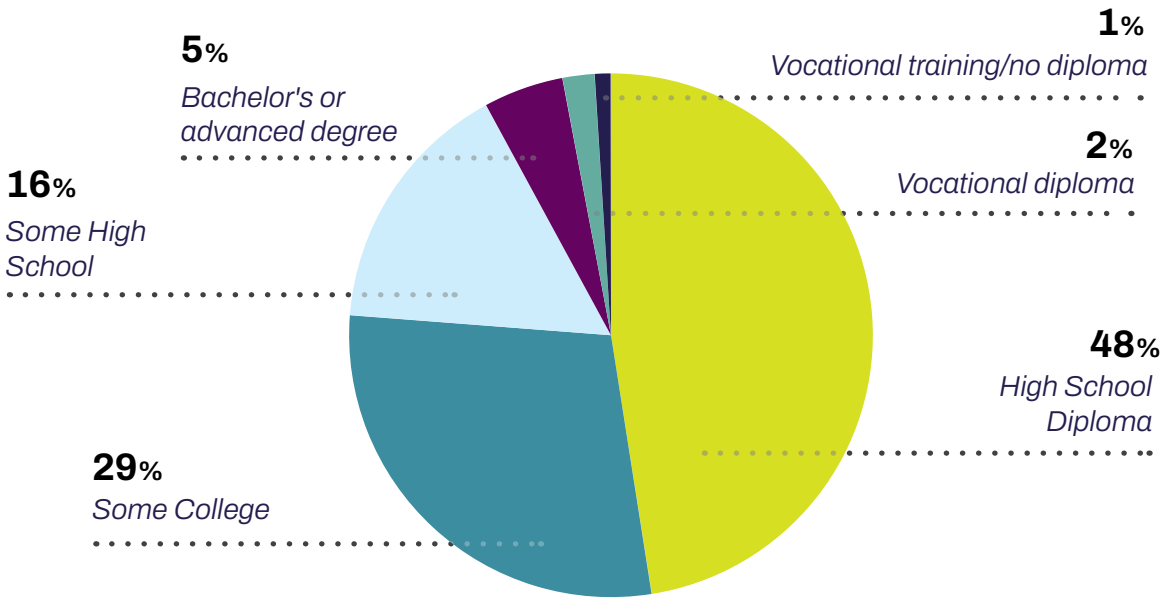
The GPRA client outcome interview was administered to 1,048 MAT clients between October 1, 2020 and June 30, 2022. Demographic data were available for the intake sample only, so the following is meant to provide a general description of the MAT clients who completed a GRPA interview.

Educational attainment

Almost half of MAT clients (Figure 2) who provided information about their education (n=1,034) earned their high school diploma or equivalent (48%, n=493). Most of the remaining clients had some type of post-secondary education: 29% (n=296) completed some college; 5% (n=47) earned a bachelor's or other advanced degree; 2% (n=19) attained a vocational diploma after high school; and 1% (n=10) attended vocational training but did not earn a diploma. Sixteen percent (n=169) of the clients completed some high school.

Figure 2

Education level at intake



Gender

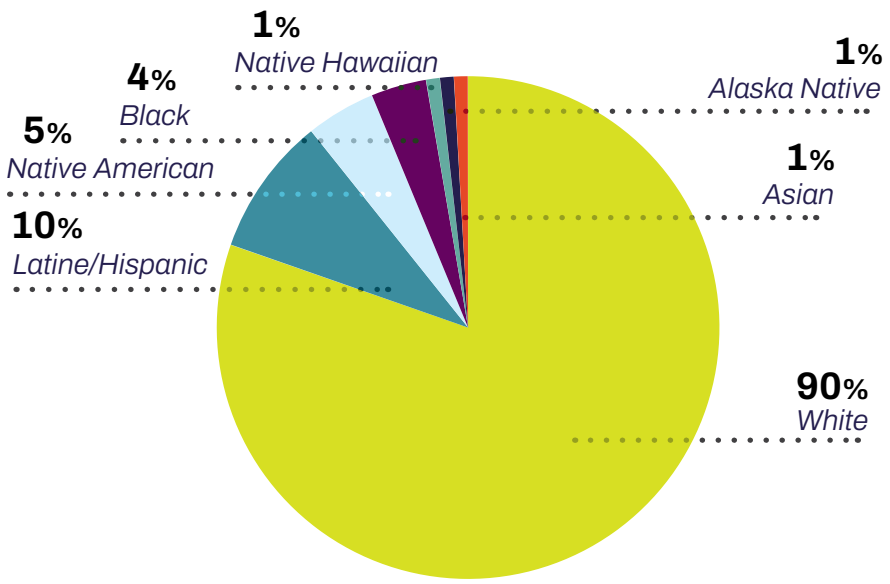
A larger share of MAT clients identified as male (59%, n=623) than female (40%, n=421), and a small proportion identified as transgender or another gender (n<5).

Race/Ethnicity

As shown in Figure 3, one in 10 MAT clients identified as Latine/Hispanic, Native American, Black, Alaska Native, Native Hawaiian, and/or Asian (participants could select more than one category). Nine in 10 MAT clients identified as white (a small number identified as white and another race). Of those who identified as Latine/Hispanic, half indicated they were Mexican.

Figure 3

MAT client race/ethnicity at intake



Note: Clients could select more than one category. View reference data in Table 1.

Results

The MAT evaluation results are organized in three sections according to the evaluation questions:

1. How were MAT services implemented and what were the challenges?
2. Did SOR2 funding increase access to MAT services in Oregon?
3. To what extent did people with OUD use and benefit from SOR2-funded MAT services?

1. How were MAT services implemented and what were the challenges?

Although research has shown that MAT is a clinically effective approach to treating OUD, it can be challenging to implement in routine healthcare settings without key organizational supports in place. The SOR2 MAT evaluation focused on understanding how grantees implemented MAT services in their organizations, the factors that facilitated the adoption of MAT, and the challenges they faced. Grantees were also asked to share lessons learned and recommendations for other organizations implementing MAT.

Using an Implementation Science Framework

PSU used the National Implementation Research Network (NIRN) framework as a guide.[9] Two concepts, implementation drivers and stages of implementation, were particularly useful for organizing the findings.

Implementation drivers are key supports needed for the successful uptake of a program or intervention. The most relevant drivers for this analysis included:

- Systems intervention
  (e.g., community alignment, integrating with other systems)
- Facilitative administration
  (e.g., organizational infrastructure to support the program)
- Data systems that support decision making
  and continuous improvement
- Staff hiring and training

Stages of implementation are phases of activity needed to put the program or intervention in place. The stages are:

- Exploration: initial decision making, defining the program
- Installation: developing teams, training, systems
- Initial implementation: staff start using the program with clients
- Full implementation: expand intervention, continuous improvement

MAT Implementation Findings

In this section, we describe how grantees implemented MAT services in terms of

1. early planning and infrastructure development,
2. service integration, and
3. workforce development.

1 Early Planning and Infrastructure Development

Implementation research points to the importance of planning and developing infrastructure prior to integrating changes in an organization.[10,11] Fixsen and colleagues define implementation as "a specified set of activities designed to put into practice an activity or program".[12] Implementation is not an event but "activities occur[ing] over time in stages that overlap and that are revisited as needed."[13] All MAT grantees described some level of planning and adaptation that began prior to initiating MAT services.

The following is a description of the grantees' early implementation activities that are characteristic of NIRN's exploration and installation stages of implementation organized by four key themes:

- Ongoing communication with diverse, knowledgeable informants
- Collaboration with other system providers
- Addressing organizational and community buy-in
- Determining economic feasibility and sustainability planning

Impact of Covid-19 Pandemic

It is important to address the significant impact that the COVID-19 pandemic had on MAT implementation and service delivery. Most notably, grantees had to revamp protocols to accommodate COVID-19 screening and social distancing rules, including providing buprenorphine prescriptions for a longer duration and requiring fewer urine screenings. Grantees also identified other impacts:

- The expedited and expanded use of telehealth services.
- Staffing issues, which included managing illness and turnover as well as challenges hiring enough staff to fully implement MAT programs.
- The strain on partner organizations (and closure of some) increased demands placed on grantees. For example, short-term bridge clinics were forced to maintain clients for longer periods than expected.
- Strain on time and resources, and social distancing rules, limited capacity to build and sustain collaborative partnerships with other organizations, such as jails and EDs.
- Supply chain issues impacted access to supplies such as Librium, used for treating alcohol withdrawal.

ONGOING COMMUNICATION WITH DIVERSE, KNOWLEDGEABLE INFORMANTS

The NIRN framework emphasizes the importance of communication with key people, such as "practitioners, administrators, and other staff members, families and community stakeholders, purveyors and 'experts' and with other implementing sites and local entities"[14] in the exploration stage of implementation. Grantee planning efforts involved committees made up of key agency staff such as financial advisors and operations managers, as well as local culturally-specific organizations and other knowledgeable community partners. At least one agency included input from a peer.

> *"Peers" are individuals with lived experience with SUD who are part of the SUD workforce. Some members of the peer workforce are credentialed (Peer Support Specialist [PSS], Peer Wellness Specialist [PWS], Certified Recovery Mentors [CRM]).*

Despite these efforts, grantees noted a lack of diverse voices in MAT planning, in part influenced by the lack of time and resources available for planning at the start of a 2-year grant cycle. Indeed, several grantees said they were hiring key staff and developing program protocols months after grant funding began.

When planning for MAT services, some key grantee recommendations included:

Connect with expert consultants. Grantees stressed the importance of guidance and planning support from expert consultants. OHA provided guidance but some grantees needed more support. One agency described spending a large sum of money on early support from a consulting agency that didn't adequately prepare them for providing MAT services. Early connections to known experts such as the Opioid Response Network would have been helpful.

Connect with other organizations providing MAT. Overwhelmingly, grantees described the importance of connecting with, and even touring facilities of, other MAT agencies. Some grantees said they reached out to other OBOTs, but nearly all agencies wanted help coordinating opportunities to regularly meet with "non-threatening," fellow OBOTs for sharing lessons learned and brainstorming issues.

Include key agency staff in early implementation. Grantees identified key staff needed to support the implementation of MAT services: administrative and operations staff for scheduling and triaging; care coordinators; prescribers; clinical supervisors for behavioral health staff; and, importantly, internal champions of MAT to help increase staff buy-in and to maintain momentum (see Addressing organizational and community buy-in for more information).

Strategize to promote equitable access and service delivery from the beginning. Many grantees shared they have non-discrimination service delivery policies; however, several agencies described having specific strategies to promote equity. For example, one grantee implemented a DEI initiative at their agency. Another grantee explained that their umbrella agency has a monthly meeting that includes staff from each location coming together to discuss ways they can better support their clients, which resulted in updated forms that are more gender inclusive.

COLLABORATION WITH OTHER SYSTEM PROVIDERS

According to the NIRN framework, *systems intervention* is an implementation driver necessary to support and sustain a program or intervention by working with external partners to secure resources, and identify and remove systemic barriers to service delivery.[15]

Grantees shared some examples of their systems intervention work, including reasons for building relationships with external partners:

Created pathways for streamlining referrals and continuous service provision. With a goal of increasing services to the Latine/Hispanic community, one agency partnered with a local health clinic focused on serving this population to set up referral and transfer pathways. Another agency partnered with an organization that worked with the Black/African American community to provide MAT services at their location. Additionally, several grantees described networking and setting up pathways to MAT services with jails and community corrections (e.g., transition centers and probation officers), housing services and shelters, and EDs. As a bridge clinic, one grantee created formal protocols for connecting clients to long-term MAT providers.

Collaborated with insurance providers to address reimbursement and prescribing challenges. Several grantees collaborated with Coordinated Care Organizations (CCOs) to set up medical processes that met reimbursement requirements (e.g., staff credentials). Grantees also experienced challenges with CCOs denying prescriptions for clients. Grantees recommended collaborating early to ensure agency policies and protocols meet insurance requirements to avoid non-reimbursements (see Economic feasibility and sustainability planning for more information on billing and reimbursements).

ADDRESSING ORGANIZATIONAL AND COMMUNITY BUY-IN

The NIRN framework points to the importance of assessing staff readiness for change and of having a designated team to support the integration of a program throughout implementation.[16] Several grantees noted this as well, with many stressing the importance of getting staff buy-in early and in an ongoing manner. Grantees also described ways they supported buy-in from the community and clients who may have questions or misconceptions about MAT.

Traditional abstinence-based approaches to SUD treatment have added to the stigma about MAT.[17] Even though MAT is an evidence-based treatment practice, there are still treatment providers who believe in using MAT only if traditional treatment approaches fail.[18] Some grantees found that staff were not always upfront with their reservations about MAT. One grantee that did not have organizational buy-in for MAT at their agency, reflected that it may have been better to set up their MAT program in parallel to their other SUD services and work to integrate the programs later.

Coordinated Care Organizations, or CCOs, are a regional network of health care providers who serve people who receive health care coverage under the Oregon Health Plan (OHP), i.e., Medicaid.

Grantees recommended taking "a long-term view" when planning to shift organizational culture from being "a drug-free program to an integrated MAT program." To support this shift, grantees offered several suggestions:

Share evidence of client successes.
Agencies educated staff with MAT-focused trainings and by sharing data (both national and their agency's client short-term outcomes) about the effectiveness of MAT in treating OUD. They also communicated about and celebrated their clients' successes to help staff "see" MAT as a legitimate treatment.

Focus on harm reduction.
Agencies trained staff to focus on harm reduction rather than sobriety. As one MAT provider put it, drug use and its associated activities are on a spectrum of harm and any reduction in that harm should be seen "as a win."

Clearly define your organizational mission.
Having a clearly defined mission that ties into the agency's MAT goals was helpful for reducing staff misunderstandings about harm reduction. For example, one grantee described doing a thorough agency review to make sure all their policies and practices aligned with their harm reduction goals.

Have MAT champions and knowledgeable advocates on staff.
Grantees recommended hiring knowledgeable staff that fit the agency culture and planning for ongoing training. Some agencies already had staff champions and expert advocates for MAT. Agency leadership who are proponents of MAT and harm reduction more broadly was also helpful to encourage staff buy-in.

The discrepancies between traditional abstinence-based treatments and MAT can also be difficult for some clients to navigate. Clients often know they are stigmatized and some will start MAT with a focus on weaning off as soon as possible. Agencies described various ways to support clients in overcoming bias toward MAT, including outreach from peers, support groups, and educating them about MAT. In addition, agencies worked to build trust with clients, and made sure their clinicians were up to date on guidelines to prevent them from communicating conflicting information or using stigmatizing language. One grantee also recommended promoting MAT as a wellness model in that clients use MAT to curb their cravings so they can focus on sleep, nutrition, and other recovery needs.

Agencies described outreach efforts to educate various populations in the community, such as translating and distributing MAT materials in Spanish and providing MAT literature to people who are unhoused. Grantees also described using naloxone training for law enforcement and fire departments as an opportunity to educate them about MAT. Additional suggestions for addressing stigma include public education campaigns on the evidence-based outcomes of MAT, meeting with community leaders, and having an open-door policy at the agency for anyone with questions.

> *"[We supported getting community buy-in by having a] public campaign and meeting with the leaders, meeting with their probation officers, meeting with their sheriffs and police departments, just to start an education to help with understanding. That's what we did here early on. We met with them to talk about what MAT was and how it helps with treatment."*

ECONOMIC FEASIBILITY AND SUSTAINABILITY PLANNING

The NIRN framework underscores the significance of financial sustainability, which involves having established and sustainable funding streams for the program.[19] Likewise, most agencies described a need for robust planning around economic feasibility and insurance reimbursement rates. One agency recommended a close examination of local needs and projected utilization rates, especially when looking to provide MAT in rural areas with a larger catchment area and fewer people. In contrast to planning for lower numbers of clients in some rural areas, another grantee shared they didn't ask for enough funding to cover the extraordinary need for MAT services, although some of the need may be attributed to partner agency closures due to the pandemic.

Funding issues for some grantees were compounded by problems they had with getting reimbursed for services, particularly for those agencies that were not set up as medical providers. Three of the seven grantees had embedded OBOT services (which are designated physical health services) within a primarily behavioral health setting. According to grantees, Oregon's CCOs have different rules and policies about how payments are made for behavioral health /SUD and physical health services. In some cases, grantees said they were not reimbursed for services. Some grantees reported working with CCOs to develop processes that both met billing requirements and allowed them to provide rapid access to MAT. For example, one agency described developing a short "biopsychosocial" assessment to administer to MAT clients at intake that met behavioral health policy requirements rather than doing the standard SUD assessment.

Many grantees faced challenges identifying the correct billing codes to use, and they struggled to navigate billing structures and reimbursement policies including:

Ensuring staff credentials met reimbursement policies.
For example, some agencies described the challenge of ensuring the appropriate medical professional was providing services in order to meet requirements for reimbursement (e.g., a RN (Registered Nurse) must provide certain services, whereas other services can be provided by a LPN (Licensed Nurse Practitioner)). Grantees also noted that CCOs can take a long time to credential providers and, in the meantime, agencies cannot bill for the services they provide.

Navigating fee-for-service vs. flat rate per client reimbursements.
Some grantees billed for each service they provided while others received a flat rate for each client. Several grantees described providing primary care services for which they were not reimbursed, either because they could not bill for it or the cost of the services provided exceeded the flat rate. One grantee said they appreciated that a flat rate per client can reduce the complexity of billing and allow for freedom in providing needed services; however, it also puts a cap on the amount the agency receives for treating a given client.

Gaps in insurance coverage.
Grantees said that gaps in insurance coverage (e.g., disruptions in private insurance coverage or when clients become incarcerated) made it challenging for agencies to bill for services.

Navigating rules about the type of primary care their agency can provide.
Some grantees explained that agencies designated as MAT medical providers can only bill for SUD-related services, e.g., the agency can prescribe an antibiotic if a client has an abscess from intravenous (IV) drug use but not if the client is sick with a cold. Furthermore, as licensed medical providers, some MAT grantees said that billing rules can interfere with their relationships with clients who trust them and would prefer to receive primary care in an office where they feel comfortable and experience less stigma around their drug use.

Catchment areas for insurance providers.
MAT services often included unhoused clients who sometimes cross insurance coverage catchment areas as they move for housing or other services. Grantees noted that it can be challenging to get reimbursed for services when a client isn't living in their CCO's catchment area.

Prior authorizations for reimbursements conflict with rapid access to MAT.
Grantees pointed out that the need for prior authorizations from insurance companies is in conflict with providing rapid access services intended to induce clients on medication as soon as they are ready.

Outreach activities are not reimbursable.
Several grantees noted the importance of outreach to clients about available MAT services. Targeted outreach is also a strategy for removing barriers to accessing MAT, which can support equitable access to services. Most grantees focused outreach on the unhoused population but a few also focused on the Latine/Hispanic community. Grantees said it was challenging to conduct outreach activities when they do not have a way to bill or funding for staff time spent doing so.

As previously mentioned, several grantees recommended working out a contract with Medicaid and other insurance providers prior to implementing MAT services. One grantee said they negotiated their contract with the CCO in advance of SOR2 funding. They had no issues with reimbursements and were able to serve clients across counties where there are no MAT providers. This grantee is now negotiating similar contracts with commercial payers. Other suggestions included identifying which clients can be covered by agency general funds when clients do not qualify for OHP, learning from other MAT providers how to navigate billing issues, hiring a billing specialist, and being prepared to encounter issues with billing.

> *"A lot of this level of health care and behavioral health care is about relationship and time spent. That's something that payers have a hard time understanding. It's easy to write a prescription for a pill. It still takes an hour to have that conversation with the client before you can get them started and to completely educate them. A recognition of the importance of the amount of time that's being spent is significant. Having an agreement [with the insurance provider] ahead of time, I think, makes a big difference."*

2 Service Integration

The installation phase of implementation, according to the NIRN framework, includes developing policies, protocols, data tracking systems, and other needed infrastructure that support quality service provision and help identify where improvements can be made.[20] Grantees provided some examples and recommendations for integrating MAT and supporting services in their agencies, including:

- Identifying and building needed infrastructure,
- Efforts to promote continuous quality improvement,
- Integrating peer support services, and
- Adapting MAT services to include telehealth.

> *"Making sure that... providers aren't practicing like they were 10 years ago because, if a patient hears something from one physician, and then hears something different from a different physician, it's hard for them to decide which physician to trust and listen to."*

IDENTIFYING AND BUILDING NEEDED INFRASTRUCTURE

Grantees described the need to build (and/or update) infrastructure to support service provision including developing workflow protocols, translating documents, setting up systems to collect and manage data, managing compliance with state and federal regulations, and offering resources specific to MAT clients' needs. Next, we describe each of these in more detail.

Developing workflow protocols.
In addition to hiring staff with the skills necessary to provide MAT services, grantees described the need to adapt and/or develop workflow protocols to integrate MAT services into their existing business processes. This was an ongoing process for most grantees, particularly as protocols were adapted to meet changing pandemic-related conditions and restrictions. Grantees also explained that it's critical for providers within the agency to have consistency in their approach to MAT induction (e.g., same clinical standards, same protocols for induction), as well as across the community of practitioners. One grantee created a handbook for providers on prescribing and managing patients in an office-based treatment setting. Another grantee continuously monitored and coached their providers to ensure alignment of services.

Translated documents.
Most grantees named the importance of having translated materials available. One grantee pointed out that, with frequent updates to policies and protocols, documents often need updating and agencies need to be prepared to obtain updated translations as well.

Setting up systems to collect and manage data.
Data collection and management is vital to quality service provision and for ensuring regulatory compliance. Grantees providing MAT embedded in behavioral health clinics explained that their electronic health records (EHR) were not set up to manage the data necessary to support MAT services,

regulations, and billing. For example, one grantee said that their EHR does not have the appropriate staff credentials to select for billing some MAT services. Moreover, the updates they were able to make to their EHRs were not always sufficient to meet their needs, e.g., one grantee created templates to append to cases in their EHR but had to manually search for the attachment when they needed to access the information.

Managing compliance with state and federal regulations.
Several grantees described the complexity of federal and state regulations around MAT service provision, and that they faced ongoing challenges aligning their internal processes to be in compliance. For example, one OBOT grantee described the difficulty of navigating Oregon Administrative Rules (OARs) for behavioral health clinics and those for physical health clinics. Another grantee hired a Director of Risk Management to sort out the rules. One agency also described a level of staff dissatisfaction due to the increased paperwork and administrative burden of implementing MAT.

Offering resources specific to MAT clients' needs.
Grantees described some of the more common barriers to clients accessing MAT that can be alleviated by having various resources available. For example, peers can provide transportation and help clients obtain resources (e.g., clothing, food, signing up for OHP). As another example, agencies can help clients set up email accounts to stay in contact. A grantee noted that clients will often use other people's email accounts but it creates issues with confidentiality as well as potential loss of access and gatekeeping by the owner. One last example is that agencies can help clients access equipment such as cell phones, computers, data plans, and/or internet service needed for telehealth (see Adapting MAT Services to a Telehealth Model for more information).

EFFORTS TO PROMOTE CONTINUOUS QUALITY IMPROVEMENT

The NIRN framework states the importance of having systems that support continuous quality improvement (CQI), including an organizational culture that values learning and improvement. One grantee explained that flexibility and planning for adaptations was important for implementing MAT services, and all agencies described making changes to better meet client needs and improve services.

Some of the examples of changes grantees made include:

- A grantee noticed that a barrier to client access to Narcan/naloxone was clients having to go to a pharmacy to pick up their prescription. Not only was this an inconvenience, it also potentially exposed clients to judgment from pharmacists due to stigma associated with IV drug use and MAT. The grantee collaborated with the pharmacy located next door so clinic staff can pick up the medication for their clients.

- A grantee identified the need to update their protocols for ambulatory induction of MAT in response to the spread of fentanyl in the community. Due to fentanyl's potency, clients were experiencing precipitated withdrawal with MAT induction. In response, they increased induction levels for clients using fentanyl by administering medication multiple times over a short period of time, and they provided clients with additional supportive medications and naloxone.

- A grantee's original program design was to schedule appointments for admissions; however, they noticed numerous missed appointments and realized the policy did not align with their goal to treat clients as soon as the client is ready. As such, they changed their admission policy to first come, first served.

Although grantees made program improvements, they lacked the time and resources needed to develop systems for tracking and analyzing data in support of quality improvement. For example, agencies described the need for funding for outreach efforts, but they did not have data available to help them identify which communities disproportionately faced barriers to access.

INTEGRATING PEER SUPPORT SERVICES

Previous research has shown that peers can be an important component of SUD treatment.[21] All agencies had peers on staff to help support clients through treatment and all but one funded peer positions (both new and existing) using SOR2 grant dollars. Grantees described how peers supported their clients including:

- Connecting them to resources such as food boxes, phones, and furniture;
- Finding housing, employment, and other social supports;
- Navigating services such as state insurance;
- Building relationships, providing emotional support, and role modeling; and
- Supporting clients in a client-directed manner.

Peers supported MAT services by doing outreach to clients (especially important for those who distrust the healthcare system), introducing clients to MAT services, working to overcome stigma associated with MAT, and motivating clients to stay engaged in treatment. Peers often acted as a bridge between the clinic and the community; they were positioned at EDs, probation offices, and shelters for the unhoused. Some peers were "on call" with other agencies (such as the ED) during normal workday hours. Peers also provided transportation to and from the labs, and connected clients to residential treatment and harm reduction supplies (e.g., Narcan, sterile injection equipment). Bilingual peers provided translation for their clients. At some agencies, peers connected clients to a primary care provider, and at bridge clinics, to long-term MAT providers. Additionally, peers helped clients find recovery groups that accept people getting MAT, and even facilitated virtual drop-in recovery group meetings.

Grantees also shared some of the challenges they experienced with integrating peers into MAT services including:

Background checks interfere with hiring. A grantee had trouble hiring peers due to their agency's restrictions related to background checks. To overcome this barrier, they partnered with a peer agency rather than hiring their own peers.

Lack of MAT-specific training for peers. Several grantees noted the need for MAT-specific peer training. One agency described using previously developed training protocols that included topics such as harm reduction and client engagement. They also adopted a model developed for peers providing support to clients with serious and persistent mental illness, but they noted that it was not sufficient for supporting MAT clients.

Sustainable funding. Although some services carried out by credentialed peers qualify for Medicaid reimbursement, some grantees were not clear on how to bill for those services and experienced challenges establishing sustainable funding streams for their peer workforce.

ADAPTING MAT SERVICES TO A TELEHEALTH MODEL

Telehealth-based MAT has been recognized as an approach to increase access to treatment for OUD, address the shortage of prescribers, and overcome geographical barriers.[22,23] Integrating telehealth can provide low-barrier treatment pathways and long-term continuity of care for clients.[24] Most agencies had plans to implement telehealth-based MAT to expand their services to rural areas, but the COVID-19 pandemic forced them to accelerate their plans. Grantees shared that telehealth created an easier pathway to MAT and some felt it reduced client no-show rates. Interestingly, one grantee said that telehealth helped them better understand their client's "day-to-day living experience" by getting a "glimpse into [their] living environment and outside world…because they are often taking their call at home, or in a tent on the street via candlelight…"

Grantees also noted difficulties implementing telehealth-based MAT, including the following:

- Navigating technology, the need for equipment (cell phones, computers), and internet access were challenging for both agency staff and clients.
- Protocols had to be designed to meet confidentiality requirements (such as electronic releases of information) and pandemic-related social distancing restrictions. For example, grantees required fewer in-person interactions and urine screenings with clients, which also interfered with their ability to do infectious disease screenings. Some agencies created telehealth suites, which allowed clients to have access to the technology (computers, webcams, and internet connection) and privacy required for their appointment. Furthermore, agencies moved to a hybrid model (telehealth and in-person) after COVID-19 to more flexibly serve clients.
- Some grantees said that connecting and building relationships with clients was more challenging with telehealth and described seeing lower client engagement, accountability, participation, and retention.
- Some staff found remote work to be impersonal because it afforded fewer opportunities to interact with and receive support from colleagues.

3 Workforce Development

The NIRN framework emphasizes the importance of staff recruitment and selection as a "beginning point for building a competent workforce that has the knowledge, skills, and abilities to carry out evidence-based practices with benefits to consumers".[25] The MAT workforce comprised various professional roles including physicians, counselors, peers, and administrative and operations personnel. In this section, we describe agencies' hiring efforts and the challenges they faced, as well as training efforts and support needed.

STAFF RECRUITMENT AND HIRING

The COVID-19 pandemic created staffing and hiring challenges for all agencies. Grantees described a constant need to fill staff positions including X waivered providers, Certified Alcohol and Drug Counselors (CADC I, CADC II), and peers.

The following are some examples of these challenges:

Shortage of X waivered providers.
Agencies experienced a shortage of X waivered providers, or those certified to prescribe buprenorphine outside of opioid treatment programs.[26] Consistent with previous research about the complexity of the X waiver process,[a] a grantee said that obtaining an X waiver was more arduous than necessary for being able to prescribe a medication. Another grantee noted that some doctors are reluctant to get involved with MAT services, contributing to the shortage.

Inadequate compensation.
Grantees described challenges related to chronically low wages in the field. Some offered bonuses and higher pay to attract applicants, especially for X waivered providers; however, it was difficult to sustain increases in compensation when reimbursement rates have not increased.

Credential requirements.
Grantees explained that RNs or LPNs must do medical dosing, but many who go into the nursing profession are more interested in working in hospitals and skilled nursing facilities (i.e., different interests and skill sets than what is needed for MAT). Moreover, grantees noted that CCOs can take 90 to 120 days to credential a provider, which, as shared previously, means the agency cannot bill for their work for several months after being hired.

Agency policies that interfere with hiring MAT staff.
As described earlier, one grantee had trouble hiring peers due to background checks that don't meet agency policies. This grantee also described agency policies that delay hiring and/or prevent hiring without funding from grants lasting longer than 24 months.

> *"A big barrier in this is doctor time. There are not a whole lot of doctors out there that are willing to jump into MAT."*

SUGGESTIONS FOR ADDRESSING WORKFORCE CHALLENGES

Grantees described various ways in which they dealt with ongoing hiring and staffing issues, and had some suggestions for addressing workforce challenges:

- One grantee worked with Portland Community College (PCC) to develop a pathway for hiring, and another grantee hoped to work with PCC to hire paid interns (e.g., CADC-Rs who are working on accruing the supervision hours required for a CADC I credential). These efforts reflect the need to develop a career ladder within the field.
- An agency asked local culturally-specific organizations to share job openings in their MAT program to encourage diverse applicants to apply.
- Several agencies lowered credential requirements when hiring certain positions. Grantees also began "growing their own" in response to the lack of applicants and the need for credentialed providers - they upskilled staff already on the job and paid for external training. They pointed to the need for scholarships and financial support for staff education, training, and credentialing, especially for Spanish-speaking providers and peers.

MAT Implementation Lessons Learned

The SOR2 MAT evaluation examined how grantees implemented MAT services in their agencies and the challenges they faced. The information summarized here reflects grantees' experiences as they worked to implement MAT services and navigate healthcare system regulations and policies, as well as issues specific to their agencies. Although these grantees' experiences may not fully represent all agencies implementing MAT services in Oregon or in other geographical locations, their lessons learned can help support organizations as they begin implementing MAT services. MAT implementation lessons learned are as follows:

Include key agency staff and diverse, knowledgeable informants in implementation planning.

Implementation committees should include key agency staff (e.g., financial advisors, operations managers, providers); community partners, especially culturally-specific organizations working with communities most affected by OUD; and individuals with lived experience with SUD (i.e., peers). Additionally, establish early connections with other organizations providing MAT and seek guidance and planning support from expert consultants if possible.

Assess staff readiness to implement MAT and design strategies to improve buy-in.

Some treatment providers have reservations about MAT. It might be necessary to promote organizational culture shifts from a drug-free orientation toward a harm reduction/MAT-first approach.

Assess community readiness for MAT services and design strategies to increase awareness and understanding.

Community members and clients with OUD often have misconceptions about MAT. Community outreach efforts (e.g., distributing materials, meeting with community leaders, public service announcements) can help educate people about MAT and approaches to harm reduction. These efforts should be linguistically and culturally inclusive (e.g., materials translated into multiple languages, working with culturally-specific community organizations). Examine community OUD treatment needs and possible utilization rates, especially when looking to provide MAT in rural areas (i.e., larger catchment area with fewer people).

Develop infrastructure to support service provision and regulatory compliance.

Update and create workflow protocols and practices to support staff in having a consistent approach to MAT service provision. It is important for agencies to align their internal processes with state and federal regulations and continuously monitor for compliance. Additionally, it is critical to collaborate with CCOs and private insurers to set up billing procedures that comply with their policies and regulations as soon as possible.

Develop data systems and an organizational culture that supports continuous quality improvement.

A system for tracking and analyzing data is a critical part of quality improvement - it can illuminate gaps in service, barriers to access, and other aspects of service provision in need of improvement. An organizational culture that values learning, flexibility, and adaptation will help agencies improve conditions for employees, and promote equitable outcomes for clients and communities.

Integrate peer support services with MAT service provision.

Peers should play a vital role in MAT service provision. Agencies should work to establish sustainable funding for the peer workforce and develop clear MAT-specific peer job descriptions. Once hired, agencies should provide MAT-specific training and support for peers, which will in turn enhance their ability to support clients.

Adapt MAT services to a telehealth model.

Establish a telehealth (or hybrid) option for MAT services to create a low-barrier pathway to treatment. Telehealth can help address the shortage of prescribers, overcome geographical barriers, offer flexibility to clients, and provide long-term continuity of care. It is especially important to have protocols designed to meet confidentiality requirements for telehealth appointments.

Plan for staffing shortages.

Anticipate and develop strategies for managing staffing challenges, including a shortage of X waivered providers, pay discrepancies, and credentialing requirements. Strategies will likely need to address internal policies (e.g., restrictive hiring policies), upskill existing staff, manage state and federal regulations (e.g., credentialing), and be proactive (e.g., talent pipeline).

2. Did SOR2 funding increase access to MAT services in Oregon?

The second evaluation question focused on whether SOR2 funding contributed to the strategic goal of increasing access to MAT services. To answer this question, PSU analyzed grantee progress reports for evidence of the extent to which MAT services were *available to* and *accessed by* people with OUD in Oregon.

Increased Availability of MAT services in Oregon

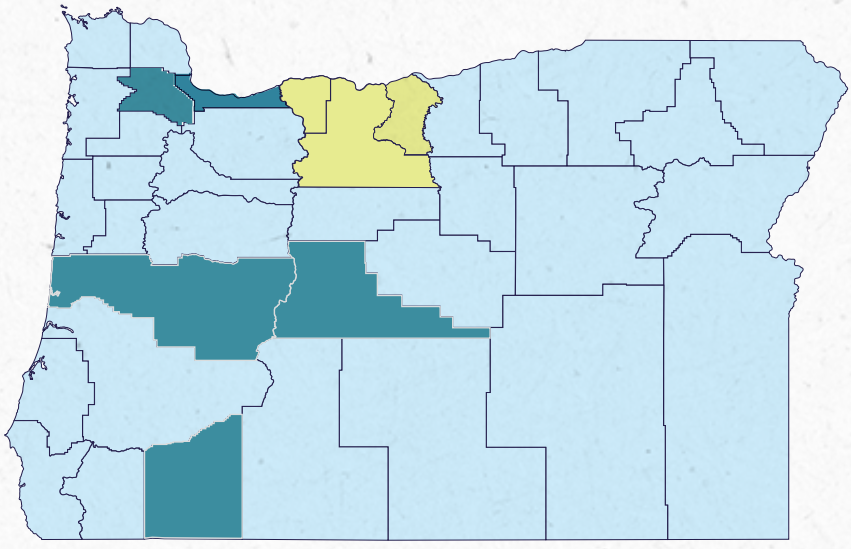
More counties with available MAT services

As seen in Figure 4, SOR2 funds were distributed to agencies providing MAT services in eight counties, three of which were new rural service areas: Hood River, Wasco, and Sherman. Thus, SOR2 funding contributed to expanding MAT services across the state and in rural communities.

Figure 4

Oregon counties with SOR2-funding MAT grantees

Multnomah
Hood River*
Wasco*
Sherman*
Lane
Deschutes
Washington
Jackson



*New MAT service areas

Clients received MAT services

Based on evidence from progress reports, these seven MAT grantees expanded the availability of MAT and peer services (e.g., Certified Recovery Mentors). Six of them implemented new MAT programs at their locations with SOR2 funding, and one grantee expanded their existing program. Grantee progress reports showed that over 2,800 people received OUD treatment, and nearly 1,500 people were treated with buprenorphine, during the SOR2 funding period. Importantly, grantees focused on providing rapid (same- or next-day), low-barrier access to MAT services, an approach to treatment that has been linked to appointment attendance[28] and improved retention rates, especially for Latine/Hispanic clients.[29]

More than

2,800

people received OUD treatment during the SOR2 funding period.

Expanded outreach efforts to increase access

Grantees reported that clients became aware of MAT services through their agencies' outreach efforts, referrals, and word of mouth. Progress reports included descriptions of efforts to develop infrastructure, hire staff, and collaborate with other agencies to expand access to MAT (see MAT Implementation Findings for more detailed information). Some examples specific to expanding access include:

- Partnering with CCOs to create a pathway for billing for MAT-first and MAT-only services without the need for a SUD assessment typically needed for service and treatment planning.
- Developing outreach materials to increase community awareness.
- Using telehealth to provide MAT services, which has been especially important for expanding availability in rural areas.
- Developing media campaigns for specific communities (e.g., Latine/Hispanic) and advertising on culturally-specific radio stations.
- Hiring a Care Transitions Coordinator to help patients find long-term prescribers for medication.
- Hiring bilingual/bicultural staff to provide culturally-responsive services in clients' preferred language.
- Developing agency policies and protocols for rapid access MAT services.
- Collaborating with the judicial system and EDs to develop referral pathways.
- Partnering with community organizations to provide culturally-specific MAT services (e.g., HRBR Clinic partnering with Mind Solutions to provide services in the African American/Black community).

As reflected above, many grantees employed strategies to promote equitable access to MAT services. Some also had specific goals related to expanding the availability of MAT services in priority populations, including incarcerated and probationary, Latine/Hispanic and Black/African American communities, rural or frontier regions, and people who accessed the ED due to SUD issues. A particularly important strategy to promote equity is partnering with a culturally-specific community organization. For example, one agency partnered with another non-MAT SOR2 grantee, which gave them the opportunity to participate in the Latino Provider's Meeting. This has increased their awareness of culturally-specific providers and helped them improve the cultural appropriateness of their services.

Efforts to expand access to infectious disease services

Some grantees also provided evidence of their efforts to increase clients' access to infectious disease screening, testing, prevention, and treatment. As part of the SOR2 evaluation, PSU conducted a sub-study designed to better understand infectious disease protocols for each of the MAT grantees (for more information, please see the *State Opioid Response Grant II Impact Evaluation: Final Report*[*]). Four of the seven grantees included in the MAT evaluation provided some level of routine infectious disease risk assessments and testing and/or referrals for testing. The other three were in the initial phases of developing these services.

Grantees also described several challenges in doing this work and pointed to many of the same issues they experienced when implementing MAT services including billing, especially when providing medical services in a behavioral health setting; staffing and the need for ongoing training; infrastructure and protocol development, particularly when overlaying medical care in a formerly behavioral care-only setting; and coordinating with other agencies. Grantees also mentioned the need to broaden public health campaigns for PrEP (for HIV prevention) to include people who inject drugs and the need to improve testing services, especially for those who have damaged veins from IV drug use (e.g., incentivize blood draws with gift cards, increase access to Dried Blood Spot testing).

[*]This report is available upon request. Please contact Kelsey Smith-Payne at the Oregon Health Authority: kelsey.smithpayne@dhsoha.state.or.us

Summary of MAT Availability and Implications

Overall, the available evidence suggests that SOR2 funding contributed to the increased availability of MAT services in Oregon. Grantees described outreach efforts, reported serving more than 2,800 clients, and many were striving toward goals to improve equitable access to MAT services. Agencies also made some progress toward their goals related to expanding MAT clients' access to infectious disease screening, testing, prevention, and treatment. However, there was not enough evidence to thoroughly evaluate the impact of their outreach efforts. Agencies often did not have the capacity, for example, to track outreach at the client level or to disaggregate data to examine potential disparities in their service delivery for marginalized groups (e.g., race, immigration status, LGBTQIA+).

SOR2 funding contributed to the increased availability of MAT services in Oregon.

These findings also suggest several ways to improve access to MAT and related services:

Focus funding on priority populations. Channeling funding and resources toward identified priority populations can promote equitable access to services. SOR2 funding, for example, intentionally expanded access to MAT services in rural communities. Future funding could use the same approach to expand access to other populations experiencing the disproportionate impact of OUD (e.g., tribal communities, people who are unhoused, incarcerated, youth, veterans).[30]

Incentivize equity goals. Some grantees had goals for providing equitable access to MAT services, and named specific priority populations (e.g., Latine/Hispanic). Incentivizing future grantees to intentionally develop and demonstrate progress toward their equity goals will help drive the SUD system toward an equitable distribution of culturally- and linguistically relevant MAT services.[31]

Involve people with lived experience. Many MAT grantees integrated peers in their array of services to clients. In alignment with SAMHSA's *Participation Guidelines for Individuals with Lived Experience and Family*, grantees could also be encouraged to involve peers/people with lived experience in designing their programs, including client outreach, engagement, and retention.[32]

Fund, and/or support capacity building for, culturally-specific organizations to provide MAT services. For example, the second year of SOR2 funding included tribal grantees working to expand their MAT services. Supporting culturally-specific organizations will create more opportunities for culturally- and linguistically-relevant SUD treatment and promote health equity.[33]

Increase funding and technical assistance for organizations to further develop their infectious disease testing protocols. Doing so will help future grantees better integrate their response to the dual epidemic of OUD and infectious disease.[34]

3. To what extent did people with OUD use and benefit from SOR2-funded MAT services?

The final MAT evaluation question focused on client outcomes. PSU used GPRA data to examine whether expanded access to MAT services resulted in the use of these services, and the extent to which clients experienced associated benefits in terms of reduced substance use, quality of life, system involvement, and life satisfaction.

Use of MAT services and retention

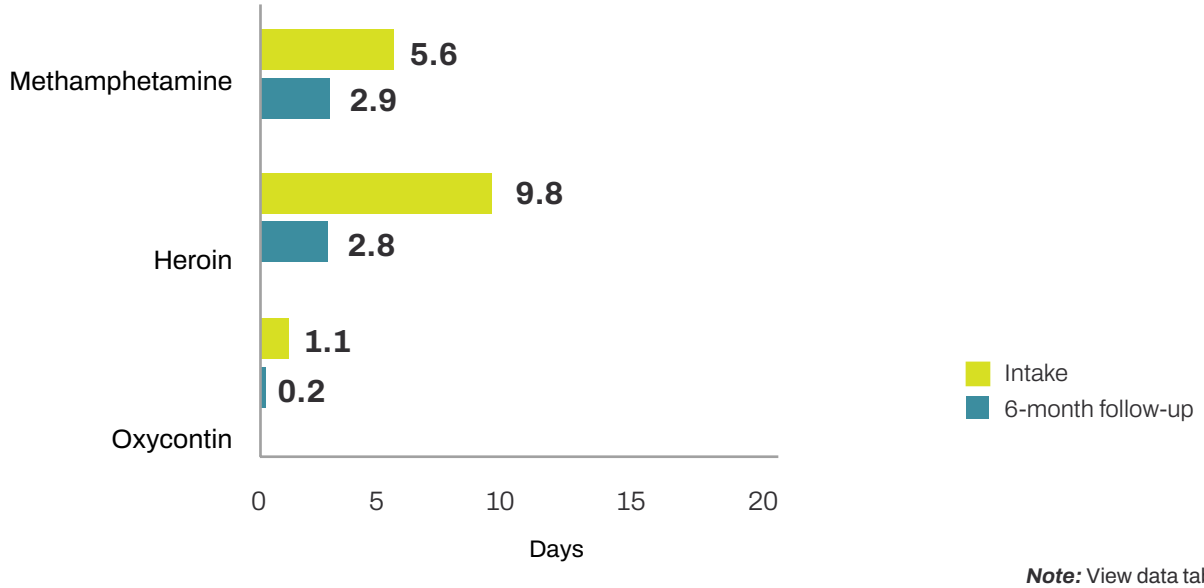
From October 1, 2020 to June 30, 2022, 1048 clients participated in the GPRA client outcome interview. Of those 1048 clients, 354 (34%) of them also completed the 6-month follow-up GPRA interview.* Although 34% is not a true retention rate for MAT clients, it does suggest that it is challenging to support clients in remaining engaged in treatment.

Reduced past 30-day drug use

MAT clients with both intake and 6-month follow-up GRPA data reported a decrease in the number of days they used methamphetamine, heroin, and oxycontin in the past 30 days (see Figure 5). It is noteworthy that other types of opiates followed this same pattern but were not statistically significant (e.g., morphine, Percocet, non-prescription methadone, Dilaudid).

Figure 5

Number of days MAT clients used drugs in the past 30 days



Note: View data table here.

*Although this represents a proportion of clients still engaged in MAT services after six months, it also reflects missing data. Many agencies expressed challenges administering the GPRA survey. At the beginning of SOR2, some agencies were not able to collect GPRA data because they needed to train staff to administer the survey; later, staff turnover interrupted data collection. It was also challenging to conduct follow-up surveys due to clients transferring out of the program and no-shows. Thus, the clients in the 6-month follow-up sample may not represent the actual client population.

Less injection drug use

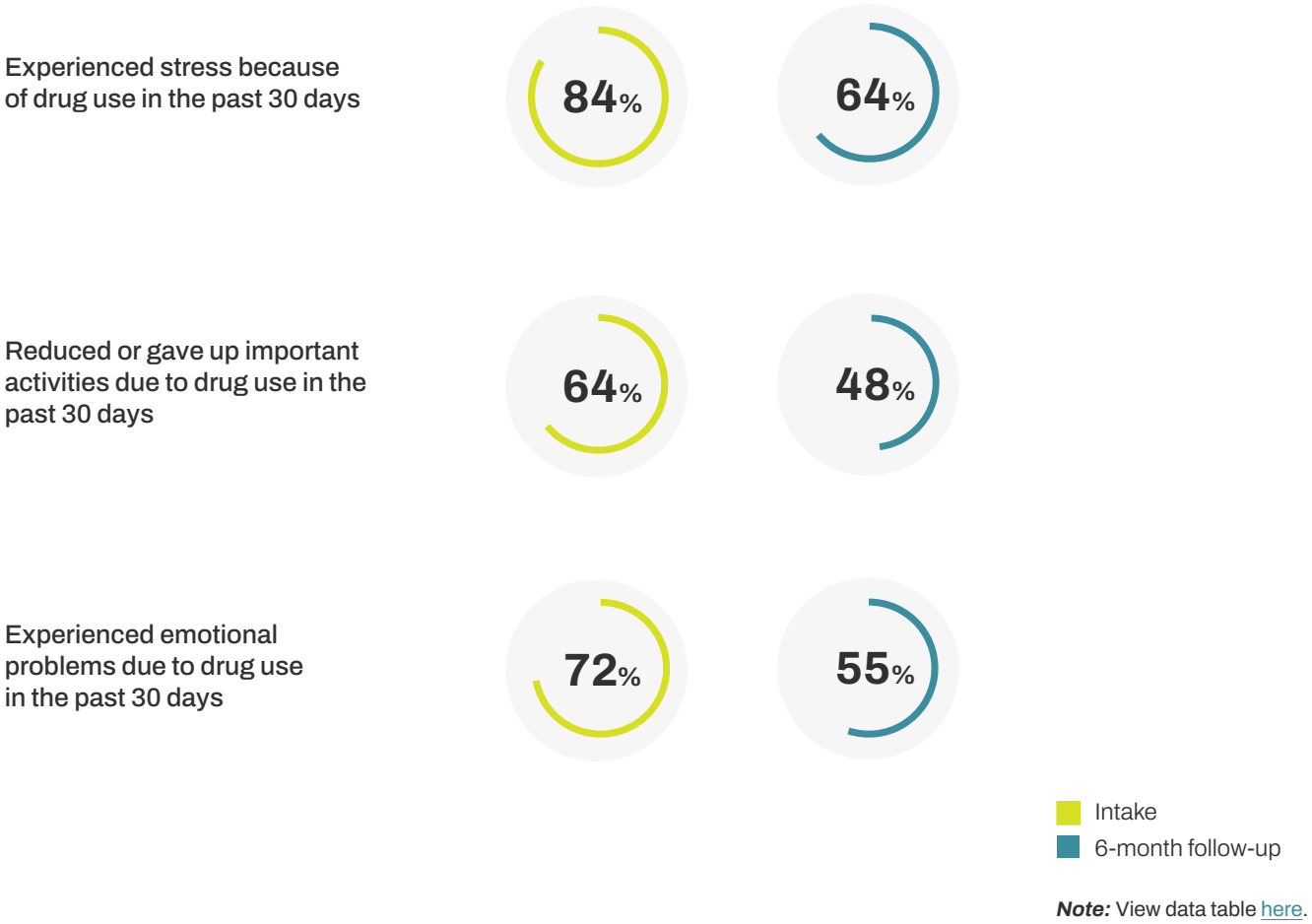
A smaller share of MAT clients reported injecting drugs at six months compared to intake (25.5% and 34.8%, respectively (n=325); chi square=51.58, p<.001).

Reduced adverse effects from drug use

A smaller proportion of MAT clients experienced adverse effects from drug use (stress, reduced activities, and emotional problems) in the past 30 days at the 6-month follow-up than at intake (see Figure 6).

Figure 6

Change in MAT clients' adverse effects from drug use from intake to 6-month follow-up



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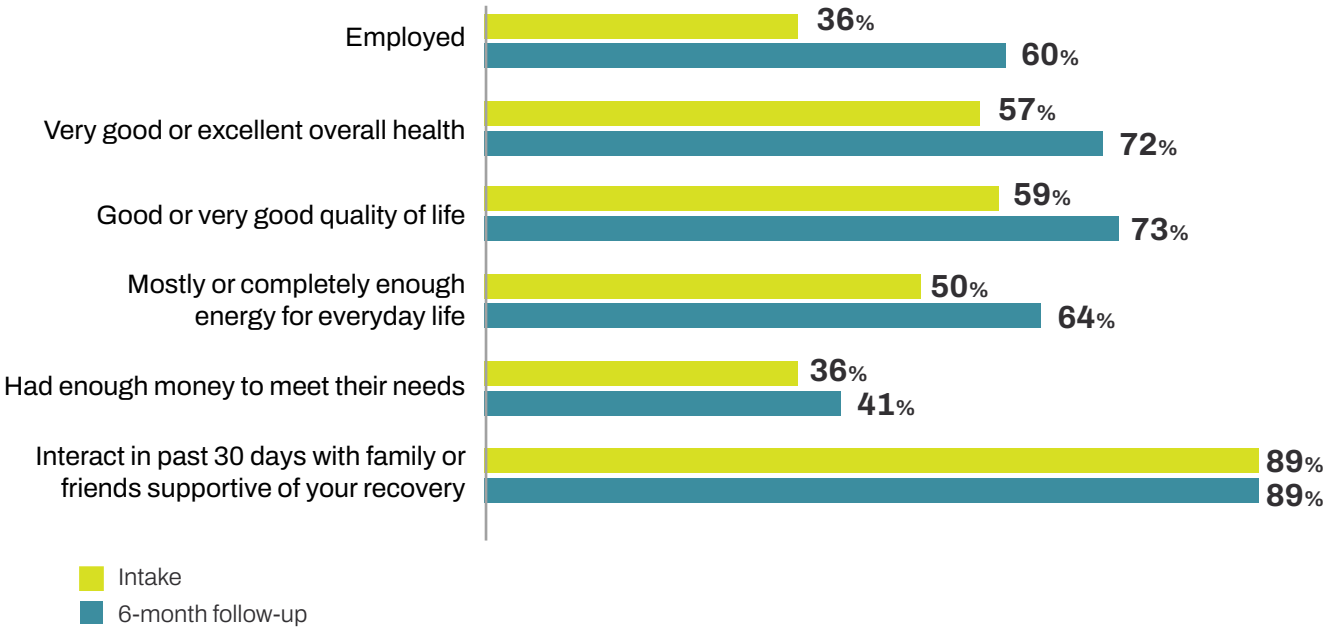
Improved Quality of Life

Figure 7 shows changes in various indicators of MAT clients' quality of life from intake to the 6-month follow-up. Overall, MAT clients reported the most substantial (and statistically significant) improvements in terms of employment, quality of life, overall health, and having enough energy for everyday life from intake to the 6-month follow-up interview. More specifically:

- There was an increase in the percentage of clients reporting they were employed and had enough money to meet their needs (not statistically significant).
- A larger share of clients indicated they had *very good* or *excellent* overall health and *good* or *very good* quality of life.
- An increased proportion of MAT clients reporting that they had mostly or completely enough energy for everyday life.
- Nearly nine in 10 clients reported having interactions with supportive friends and family at both time points (no change from intake to 6-month follow-up).

Figure 7

Change in MAT clients' quality of life from intake to 6-month follow-up



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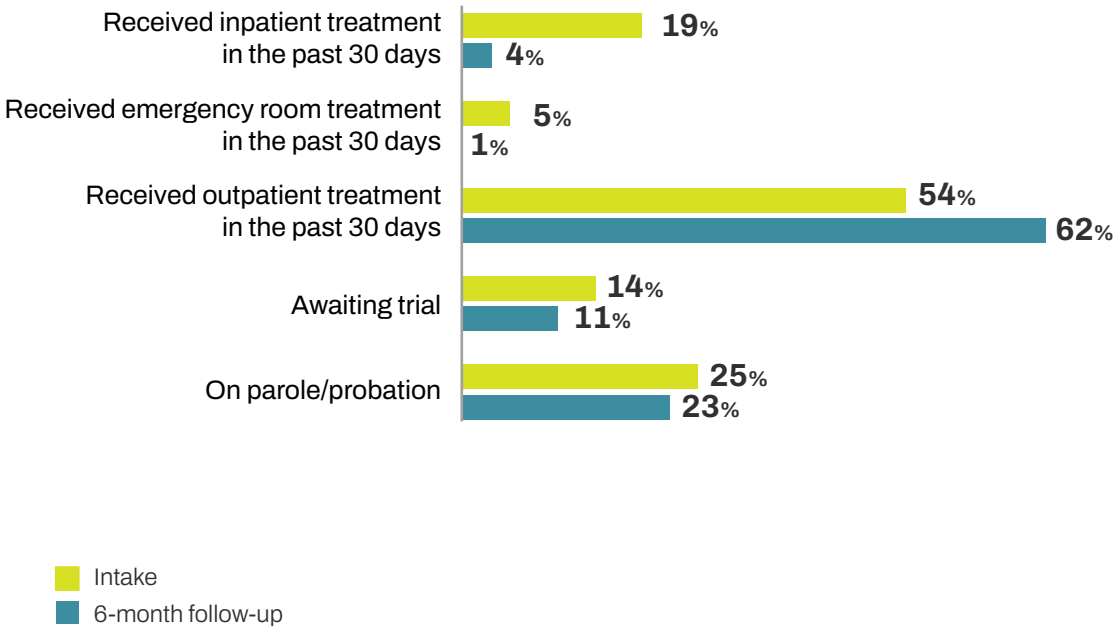
Reduced System Involvement

MAT clients also reported less system involvement at the 6-month follow-up (see Figure 8). Specifically, a smaller proportion of MAT clients received emergency room treatment and inpatient treatment for alcohol and substance use in the past 30 days. There was a smaller share of clients awaiting trial or on parole/probation at the 6-month follow-up, although these differences were not statistically significant. A significantly larger proportion of MAT clients received outpatient treatment at the 6-month follow-up.

Combined with reduced emergency room and inpatient treatment, this finding could signal fewer overdoses and hospitalizations, and the movement of clients to less restrictive levels of care as they manage their OUD.[35]

Figure 8

Change in MAT clients' system involvement from intake to the 6-month follow-up



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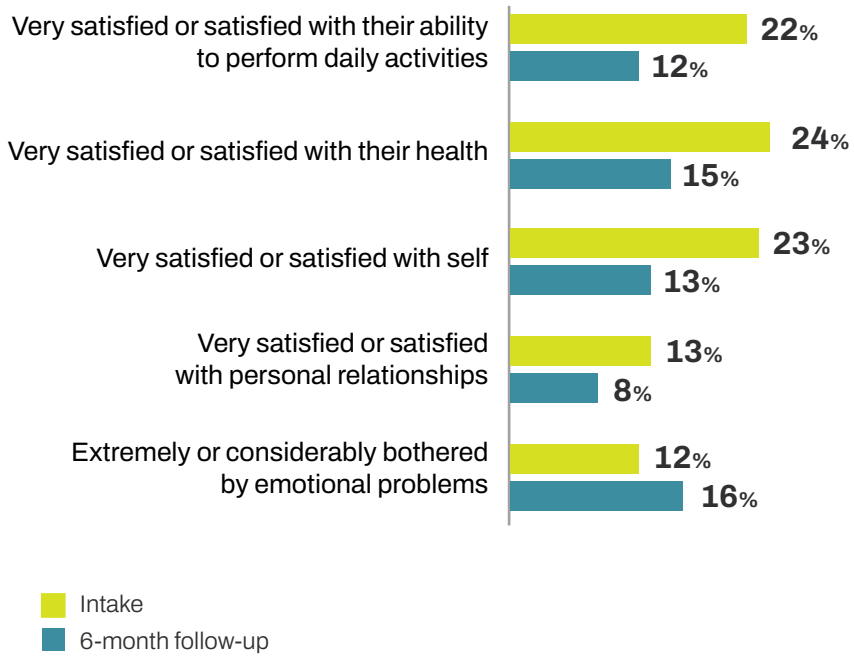
Lower Life Satisfaction in Early Treatment

In contrast to the findings already reported, MAT clients experienced *lower* life satisfaction six months after intake (see Figure 9). MAT clients reported statistically significant decreases in their satisfaction with performing daily activities, their health, themselves, and with their relationships. There was an increase in the proportion of MAT clients who reported being *extremely* or *considerably* bothered by emotional problems, but the difference was not statistically significant.

Figure 9

Change in MAT clients' life satisfaction from intake to 6-month follow-up



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Summary of MAT Utilization & Implications

Taken together, findings from the analysis of GPRA data suggest that during the SOR2 funding period, individuals with OUD used MAT services, and for those who completed a 6-month follow-up interview, experienced benefits in terms of reduced substance use and system involvement, and improved quality of life. Next, we discuss the implications of these findings and for the future expansion of MAT services.

MAT clients had reduced opioid and methamphetamine use, and decreased injection drug use six months after intake.

Client retention in MAT services might be challenging.
One-third of MAT grantees (34%) who participated in a GPRA interview at intake were interviewed again six months later. Although this is not a true retention rate (i.e., it reflects missing data due to challenges administering the GPRA survey and with client follow-up), it is in line with 6-month retention rates in other studies. In a systematic review of 55 studies, 6-month retention rates ranged from 3% to 88%.[36] Another review found that 6-month retention rates for MAT are typically below 50%.[37]

We were unable to assess equitable outcomes for clients in terms of retention, which is important for identifying systemic barriers that may disproportionately affect some groups. For example, prior research has shown lower retention rates for Black and Latine/Hispanic clients, clients who are unemployed or have lower incomes, and younger adults.[38,39]

Retention in MAT is associated with better outcomes, such as decreased drug use, improved quality of life, and reduced mortality.[40] As such, it is important for future MAT providers to find strategies to promote retention, such as peer support services,[41,42] and psychosocial support.[43] It is also important to identify and actively work to remove systemic barriers to promote equitable outcomes for clients. Longer term follow-up periods and larger samples are necessary to further evaluate retention rate.[44]

Participation in MAT services was associated with reduced drug use, improved quality of life, and reduced system involvement.
Findings suggest that MAT clients had reduced opioid and methamphetamine use and decreased injection drug use, which is consistent with previous studies.[45,46,47] Reduced drug use is encouraging to see in the short-term, but it is important to assess the longer-term association between MAT and reduced drug use.

MAT clients indicated an overall improvement in their quality of life. A larger share of clients were employed, and felt like they had enough money to meet their needs, better overall health, and enough energy for everyday life. These results suggest that MAT can improve the quality of life for those with OUD, which is consistent with previous studies.[48,49,50]

There was less system involvement for MAT clients over time. MAT clients reported reduced use of emergency services and inpatient SUD care. OUD creates a significant economic burden for the healthcare system due to a higher number of ED visits, and higher pharmaceutical and medical costs.[51] These findings suggest MAT services have the potential to reduce the burden and costs to the healthcare system as these services are less used.

Additionally, there was a reduction in the proportion of MAT clients who were awaiting trial or on parole/probation. The criminal justice system faces greater burden due to the opioid epidemic, as the odds of being arrested or involved in the system is significantly greater for those with OUD.[52] Studies have shown that integrating MAT into the probation and parole system can help reduce recidivism.[53,54,55] Taken together, these findings suggest that access to MAT services has the potential to lessen the burden on the justice system for people on parole or probation.

MAT clients were *less* satisfied with various aspects of their lives early in recovery. Overall, MAT clients were less satisfied with themselves, their relationships with others, their health, and with performing daily activities compared to when they first started treatment. A phenomenon known as the "pink cloud syndrome" could explain the reduction in life satisfaction for MAT clients. The pink cloud is often used to describe the early stages in treatment where people have a temporary sense of joy and euphoria without the haze of intoxication.[56] This creates a false sense of well-being at the beginning of their treatment. As the effects are temporary, people are often left feeling less satisfied with some aspects of their lives (e.g., managing household responsibilities, performing daily activities, interactions with others) when the euphoric feelings wear off.[57] Future MAT agencies should ensure they are able to connect clients to resources for long-term recovery support, such as counseling, peer support services, group support, and education to help them work through these feelings as part of relapse planning. As well, future evaluation work could follow clients for a longer period of time to examine whether satisfaction increases in the longer term.

MAT Evaluation Key Findings & Recommendations

The goals of this MAT evaluation were to understand 1) how MAT services were implemented and what challenges were associated with implementation, 2) if SOR2 funding increased access to MAT services in Oregon, and 3) the extent to which people with OUD used and benefited from SOR2-funded MAT services. The following is a summary of key findings pertaining to MAT implementation and the impact of SOR2 funding on expanding access to MAT services in Oregon, as well as recommendations for future expansion.

MAT Implementation Key Findings

During the SOR2 funding period, the seven agencies included in this evaluation provided new or expanded existing MAT services at their agencies in response to growing numbers of opioid-related overdose deaths in their communities. The following is a summary of how grantees implemented MAT services in their organizations, the factors that facilitated the adoption of MAT, and challenges they faced.

SOR2 funding allowed grantees to provide new and expanded MAT services, but they needed additional implementation support. The SOR2 grant provided the funding and technical assistance from OHA that grantees needed to launch new and expanded MAT services. However, all grantees needed additional support from experts, other more well-established MAT programs, and/or other knowledgeable partners. They also suggested it would have been useful to have dedicated time to meet with MAT agency colleagues to reflect on their programs, discuss challenges, and brainstorm solutions.

Grantees experienced successes due to their flexibility, willingness to make improvements, and collaboration with community partners. Grantees navigated COVID-19 restrictions and adjusted their protocols and services as needed, even when agencies around them were closing. They also recalibrated policies and procedures to meet reimbursement and state and federal regulatory requirements, and made programmatic changes in response to client needs. Many of the improvements made were in collaboration with community partners (e.g., local pharmacies, jails, EDs). Finally, they found innovative solutions in the face of workforce shortages (e.g., partnering with a telehealth MAT provider). Grantees should leverage their successes in these areas to continue improving and expanding their programs.

Grantees encountered challenges related to reimbursements for services, agency resistance toward MAT, staffing/hiring, and data management. Although several grantees collaborated with CCOs to understand billing requirements and develop simplified pathways to services, nearly all of them faced challenges getting reimbursed. Most grantees experienced organizational and/or staff resistance to MAT and had to develop strategies to shift mindsets toward a harm reduction approach. Agencies also struggled with hiring and used multiple strategies to maintain their workforce (e.g., upskilling existing staff, pay increases, shifting positions and workloads). Last, several grantees did not have data systems in place to support MAT service tracking, billing (especially for behavioral health agencies), and continuous quality improvement. These are all areas in which grantees would benefit from additional funding, technical assistance, and state or federal advocacy.

Expanded Availability & Utilization of MAT Services Key Findings

SOR2 funding contributed to the increased availability of MAT services in Oregon. Grantees described outreach efforts, reported serving over 2,800 clients, and worked toward goals to improve equitable access to MAT services. They also made some progress toward expanding access to infectious disease care as part of their efforts to expand MAT. However, more evaluation is needed to understand the impact of their outreach efforts and whether they were equitable.

Individuals with OUD used MAT services, and experienced benefits in terms of reduced substance use and system involvement, and improved quality of life. Specifically, participation in MAT services was associated with reduced drug use, improved quality of life, and reduced system involvement (e.g., criminal justice). At the same time, clients' satisfaction with their lives declined, pointing to the need for MAT providers to connect clients to resources for long-term recovery support, such as counseling, peer support services, group support, and education to help them work through these feelings as part of relapse planning.

Client retention in MAT services might be challenging. Although we did not have a true retention rate, only one-third of MAT clients had a 6-month follow-up GRPA interview. It is important for MAT agencies to find strategies to promote retention (e.g., peer support services, psychosocial support), and to identify and actively work to remove systemic barriers in order to promote equitable outcomes for clients.

Recommendations for Future Expansion of MAT in Oregon

Based on findings from the SOR2 MAT Evaluation, we offer the following recommendations to support the future expansion of MAT services in Oregon.

Allocate more resources for implementation. Implementing MAT services requires funding, staff time, technical assistance, and infrastructure investments (e.g., data systems). Future expansion efforts should allocate a proportion of funding specifically for implementation, and support agencies in connecting with technical assistance, expert consultants, and learning communities with other MAT providers. If grantees are encouraged or required to offer infectious disease care, they need funding and technical assistance to help them integrate their response to the dual epidemic of OUD and infectious disease. A longer funding period would also provide more time and resources for implementation. The two-year SOR2 funding period essentially required agencies to fully implement MAT services without time for thorough planning and installation.

Continue funding work in priority populations. Intentionally identifying and funding services for priority populations can promote equitable access to services. SOR2 funding, for example, intentionally expanded access to MAT services in rural communities. Future funding could use the same approach to expand access to other populations experiencing the disproportionate impact of OUD. Funding should also incentivize agencies to adopt and strive toward goals for providing equitable access to MAT services. Last, fund culturally-specific organizations to create more opportunities for culturally- and linguistically-relevant MAT services and promote health equity.

Intentionally identifying and funding services for priority populations, incentivizing agencies to adopt equity goals, and funding culturally-specific agencies can promote health equity.

Encourage agencies to involve people with lived experience. In alignment with SAMHSA's *Participation Guidelines for Individuals with Lived Experience and Family*, encourage agencies to involve peers/people with lived experience in designing their programs, including client outreach, engagement, and retention. Agencies should also be incentivized to collect client feedback on their experiences with MAT services to better assess whether they are culturally-responsive, trauma-informed, and client-centered, and on areas for improvement.

Invest in the SUD workforce. Hiring and retaining high quality staff was one of the main challenges grantees faced. State and federal investments in the SUD workforce could help increase wages, expand training opportunities, increase the number of credentialed providers, and develop a career ladder in the field (e.g., support paid internships for CADC-Rs). Removing financial barriers (e.g., scholarship programs) would encourage more people to enter the SUD field, and financial incentives for priority provider populations (e.g., Spanish-speaking) would create more equitable workforce opportunities. Importantly, workforce efforts should also focus on removing barriers to accessing higher education that disproportionately affect certain communities (e.g., ethnic/racial minority groups, low-income students)[58,59,60] and result in less culturally and linguistically diverse healthcare workforce.

Support grantees' understanding of state and federal policies and advocate for any needed changes. As MAT expands across Oregon, it will be important for agencies to fully understand and navigate state and federal policies pertaining to MAT service provision. Some examples of regulations that grantees found challenging to navigate or would like to see changed are the Suboxone certification process, MAT location restrictions, and rules that do not allow methadone admissions over telehealth (for OTPs). Additional support developing cost calculators, negotiating fees with CCOs and private insurance providers, and finding ways to be reimbursed for outreach activities would support agencies' financial sustainability. Another area for advocacy is credentialing, which can place limits on who can provide services (e.g., restrictive background checks for peers) and create gaps in funding if there is staff turnover (e.g., processing time when CCO's credential providers).

Investing in the SUD workforce should include increasing wages, expanding training opportunities, developing a career ladder, and removing financial and other barriers to education and credentialing.

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Table 1

MAT client race/ethnicity at intake

Race/ethnicity	% (n)
Alaska Native	1% (15)
Asian	1% (6)
Black	4% (38)
Latine/Hispanic	10% (102)
Native American	5% (56)
Native Hawaiian	1% (7)
White	90% (938)

Note. Clients could select more than one category.
Data featured in Figure 3.

Table 2

Number of days MAT clients used drugs in the past 30 days at intake and 6-month follow-up

Type of drug (n=345)	Intake	6 month follow-up	Effect size Cohen's d, Significance (p value)
Methamphetamine	5.60	2.91	0.28, p<.001*
Heroin	9.75	2.82	0.58, p<.001*
Oxycontin	1.14	0.21	0.18, p=.001*
Morphine	0.28	0	0.10, p=.05
Percocet	0.11	0	0.08, p=.15
Non-prescription Methadone	0.23	0.07	0.06, p=.24
Dilaudid	0.28	0.01	0.06, p=.31

** p values <.05 indicate a statistically significant difference.*
Data featured from Figure 5.

Table 3

Change in MAT clients' adverse effects from drug use from intake to 6-month follow-up

Type of adverse effect	**n**	**Intake**	**6 month follow-up**	**Effect size** Cohen's d, Significance (p value)
Experienced stress because of drug use in the past 30 days	154	83.77%	64.29%	22.13, p<.001*
Reduced or gave up important activities due to drug use in the past 30 days	151	64.24%	47.68%	12.80, p<.001*
Experienced emotional problems due to drug use in the past 30 days	152	71.71%	55.26%	11.76, p<.001*

** p values <.05 indicate a statistically significant difference.*
Data featured from Figure 6.

Table 4

Change in MAT clients' quality of life from intake to 6-month follow-up

Quality of life indicator	**n**	**Intake**	**6 month follow-up**	**Effect size** Chi-square, p value
Employed (yes/no)	290	36.20%	60.00%	47.67, p<0.001*
Very good or excellent overall health	348	57.47%	71.55%	21.94, p<0.001*
Good or very good quality of life	344	58.70%	73.00%	11.76, p<.001*
Mostly or completely enough energy for everyday life	349	50.14%	63.90%	17.26, p<0.001*
Had enough money to meet their needs	350	36.00%	41.40%	2.73, p=0.10
Interact in past 30 days with family or friends supportive of your recovery	343	89.21%	89.21%	0.02, n=0.89

** p values <.05 indicate a statistically significant difference.*
Data featured from Figure 7.

Table 5

Change in MAT clients' system involvement from intake to the 6-month follow-up

Indicator of system involvement	n	Intake	6 month follow-up	Effect size Chi-square, p value
Received inpatient treatment in the past 30 days	346	19.36%	3.47%	43.52, p<0.001*
Received emergency room treatment in the past 30 days	346	4.62%	0.58%	9.39, p=0.002*
Received outpatient treatment in the past 30 days	340	53.82%	62.06%	8.89, p=0.003*
Awaiting trial	345	13.62%	10.43%	2.13, p=0.15
On parole/probation	349	24.93%	22.64%	0.87, p=0.35

** p values <.05 indicate a statistically significant difference.*
Data featured from Figure 8.

Table 6

Change in MAT clients' life satisfaction from intake to 6-month follow-up

Life satisfaction indicator	n	Intake	6 month follow-up	Effect size Chi-square, p value
Very satisfied or satisfied with their ability to perform daily activities	348	21.55%	12.07%	15.28, p<0.001*
Very satisfied or satisfied with their health	345	23.77%	14.78%	14.75, p<0.001*
Very satisfied or satisfied with self	349	22.83%	13.18%	14.42, p<0.001*
Very satisfied or satisfied with personal relationships	340	13.24%	8.24%	5.69, p=0.02*
Extremely or considerably bothered by emotional problems	194	12.37%	16.49%	1.75, p=0.19

** p values <.05 indicate a statistically significant difference.*
Data featured from Figure 9.

Appendix A: Initial Interview Questions

Implementation

How long has your organization been delivering MAT services?

Why did [organization name] decide to implement/expand MAT services?

Can you tell me about your planning process?

[Probes: How did you discover the need for MAT? Did your organization apply a health equity lens in planning? If yes, how did you apply a health equity lens? (e.g., identify groups that aren't being served or disproportionately face barriers to access; strategies for outreach) Who was included in the planning (e.g., community members, community-based organizations)?]

What other services do you provide in conjunction with MAT services? (eg. Peer Recovery Mentors)

How do these services integrate with MAT services?

Staffing

In the last SOR2 progress report, we read that hiring has been challenging for a number of MAT providers.

Can you tell me more about that?

What qualifications or credentials are needed to administer MAT services?

What are some of the barriers your agency faced? (e.g., pay rate and cost of living, history of criminal justice involvement, finding staff that reflect the population served).

How do hiring barriers impact the clients you serve?

How did hiring/staffing barriers impact the implementation process?

What is your agency doing to overcome these barriers?

Organizational Commitment

People hold different opinions or perceptions of MAT as a SUD treatment modality.

What is your organization's stance on MAT?

How do other staff at your agency regard MAT?

How do clients view MAT?

How do your community partners generally regard MAT?

Does your organization promote/have plans to promote MAT as an evidence-based practice for SUD?

If already promoting: what works?

Financial or regulatory issues

Do you anticipate/have you experienced any issues with receiving payment for services (e.g., Medicaid)?

[Probe: Does billing/payment create obstacles for some people in accessing or receiving MAT services?]

Do you anticipate/have you experienced any regulatory issues related to providing MAT services?

Health equity/culturally responsive services

How does your organization ensure that clients receive culturally responsive services?

Research shows there are barriers to accessing SUD services which may disproportionately affect certain groups (based on race, gender identity, income, preferred language).

What does your organization do to identify and remove those kinds of barriers to accessing MAT services?

Telehealth

Does your organization provide telehealth/telemedicine services for MAT?

If yes:
When and how did your agency shift to telehealth?

What were some of the infrastructure needs and how were they addressed?

What are the strengths of telehealth? For whom does it work well for and why?

What are the challenges of telehealth?
Are there some groups of clients who face more barriers than others?

What are your staff's experiences of telehealth?

If no:
Does your organization have plans to provide telehealth services?

If yes, when and how? If no, why not?

Data Collected

OHA is looking at the possibility of having all of the MAT expansion grantees report on a small set of common metrics to help us understand the impact of SOR2 funds.

What types of data does your organization collect (aside from GPRA data)?

Do you collect any of the following information:

- Client demographics
- Number of clients served, types of medication
- Treatment duration/retention, re-entry
- Number of clients served by telehealth
- Where referrals are coming from
- Where you are referring clients (e.g., other treatment programs, community service array)
- Other types of data?

Does your agency have any program reports that you can share with us?

Connections to Larger Systems of Care

Describe the collaborative partnerships you have made since the expansion of the MAT program.

> [Probes: Were any of the collaborations with other MAT providers? Have any of these partnerships been formalized for ease of future collaboration? Are there key staff for creating and maintaining partnerships with other organizations? How is that work done at your organization?]

Can you describe how your organization helps coordinate care for clients who are going to work with other agencies?

What is successful?

What is challenging?

COVID-19

How has the COVID-19 pandemic changed processes or procedures that were implemented for the MAT program?

Is your organization keeping any of the changes made due to COVID-19 going forward?

How did the COVID-19 pandemic impact collaboration with your partners?

Appendix B: Follow-up Interview Questions

Health Equity

Can you describe some of the barriers to getting clients with Opioid Use Disorder on MAT?

Are there certain groups of people that stand out as facing additional or specific barriers (such as those with disabilities, certain races or ethnicities, non-English speaking folks, gender differences, transgender, etc.)?

Has your agency been able to work to address specific barriers? Are there certain populations your agency is working to expand services to?

What are some things that would help your agency or staff work to expand services to underserved populations? Are there barriers such as funding or training that get in the way?

What do you do if a client asks for additional culturally specific services? Do you have connections with culturally specific agencies to refer clients to if those services aren't available at your agency?

During our previous interview, a number of MAT providers talked about trying to hire diverse staff to help ensure they were providing more culturally-responsive services– but hiring has been a huge issue across the state.

How is hiring going for your organization?

Was diversifying staff one of your agency's goals?

If yes: what steps have you taken to reach and retain a more diverse staff?

Where is additional workforce support needed? (E.g., finding/hiring: X waivered prescribers, mentors, admin, counselors… Or training and credentialing? Diversity?)

Implementation

If another agency was thinking about integrating MAT into their services, what would you tell them to prepare for? What should be first on their to-do list?

What were the key supports or what supports do you wish you had in implementing this service?

Who are the key people or organizations to make sure to include in planning?

Are there Oregon-specific recommendations?

Have you made any changes/improvements to the program? Can you give me some examples?

How did you know to make those changes? Would you be able to describe your process for identifying when changes are needed and then making those changes?

Service Models and Service Integration

Can you briefly describe how the process would look for a client wishing to begin treatment for opioid use disorder at your agency?

[Probe: For example, do you follow a model such as MAT first?]

Do you know how clients are finding your services?

We would like to hear more details about the role of peers in MAT.

Can you tell me a little about their job description?

Is there additional training needed for a Peer Support Specialist or CRM coming to work with MAT clients?

What's most important or what's the focus of the MAT CRM?

Stigma

It is well documented that there is misunderstanding and resistance against MAT in some communities.

What could be helpful for other organizations implementing MAT programs to help with resistance and misconceptions against MAT?

How do these misconceptions/resistance affect client engagement in treatment?

[Probe: How can an organization support clients through their biases in staying or coming in for treatment?]

What are you doing as an organization to make a more welcoming environment for people seeking MAT? Eg. What are you doing to help people see that MAT is a treatment option for them?

[Probes: What are some efforts to decrease stigma and organizational resistance to MAT? Does the organization have any workforce training and support in this area?]

Billing Q's

What would be your recommendations to an agency such as yours preparing to implement MAT with regards to billing and reimbursements?

Do you have recommendations for how to work with CCOs for reimbursement?

We know agencies that provide a medication first model have encountered problems with getting reimbursed. Have you developed protocols for getting reimbursed without having to first do all the medical screening and SUD assessments so you can get clients in sooner?

[Probe: If yes, can you tell me about those protocols? What would you recommend to other agencies encountering these problems?]

Have CCO billing and reimbursement requirements affected services for clients? (e.g., when dealing with different CCO requirements when clients live in different counties from where they are receiving services)

[Probe: What requirements have been the biggest barriers? Have you found any solutions? (are those solutions temporary or CCO-dependent or can you also provide recommendations for other agencies)?]

Regulations

What do you know about DEA and OHA prescribing requirements?

Have you had any barriers and challenges to prescribing requirements?

What are some suggestions for other new or expanding MAT providers in dealing with regulations and billing?

Telehealth

How do you support engagement over telehealth?

How has telehealth changed since 6 months ago (Eg. first interview)?

What would be some recommendations you would give to other new or expanding MAT programs on telehealth?

Wrap up

Is there anything that wasn't mentioned here today that could be helpful for OHA to know in order to better help others expand or implement MAT services? Do you have any recommendations or highlights to share?