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Expert providers implement integrated and coordinated care in opioid use disorder treatment

Lesley M. Harris [a,*], Erick G. Guerrero [b], Tenie Khachikian [b], Veronica Serrett [b], Jeanne C. Marsh [c]

[a] University of Louisville, Kent School of Social Work & Family Science, 2217 S 3rd St, Louisville, KY, USA
[b] I-Lead Institute, Research to End Healthcare Disparities Corp, 150 Ocean Park Blvd, 418, Santa Monica, CA, USA
[c] University of Chicago, Crown Family School of Social Work, Policy, and Practice, 969 East 60th Street, Chicago, IL, USA

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ABSTRACT

Background: Enhancing care integration and coordination to improve patient outcomes in opioid use disorder treatment is a growing focus in the field. Understanding of how the treatment system implements coordination and integration, particularly in the aftermath of the COVID-19 pandemic, remains limited. In this study, we explored the implementation of medications for opioid use disorder (MOUD) and the evolution of service delivery toward a more comprehensive approach. We examined providers' perspectives from high-achieving programs in Los Angeles County, the largest and most diverse U.S. county, including barriers to integrating and coordinating care and strategies for integrating MOUD service delivery.

Methods: We gathered qualitative interview data from 30 high-performing programs in Los Angeles County, each represented by a manager or supervisor. High performance was defined by empirical indicators of access, retention, and program completion. Our data collection and analysis followed the constructivist grounded theory approach, explicating the social processes used by participating managers during the pandemic and subsequent organizational shifts. This approach yielded 14 major and six minor codes. Interrater reliability tests yielded a pooled Cohen's kappa statistic of 93%.

Results: Expert providers exhibited a strong commitment to destigmatizing MOUD and worked to overcome obstacles in delivering care to clients by advocating its efficacy to fellow health care providers. Along with their endorsement of MOUD, they identified challenges in integrating and coordinating MOUD care. Barriers included stigma at both patient and provider levels, inadequate education about MOUD, limited access to MOUD, and the complexities of operating in a fragmented health care framework. Despite these challenges, high-performing providers used strategies to harmonize and align MOUD service delivery with health and social services. These included establishing service colocation, adopting a multidisciplinary team-based approach, forming partnerships with the community, offering telehealth services, integrating and sharing data, and embracing a harm reduction philosophy.

Discussion: Through the adoption of these strategies, providers enhanced care accessibility, boosted patient engagement, sustained retention in treatment, and enhanced treatment outcomes. Even among highly skilled treatment providers in Los Angeles County, barriers to integrating and coordinating care using MOUD remain intricate and multifaceted. Addressing these challenges necessitates a comprehensive strategy involving provider education and training, increased availability of MOUD, enhanced coordination and communication among health care providers, resolution of regulatory hurdles, and addressing patient hesitancy toward MOUD.

Despite significant resources focused on abating the current opioid overdose epidemic in the United States, the addiction health services system continues to be ill-prepared to effectively engage people in opioid use disorder (OUD) treatment (Bennett & Elliott, 2021; Chiappini et al., 2020). Fragmented care, the opposite of integrated care, is the norm of United States-based healthcare provision that is not currently coordinated or integrated but intermittent and uncoordinated care provided by various healthcare practitioners and settings (Bilazarian,

* Corresponding author.
E-mail address: lesley.harris@louisville.edu (L.M. Harris).

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2021; Joo, 2014). Challenges within the current system of care include structural barriers, such as lack of coordination of care (Guerrero et al., 2016), low capacity to deliver a standard of care (Guerrero et al., 2014), and operating within a bifurcated opioid treatment system with widening disparities (Guerrero et al., 2022). Additional research conceptualizes key barriers to successful client outcomes, including lack of funding, client transportation challenges, difficulties of bureaucracy, and the absence of interagency cooperation (Pullen & Oser, 2014).

In recent years, increasing attention has been paid to integrating and coordinating care to improve OUD treatment outcomes (Korthuis et al., 2017; Logan et al., 2019; Oldfield et al., 2019). However, there is limited knowledge of how the OUD treatment system implements the integration and coordination model, particularly post-COVID-19. This study explored the integration and coordination of OUD treatment by detailing perspectives and experiences in implementing care systems among expert treatment providers in Los Angeles County during the COVID-19 era.

Integration and coordination of care and impact on OUD treatment

Integration and coordination of care refer to systematic and organized efforts to ensure that all healthcare providers and service organizations work together effectively and efficiently to provide the best possible care for patients (Poku et al., 2019). Integration of care generally refers to joining health and social services with OUD treatment services (such as colocation of primary and specialty services), whereas coordination of care generally refers to processes of integrating services, such as referrals to other health and social services at different locations (Dunbar & Reddy, 2009; Schultz & McDonald, 2014). In the context of OUD treatment, integration and coordination of care involve collaboration between healthcare providers, such as primary care physicians, addiction specialists, psychiatrists, and social workers, as well as service organizations, such as substance use disorder treatment centers, mental health clinics, and community-based social service organizations (Oldfield et al., 2019).

Integration and coordination of care can positively affect OUD treatment outcomes (Cao et al., 2011; Guerrero et al., 2014, 2016). Most substance use disorder treatment programs are small, and coordination of care is more common than in larger healthcare systems because primary and behavioral health services are delivered at the same site or campus (Schiff et al., 2022). For example, integrating addiction treatment into primary care can improve access to care, reduce the stigma associated with OUD, and increase patient engagement and retention in treatment (Wakeman et al., 2017). Other studies have shown lower relapse rates when receiving integrated care relative to fragmented care (Timko et al., 2016). Coordination of care is an essential process that involves managing and organizing health care services across multiple providers and settings to ensure that clients receive comprehensive and coordinated care. This approach can improve patient outcomes, reduce healthcare costs, and enhance the patient experience to improve retention in care (Blanco & Volkow, 2019; Blanco et al., 2020; Peterson et al., 2022).

Integration and coordination of care can also improve the quality of OUD treatment. For example, the Substance Abuse and Mental Health Services Administration (SAMSHA 2020) recommends a comprehensive approach to OUD treatment that includes medication for OUD (MOUD), behavioral therapy, and social services. However, many patients do not receive all these care components, which can result in poorer outcomes. Integration and coordination of care can ensure that patients receive all the necessary components of care in a coordinated and integrated manner (Frank et al., 2017).

Challenges to integration and coordination of OUD care

Despite the potential benefits of integration and coordination of care, there are several challenges to implementing these approaches in OUD treatment. One main challenge is the lack of resources and infrastructure to support the integration of care as colocated primary and behavioral health services (Abraham et al., 2017). Many healthcare organizations do not have the needed staff and technology to effectively integrate care because most OUD treatment providers are small programs with three to five staff members and less than $1 million budgets (McClelland et al., 2018). Coordination of care with other providers is more realistic, but this type of care still poses a significant challenge to ensuring warm handoffs and follow-up for OUD providers (Lawn et al., 2014). Finally, the reimbursement systems for healthcare services often do not incentivize integration and coordination of OUD care, making it difficult for healthcare organizations to justify the costs of implementing these approaches (Croft & Parish, 2013; Van Durme et al., 2014).

Institutional, provider, and client stigma associated with OUD

Many governmental and healthcare institutions, direct service providers, and clients hold stigmatized beliefs about clients and their treatment options that limit access and engagement in care (Madden, 2019). For instance, SAMHSA only recently relaxed regulations on take-home methadone dosage; service providers may judge clients based on their racial, ethnic, and socioeconomic background to decide how much methadone they allow them to take home (Harris et al., 2023). Some providers also still view OUD through the lens of stigma, i.e., as a moral failing rather than a chronic medical condition. This can result in patients being denied access to care or receiving inadequate care (Stone et al., 2021). This stigma can also make establishing effective collaborations between healthcare providers and service organizations difficult. Clients may experience internalized, enacted, and anticipated stigma regarding OUD and using MOUD for treatment, which they describe as barriers to treatment (Anvari et al., 2022; Hall et al., 2021; Krawczyk et al., 2018).

Effective OUD treatment requires a comprehensive approach that includes integrated and coordinated care. However, there are several challenges to implementing these approaches, including the need for more resources and infrastructure and the stigma associated with OUD. In this study, we explored how MOUD is delivered and how service delivery has changed to become more integrated, using the narratives of providers from high-performing programs in the largest and most diverse county in the United States. Specifically, we asked: (1) How do high-performing providers integrate MOUD service delivery with health and social services? (2) What barriers do high-performing programs most commonly face when integrating and coordinating health and social services in OUD care? (3) What strategies are most used for integrating and coordinating health and social services in OUD care among high-performing programs?

Method

Setting and context

This qualitative study took place in Los Angeles County, which has one of the largest substance use disorder treatment systems in the United States. This system serves a diverse population, including communities heavily affected by the opioid crisis. Despite being the largest metropolitan area in the United States, with more than 10 million residents, Los Angeles County also features more than 4,000 square miles of rural and high desert areas where treatment locations exist. In 2019, the county provided treatment to more than 40,000 individuals, with opioids being the leading drug of choice (Los Angeles County Department of Public Health, 2022). Treatment for OUD in Los Angeles County is mostly publicly funded, ranging from larger medicalized treatment programs to smaller storefront programs that primarily serve racial and ethnic minority groups. Currently, methadone is the most offered MOUD among treatment programs in Los Angeles County. In 2022, 75% of

specialty outpatient OUD treatment relied on methadone (Jones et al., 2015; Los Angeles County Department of Public Health, personal communication, 2022; SAMSHA, 2016). In Los Angeles County, young people aged 18–25 are most affected by opioid misuse. Although the rate of opioids distributed at pharmacies has decreased in Los Angeles County since 2014, drug overdose deaths involving opioids reached an all-time high in 2020, accounting for 64% of drug overdose deaths (Los Angeles County Department of Public Health, personal communication, 2022). Notably, 2020 also marked the start of the COVID-19 pandemic, resulting in lockdowns, lack of access to treatment, and isolation of treatment-eligible clients (Chiappini et al., 2020).

Participant recruitment

To gain consent to participate in the study, the research team contacted a subset ($n = 30$) of administrators, program managers, and supervisors from the highest-performing programs in an original sample from a larger study ($n = 70$). The team drew from relationships developed to collect four prior waves of program data (Guerrero et al., 2015, 2016). After program managers agreed to participate, a research team member obtained consent via phone from each participant. To incentivize participation, participants received a $50 gift card upon completion of the interview.

Sampling and inclusion criteria

The researchers defined expert treatment providers as directors, managers, and supervisors of administrators of top-performing outpatient treatment programs in the 2017 wave of quantitative data collection (Marsh et al., 2021). To select this sample of experts, the researchers relied on the most current data from the parent project (Marsh et al., 2021). For each program in the 2017 wave of data collection, a performance index was created, defined as follows:

$$\text{Index} = \frac{\bar{x}_{wait} - \min(\bar{x}_{wait})}{\text{range}(\bar{x}_{wait})} + \frac{\bar{x}_{duration} - \min(\bar{x}_{duration})}{\text{range}(\bar{x}_{duration})} + \frac{\bar{x}_{completion} - \min(\bar{x}_{completion})}{\text{range}(\bar{x}_{completion})}$$

where $\bar{x}_{wait}$, $\bar{x}_{duration}$, and $\bar{x}_{completion}$ denote the average wait time, average treatment duration, and average treatment completion rate by program, respectively.

The team then selected 30 OUD treatment programs with the highest performance indicator data—i.e., the lowest wait times, highest rates of retention, and highest rates of treatment plan completion. Due to workforce shortages during the pandemic, managers often played different roles in their organizations, such as supervising counselors while providing direct services. However, participants responded to interview questions in the context of their role as directors, managers, and supervisors for this study.

Sample size determination

Based on previous studies with similar populations (Guerrero et al., 2015, 2016), a sample size of 30 or fewer was deemed sufficient to achieve saturation. Participant recruitment and interviews continued until theoretical saturation occurred per grounded theory (Charmaz, 2014).

Development of the interview guide

To assess respondents' adherence to standards of care and best practices in their programs, their perceptions of changes in service delivery in response to the COVID-19 pandemic, and their perceptions of changes they would make permanent to increase access to and quality of care, the research team created an interview guide. Two pilot interviews were conducted with providers who were not included in the randomly selected sample of implementation experts to finalize the interview guide. The final interviews were carried out by qualitative researchers who have conducted studies in Los Angeles County's substance use disorder treatment system for more than 15 years. The interview guide questions are provided in the appendix.

Collection of data

All 30 interviews were conducted via phone or video conference call, depending on the participant's preference. Participants had two weeks of notice to manage their schedules and allocated 45 to 90 minutes for the interview. All interviews were audio recorded, and identifying information was removed before analysis. This study was approved by the Institutional Review Board at the University of Chicago, and written consent was obtained from all participants.

Analysis of data

A professional service, REV.com, transcribed the interviews, and the research team removed any identifying information before analysis. The team employed a constructivist grounded theory approach (Charmaz, 2014) to code and analyze the data, focusing on describing the lived experiences of the participating managers rather than generating a theory. Half of the transcripts were initially coded line by line by two authors trained in qualitative research (LMH and VS), and the most frequent and significant codes were used to construct a focused codebook consisting of 14 major codes and six minor codes with definitions. This codebook was entered into Dedoose (version 9.0.17), a web-based qualitative data analysis platform, where both analysts coded all 30 interviews using the established codebook. The codebook was based on iterative discussions of interview transcripts, and interrater reliability tests were performed to ensure agreement between the two researchers' coded transcripts. After reaching a pooled Cohen's kappa statistic of 93% (Cohen, 1960), the researchers discussed and adjudicated any disagreements. The team discussed every data excerpt where an agreement was not reached to reach a consensus on the code application. The authors wrote memos and met weekly throughout the entire data analysis to make collective analytic decisions, consulted with other team members, and examined and documented the relationships between codes as they emerged (Charmaz, 2014; Hsieh & Shannon, 2005; Joffe & Yardley, 2004).

Results

Client and program characteristics of high performing programs are displayed in Table 1. Our qualitative findings underscore the necessity of an integrated, multidisciplinary approach to OUD treatment, highlighting the importance of education, reducing stigma, and improving systemic coordination to enhance patient outcomes and support long-term recovery. First, we describe the integration MOUD service delivery, which is focused on positioning and orientation of expert treatment providers toward delivering effective care, followed by barriers high-performing programs face when integrating and coordinating health and social services in OUD care, followed by strategies used for integrating and coordinating health and social services in OUD care.

Integration of MOUD service delivery

Expert providers advocated for a standard of care that integrates MOUD with behavioral health and social services. Ninety percent of organizations in our sample offered MOUD (primarily methadone). Only three did not offer MOUD, and these organizations had a referral system developed as a response to having no prescribing medical provider on staff. These organizations referred patients interested in any MOUD (buprenorphine, methadone, and naltrexone); this referral and linkage

Table 1
Client and program characteristics of high performing programs.

Gender identity of client population	
Proportion of clients who identify as male	40–100%
Proportion of clients who identify as female	0–60%
Proportion of clients who identify as non-binary or transgender	0–10%
Racial and/or ethnic makeup of client population	
Asian	0–10%
Black	0–45%
Hispanic/Latinx	0–90%
Non-Hispanic White	5–80%
Other—Native American, Persian, Middle Eastern, mixed-race (identified by providers)	0–31%
Preferred language of clients	
English	60–100%
Other languages	0–40%
Number of organizations serving clients who speak languages other than English	
Spanish	60% (n = 18)
Tagalog	10% (n = 3)
Korean	3% (n = 1)
Armenian	10% (n = 3)
Farsi	10% (n = 3)
Other	6% (n = 28)
Does the program offer medication as a treatment for opioid addiction?	
Yes	90% (n = 27)
No	10% (n = 3)
Offer counseling or behavioral therapy services, e.g., domestic violence or anger management counseling	
Yes	97% (n = 29)
No	3% (n = 1)
Counseling or behavioral therapy required or optional	
Required	70% (n = 21)
Optional	27% (n = 8)
Not available	3% (n = 1)
Counseling or therapy provided in person, using telehealth, or both	
In person	6% (n = 28)
Telehealth	10% (n = 3)
Both	80% (n = 24)
Not available	3% (n = 1)

to care was a priority of their clinic's care. Providers were highly invested in destigmatizing MOUD and working through barriers to care for clients by advocating its effectiveness to other healthcare providers. In addition to strongly endorsing MOUD, they emphasized counseling alongside MOUD. One provider reflected on this dynamic:

> The medication's going to stabilize you, but where you actually make real change is in your sessions, and that's where you can live a life without opiates. Without the counseling, you don't learn how to change your behaviors or what you're doing … [in] any treatment plus medically assisted treatment.

Perspectives on facilitators of integrated health services, including health care and social services, included having an extensive referral network if services are not offered in-house, including new services offered by Medi-Cal (California's Medicaid program), such as rideshare-style transportation services to get clients to care. Strategies for care integration and coordination involved managing and organizing health care services across multiple providers and settings to ensure patients receive comprehensive and coordinated care. According to these providers, this approach can improve patient outcomes, reduce healthcare costs, and enhance the patient experience.

High-performing providers of MOUD in Los Angeles County recognized that effective treatment involves a comprehensive approach that addresses the physical and psychological aspects of OUD and social determinants of health. Addressing social determinants allows providers to examine how the environment and client history can contribute to the development and persistence of OUD. Expert treatment providers in our study expressed an understanding of the importance of integrating MOUD service delivery in flexible and customized health and social services to ensure that patients receive the support they need to achieve and maintain recovery. One provider explained this approach:

> When the patient first comes in, it's important to look at what their medical history is, their mental health history is, based on the intake assessment. The strongest need is in mental health, and that's the most important one we get to first. If they're homeless, then the most strongest need is trying to get them stable. If they're HIV-positive and they're not connected to care, then that would be high on the list as well. So, it's about doing a full, integrated, whole-health assessment. And then based on that assessment, we would look at what the highest needs are, and start from there and go down.

Barriers to care coordination and MOUD

The standard of care for OUD combines MOUD, such as methadone, buprenorphine, and naltrexone, with behavioral therapy and social support to help individuals achieve and maintain recovery. However, despite participants' endorsement of MOUD, they found several barriers to integrating and coordinating care using MOUD. Some barriers included patient- and provider-level stigma, lack of education on MOUD, limited access to MOUD, and working in a fragmented health-care system.

Patient and provider level stigma

Providers reported that stigma associated with OUD and MOUD can be a significant barrier to care integration and coordination. This also involved navigating the dynamics of MOUD service delivery between inpatient and outpatient programs, as one provider explained:

> We get resistance from doctors. I mean, I can't tell you how many times my patients will go to the ER [emergency room] and not tell them that [they are] on methadone or onto the program because they don't want to be treated differently. And the sad part about it is usually, it's other providers in substance use that are the inpatient. They have the abstinent-only model and they really frown upon methadone, and I don't know why.

Providers shared that their patients may experience shame about seeking treatment for OUD and be hesitant to disclose their condition to healthcare providers. They explained that providers may also hold negative attitudes or biases toward patients with OUD or who are using MOUD, which can affect the quality of care they provide. One provider shared how provider-level stigma can affect the patient experience:

> When it's primary care, if they find out they're on methadone and then they get hurt, they won't prescribe them opiates at all. And it's like, "OK, we're treating the addiction. We're not treating their pain. They may break their foot and still need pain medication, so treat their pain, let us treat the addiction." But once they find they're on methadone, they get treated differently.

Additionally, providers who endorsed MOUD described the challenges involved in offering integrated health services and MOUD in a treatment program:

> I would say making the connection with other providers. There's a big stigma around methadone and medically assisted treatment, so I find it very difficult to make those connections with other providers to help integrate it into our medically assisted treatment program.

Many providers said they believed in the powerful treatment effects of MOUD and would like to extend MOUD options to settings outside of outpatient care:

> I would like to change the stigma of methadone. I would hope that there would be one day that a medically assisted treatment program can work with inpatients. I have a lot of patients that really would benefit from that intense treatment, but also the medication. And then maybe they can transfer after. I think patients would succeed.

Provider-level stigma also affected patient-level stigma, as one participant noted: "It only takes one bad interaction for a client not to want to let another provider know that they're on methadone, because they get treated differently, and that's not right." Additionally, providers shared that patients may be reluctant to engage in MOUD due to concerns about side effects, fear of addiction to the medication, or a desire to achieve abstinence without medication. One provider shared her experience with fear of MOUD among patients: "There is still a kind of an uphill battle as far as persuading people that these medications are just that, they're medications." This reluctance can make integrating and coordinating care using MOUD complex for providers, because patients may not be willing to engage in this type of treatment. One provider explained these concerns:

> There is a drawback from a patient standpoint or sometimes their families and loved ones in that there's some stigma, they—there's a sense that, [a] poor belief that you're just substituting one drug for another, an expectation that abstinence means you're not taking anything, but we deal with that even with the mental health piece, and some resistance.

Lack of education on MOUD

Expert treatment providers who engaged in this study explained that other providers may lack education and training on MOUD. One provider explained:

> We are definitely trying to again just provide more education to our staff and make it more of a part of treatment. Offering MAT [medication-assisted treatment] services, one of the things we had to really do is get our staff buy-in and train on what MAT services was all about. And it's required on the treatment plan by the county or DPH [Department of Public Health].

Other providers shared that lack of education can result in a lack of confidence in prescribing and managing MOUD. This can lead to inadequate dosing, inappropriate medication selection, and poor monitoring of patients on MOUD.

> Well, DHC [Department of Health Care Services] is to make … there's a question that we must answer if MAT is offered, but our goal is to do more than just offer MAT, but to make sure that we're educating clients on the benefits of MAT. We also have to break some of the stigma around MAT services with our clients. It's just educating our staff to educate our clients. … It's just a big push right now.

Limited access to MOUD

Access to MOUD can be limited due to a shortage of providers who are certified to prescribe these medications. One provider explained this challenge:

> There are still some barriers, which is the medical doctors. To have a medical doctor on site and registered nurse to apply the Vivitrol [naltrexone] injection. The prescribing of the Suboxone [buprenorphine] has to be done by the MD, and having a MD on part of a funding, that's an obstacle.

Additionally, providers shared that some patients may not have access to transportation to MOUD clinics, which can limit their ability to receive treatment. The cost of MOUD may also be a barrier for some patients, particularly uninsured or underinsured people. One participant said a solution to these challenges is access to an on-site doctor who can prescribe MOUD:

> It will be much more accommodating for my clients. It will be much easier to have an extra service offered for them. And it will be more beneficial for my clients instead of having to follow up with the other agency and see if they are compliant and see if they are attending and see if they have any problems accessing other services.

Another provider shared that, "If I have a doctor that can prescribe MAT, and they can do the administering of the medication on-site, they will alleviate half of the barriers."

Working in a fragmented health care and funding system

Providers spoke about the challenges of working in the fragmented healthcare system, which can make coordinating care for patients with OUD challenging. One provider described this dynamic and related barriers:

> I think one of the main challenges that we have experienced in recent times has been the fact that Medi-Cal for HMO [Health Maintenance Organization] Medi-Cal patients doesn't allow you to be able to see the patients for medical visits unless you are their provider. And we have a lot of patients that have been working with a particular physician for years. So it's hard for them to switch, to come to us when they really like another practitioner that they have faith in and they have a relationship with. So that limits our ability to be able to meet with the patients and to track their health in-house. Patients may receive care from multiple providers who do not communicate or coordinate with one another, leading to fragmented care.

Even in an integrated program, providers described barriers related to time-consuming processes and systems navigation for providers and clients alike:

> The challenges involved in offering the integrated social services include the process for our patient to access the program, and once accessed, the enrollment process for each of the services is timely and repetitive. So, everything here is funded: We're funded by SAPC [Substance Abuse Prevention and Control]; we're federally funded, county funded. And everything requires lots of signatures, lots of consent, and large stacks of papers, which once again, can be overwhelming for the patient, repetitive, and will cause them to either lose interest or just not be able to manage the amount of appointments. So, like I said, it's a delicate balance once getting the patient in, understanding what their most important is, and one by one, sending them to each of those resources, but not all at once.

Strategies to integrate and coordination care and MOUD

Despite barriers experienced in the system of care, our findings indicate that these high-performing providers used several strategies to integrate and coordinate MOUD service delivery with health and social services. These included (a) colocation of services, (b) multidisciplinary team-based care, (c) community-based partnerships, (d) telehealth services, (e) data integration and sharing, and (f) a harm reduction approach.

Colocation of services

Providers reported that one of the most effective ways to integrate MOUD service delivery with health and social services is to colocate these services in the same physical space. One provider explained this process:

> We've moved from primarily a substance use disorder treatment facility that provided some behavioral health, mental health stuff, some medical to being— … Our goal is to be fully integrated. Our goal would be to maybe be a federally qualified health clinic.
>
> A MOUD clinic may be in the same building as a primary care clinic,

mental health clinic, or social service agency. This colocation allows for seamless referrals between services, shared resources, and a more coordinated approach to care.

Multidisciplinary team-based care

High-performing providers recognized that effective OUD treatment requires a multidisciplinary team-based approach that includes medical, behavioral, and social service providers. One provider explained the different disciplinary backgrounds represented in their team:

> We have therapists, we have MFTs [marriage and family therapists], we have LCSWs [licensed clinical social workers], and we have registered or certified counselors. So, we do address to the extent that we can the whole person, we use primarily, I would say CBT [cognitive behavioral therapy], motivational interviewing, solution-focused, mindfulness, and just plain old talk therapy; we do have one therapist who can provide EMDR [eye movement desensitization and reprocessing].

This approach ensures that patients receive holistic care that addresses all aspects of their health and well-being. Another provider reflected on this team-based approach: "We do it through groups, we do it through process groups, we do it through educational groups, and we do it through one-on-ones." According to providers, a team-based approach can also improve communication and collaboration between providers and result in better outcomes for patients.

Community-based partnerships

High-performing providers emphasized the importance of collaborating with community-based social service organizations to provide patients with the social support they need to achieve and maintain recovery. These partnerships may include collaborations with housing agencies, employment services, and peer support groups. By collaborating with these organizations, MOUD providers engaged in strategies that ensured that patients receive the support they need to address social determinants of health that can contribute to OUD. For example, one provider explained their collaboration regarding transportation for clients: "We make arrangements with drug medic health transport. So, we just make those arrangements for the patients, and then they keep using that, through Lyft and Uber and so on."

Telehealth services

In some cases, high-performing providers used telehealth services to deliver MAT and other health care services to patients who live in remote or underserved areas. As one provider explained:

> We use telehealth for a lot of the MAT, medicated treatment patients where the doctor, MD, is actually at our central location, but we have an office here set up where sessions is been done virtually with the doctor. And so, we have that.

Participants emphasized that telehealth services can help overcome barriers to access, such as transportation and distance, and improve access to care for patients who might not otherwise receive treatment.

Data integration and sharing

High-performing providers recognized the importance of data integration and sharing to ensure patients receive coordinated and effective care. This involved sharing patient information between health care providers and social service agencies, using electronic health records and other health information technology systems. Although this sharing of information can help ensure that all providers have access to the same information about a patient's health status and treatment history, providers said great efforts needed to be made to integrate and share data:

> Primary care is for most folks that are on Medi-Cal. And even though there's drug Medi-Cal, there's different rules and regulations. We have separate charts and separate EHRs [electronic health records] for those systems. That can sometimes pose a challenge, just trying to follow the rules of not only Medi-Cal, but also our funding partners on the county level.

Using a harm reduction approach

Last, providers described the benefits of using a harm reduction approach as a facilitator of not only integrated care but also improved client engagement and retention. One provider reflected, "We work more based on a harm reduction model, so if the patient isn't able to meet once, the one month, it's fine. We will work with a patient. We're not punitive." Another provider reflected on how harm reduction can lead to less stigma for MOUD and more culturally responsive care: "Train your staff on harm reduction and work on changing the culture and destigmatize medication-assisted treatment for OUD patients."

Discussion

High-performing providers of MOUD understood the importance of integrating service delivery with health and social services to provide comprehensive patient care. This integration involved colocating services, using a multidisciplinary team-based approach, collaborating with community-based organizations, using telehealth services, sharing patient data, and using a harm reduction approach. By adopting these strategies, providers found that they could improve access to care, increase patient engagement and retention in treatment, and improve treatment outcomes. Even among expert treatment providers in Los Angeles County, barriers to care integration and coordination using MOUD treatment are complex and multifaceted. Addressing these barriers requires a comprehensive approach that involves education and training for providers, increasing access to MOUD, improving coordination and communication among healthcare providers, addressing regulatory barriers, and addressing patient reluctance to engage in MOUD. Overcoming these barriers is essential to ensure that individuals with OUD receive comprehensive and coordinated care that promotes their recovery and long-term health.

Other studies have shown that patients in outpatient programs who received greater continuity of care were significantly more likely to continue care for a longer duration (Schaefer et al., 2005). Research suggests that patients who received buprenorphine or naltrexone showed higher levels of engagement and retention in treatment. Continuity of care practices has been shown to influence abstinence by enhancing patients' engagement in continuing care (Schaefer et al., 2008). Recommendations from other studies suggest that providers adopt low-threshold SUD care models to improve outcomes such as engagement and retention in care (Wakeman et al., 2022). Given the prevalence of multi-level and intersectional stigma in the established health literature (Belfiore et al., 2024; Earnshaw, 2020; Stangl et al., 2019; Turan et al., 2019) and this study, we recommend reducing and addressing stigma through harm-reduction approaches. Combining harm reduction strategies like Needle and Syringe Programs (NSPs), Supervised Consumption Sites (SCSs), and Naloxone distribution with MOUD is a comprehensive approach recommended by research to address the complex needs of individuals with OUD. This integrated method mitigates immediate health risks and promotes long-term recovery and social reintegration (Marshall et al, 2011; Palmateer et al, 2010; Wheeler et al, 2015).

Limitations

Several limitations of this study should be noted. Situating this study in California provided narratives of providers from high-performing programs in the largest and most diverse county in the United States. However, given Los Angeles County's size and demographic diversity, it is not representative of other counties nationwide. California has historically emphasized healthcare access, suggesting that providers in

other states might report different barriers (Smith, 2018). California's Medicaid program offers financial and non-financial support that public and private health insurance plans lack (Johnson, 2020).

California's case provides several lessons given the number of policies to finance (payment reform), organize, and deliver quality care in SUD treatment. One of the significant initiatives within Medi-Cal is the Drug Medi-Cal (DMC) program, which offers SUD treatment services to Medi-Cal beneficiaries. The DMC program includes outpatient drug-free treatment, narcotic replacement therapy, residential services, and more, aiming to provide comprehensive care (California Department of Health Care Services, n.d., California Department of Health Care Services, n.d.). While these features may be unique to California, they illustrate system-level changes that other states could not access. These resources could facilitate better outcomes when matched with provider expertise and practical strategies to integrate and coordinate care in the face of barriers.

Future research should explore perspectives from providers in multiple states, as differences in the substance use workforce, organizational structures, funding, and treatment policies could reveal additional factors influencing treatment retention and equity (Lee & Harris, 2021). Studies could investigate the impact of healthcare policies and staffing issues on treatment retention among persons with OUD. Moreover, the SUD field has called for research to understand retention inequities better, as this area is underexplored (Garcia, 2021). Calls for studies on providers and state substance use agencies that have successfully addressed equity issues could guide the development of broader strategies to close this gap (Martinez, 2019).

Conclusion

Enhancing the initiation and sustained engagement in treatment for OUD is a critical public health goal (Fishman, 2024). Expert providers have highlighted several barriers, including stigma from both patients and providers, insufficient education on MOUD, limited access, and a fragmented healthcare system. Providers acknowledged that effective OUD treatment must address physical, psychological, and social health determinants. Despite these systemic challenges, strategies like colocated services, multidisciplinary team-based care, community partnerships, telehealth services, data integration, and a harm reduction approach were identified as effective methods for integrating and coordinating MOUD services.

Our study provides insights into how OUD providers may overcome key barriers while leveraging facilitators to achieve high treatment initiation and engagement rates. Many of these reflect initiatives by expert treatment providers and are established in the literature as best practices (O'Brien et al., 2019). Others are potential solutions for unresolved barriers. Experts may coordinate assistance and entitlements for clients with competing social demands, such as childcare, transportation, and housing, otherwise preventing them from attending treatment appointments. Providers can implement care models that support routine client check-ins regarding their readiness for behavior change. They can offer a spectrum of services, from harm reduction to more intensive treatment levels, to bring more clients into care over time. Efforts can be directed towards developing provider-focused and community-focused campaigns to combat OUD stigma and promote treatment-seeking behaviors, offering greater support for clients contemplating treatment and those engaged in the recovery process.

Disclosures

The authors report no real or perceived vested interests related to this article that could be construed as a conflict of interest.

CRediT authorship contribution statement

Lesley M. Harris: Writing – original draft, Visualization, Supervision, Software, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Erick G. Guerrero:** Writing – original draft, Supervision, Resources, Project administration, Methodology, Investigation, Funding acquisition, Conceptualization. **Tenie Khachikian:** Writing – review & editing, Investigation, Conceptualization. **Veronica Serrett:** Writing – review & editing, Supervision, Project administration, Methodology, Investigation, Formal analysis, Data curation. **Jeanne C. Marsh:** Writing – original draft, Supervision, Resources, Project administration, Methodology, Investigation, Funding acquisition, Formal analysis, Data curation, Conceptualization.

Declaration of competing interest

None.

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Author Contributions

All authors contributed to the manuscript's conception, design, and preparation. All authors read and approved the final manuscript.

Supplementary materials

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