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Clinician perspectives on methadone service delivery and the use of telemedicine during the COVID-19 pandemic: A qualitative study

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ABSTRACT

Objectives: During the COVID-19 pandemic, opioid treatment programs (OTPs) in the U.S. were granted new flexibility in methadone dispensing and the use of telemedicine. To explore the impact of the pandemic and accompanying policy changes on service delivery, we asked OTP clinicians about changes in care patterns and perceptions of impacts on access and quality.

Methods: In May–June 2020, we completed semistructured telephone interviews with 20 OTP clinicians (physicians, physician assistants, and nurse practitioners) from 13 U.S. states. The study recruited participants through Medscape, an online platform where clinicians access clinical content. We used rapid thematic analysis, a qualitative approach, to summarize participants' expressed views related to the research objectives.

Results: Clinicians identified a range of changes to methadone and ancillary service delivery as a result of COVID-19. Most clinicians reported that OTPs were prescribing more take-home doses of methadone and providing psychosocial services and medication management via telemedicine. Many also reported reducing the frequency of urine toxicology screening and accepting fewer new patients. While some clinicians expressed support for the increased flexibility around dosing and use of telemedicine, others expressed concern about increased risk of medication diversion and overdose. Clinicians reported several advantages and disadvantages of the changes due to the pandemic and that continued reimbursement would be required to maintain telemedicine services.

Conclusions: The COVID-19 pandemic dramatically altered the delivery of methadone treatment in the U.S. This study's findings suggest that OTPs may have reduced their methadone treatment during the early months of the pandemic and that the flexibilities that policy changes offered may not have resulted in changes in care delivery for all patients. Careful consideration and additional analysis should inform which changes OTPs should maintain long-term.

1. Introduction

More than 400,000 patients with opioid use disorder (OUD) in the United States receive methadone treatment (Substance Abuse and Mental Health Services Administration, 2020a). Methadone treatment historically has been strictly managed based on federal regulations requiring a mandated minimum amount of staff-observed dispensing in federally certified opioid treatment programs (OTPs) (Alderks, 2017). A little more than 1500 OTPs operate nationally (Substance Abuse and Mental Health Services Administration, 2020a), the majority located in urban areas (McElrath, 2018).

The COVID-19 pandemic led to policy changes that allowed for changes in service delivery designed to reduce COVID-19 infection

transmission risk. For example, in March 2020, the Drug Enforcement Agency (DEA) and U.S. Department of Health and Human Services announced temporary changes in methadone dispensing policies for the duration of the public health emergency. The Substance Abuse and Mental Health Services Administration (SAMHSA), which oversees OTPs, released concurrent guidance allowing programs to request up to 28 days of take-home methadone doses (Substance Abuse and Mental Health Services Administration, 2020b). "Take-home" doses refer to methadone that can be taken at home unobserved rather than being dispensed and consumed under observation at an OTP (Walley et al., 2012). Although these organizations did not modify requirements for in-person examinations prior to methadone induction, many payers expanded reimbursement for telemedicine services, including video and

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telephone visits. For example, due to allowance from Center for Medicaid and Medicare Services, many Medicaid programs allowed patients to be treated in their homes via telemedicine for the first time, and Medicare allowed for audio-only telephone visits for services such as individual counseling.

These policy changes allowed for more flexible scheduling of methadone dispensing and decreased the requirements for in-person visits, but we know little about how OTP clinicians responded to these regulation changes. To better understand how OTPs have responded to the pandemic, we conducted a qualitative study to describe how clinicians working in OTPs responded to the changes in regulations, particularly the use of telemedicine, as well as challenges to treatment delivery and implications for the quality and safety of care. Such research can inform the ongoing response to the pandemic as well as help to improve addiction service delivery more broadly.

2. Materials and methods

2.1. Participants

From May 14 to June 19, 2020, we conducted semistructured interviews with clinicians approved to dispense methadone in OTPs. We aimed to complete 20 interviews because literature indicates that saturation—when major themes have emerged and new data become duplicative—occurs after 12–15 interviews (Guest et al., 2006) and this was consistent with our past experience with buprenorphine providers (Uscher-Pines et al., 2020). We collaborated with Medscape to recruit participants. Clinicians join Medscape's online platform to access clinical content and continuing education activities; some also agree to be contacted for research. Medscape used an 8-item survey to assess participant eligibility. Clinicians were eligible if they were physicians, nurse practitioners, or physician assistants who worked at an OTP at least eight hours per week and treated methadone patients. We also asked about their state of practice, years in practice, and experience with telemedicine services to select a sample with variation across these dimensions.

2.2. Procedures

The study scheduled eligible clinicians via email for a telephone interview. The study conducted semistructured interviews that asked about: 1) professional background, practice setting, and patient population; 2) changes in clinical practices due to COVID-19, including medication dispensing, urine toxicology screening, and psychosocial (i.e., individual and group therapy) services; 3) telemedicine (i.e., phone and/or video visits) experience; 4) patient response to telemedicine, challenges to telemedicine and impact on treatment quality; and 5) future service planning. Study staff created additional interview probes during data collection to help capture details specific to these practice settings that had arisen in completed interviews (e.g., whether new patients were being accepted and details about medication dispensing and urine toxicology screening).

One of the four study authors (three female and one male), who were PhD-level researchers with expertise in qualitative methods, health policy, substance use treatment, and/or telemedicine, conducted each interview. Each interview lasted approximately 30 min. Study staff audio recorded all interviews and they were professionally transcribed. Participants provided verbal informed consent after receiving an overview of the research purpose. They received a gift card (\$175 for physicians and \$125 for nurse practitioners/physician assistants) for participation. The researchers' Institutional Review Board approved the study.

2.3. Analyses

The research team met regularly prior to and during data collection

to discuss the data collection approach and emerging themes. Using rapid thematic content analysis (Averill, 2002; Hamilton, 2013; Taylor et al., 2018), we organized the interview notes and transcriptions by 16 key interview questions organized by four substantive domains (i.e., changes in clinical practices; experience with telemedicine; patient response to telemedicine, challenges to telemedicine, and impact on treatment quality; and future service planning) using a matrix in Excel. Following each interview, the researcher inserted detailed notes into the matrix regarding participant response to each of 16 interview questions along with illustrative quotes from the transcriptions. Rapid analysis allows researchers to identify information that can guide decision-making; for such purposes, the themes generated have been found to be consistent with themes identified through traditional, in-depth qualitative analyses that may include double-coding and interrater reliability checks (Hamilton & Finley, 2019; Taylor et al., 2018). Following completion of all interviews, the lead author reviewed the completed matrix and identified overarching themes from each domain that the lead author shared with the study team and further refined based on team discussion and ongoing review of the interview notes and transcriptions by both the lead author and the other study team members. The research team identified themes based on their cohesiveness and prevalence across participant responses, and also incorporated inconsistent perspectives (i.e., negative case analysis). The four researchers derived consensus of the themes through interactive discussions.

3. Results

3.1. Participants

Twenty clinicians participated (see Table 1), representing 13 states. Fifty-five percent were male. Seventy-five percent were physicians, while 25% were physician assistants or nurse practitioners. Half had been in practice nine years or less. In addition to the 20 participants, 31 other clinicians scheduled interviews; 17 were no-shows and 14 were not eligible as confirmed by the interviewer.

Table 1
Participant characteristics.

Characteristic	N (%)
Gender	
Men	11 (55%)
Women	9 (45%)
State	
AZ	1 (5%)
CA	1 (5%)
CO	2 (10%)
FL	1 (5%)
MA	2 (10%)
MD	1 (5%)
MI	1 (5%)
NC	1 (5%)
NM	1 (5%)
NY	5 (25%)
OH	2 (10%)
PA	1 (5%)
WA	1 (5%)
Discipline	
Nurse practitioner	3 (15%)
Physician assistant	2 (10%)
Physician	15 (75%)
Years in practice	
0–9	10 (50%)
10–19	6 (30%)
20–29	2 (10%)
30+	2 (10%)

3.2. Clinical practice changes

3.2.1. Theme: methadone dispensing procedures changed at most OTPs; some OTPs expressed concern about patient risk and liability

Most clinicians (72%) indicated their OTPs had changed the frequency of methadone dispensing. There was variation in implementation of increased “take-homes”, with clinicians considering patient risk or stability when determining the number of take-home doses. A participant explained, “We stratified them into unstable, partially stable, and stable. If they’re unstable, we would only give them take home doses for the weekend ... if they were stable, we would accelerate them to a four-week supply” (ID# 163). Another participant stated, “Depending on how they’re doing, if they’re at a high risk of relapse, we’ll try and see them twice a week ... but the stable ones, we’re giving them way more” (ID# 087). Some clinicians (28%) reported that their OTP had not implemented any changes to doses. For example, we heard, “We have very strict policies, and I think we just follow that policy” and “The chances of abuse of the medication itself is so much higher ... we just find it to be a huge liability on our part” (ID# 044).

Most clinicians expressed the requirement for in-person visits prior to and during methadone induction for new patients. A little less than half of clinicians (45%) reported not accepting new patients for a period of time because they were not adequately prepared to conduct in-person visits. Most OTPs had restarted taking new patients at the time of the interview, though sometimes still at reduced rates.

3.2.2. Theme: urine toxicology screening procedures varied substantially and changed over time

Urine toxicology screens are used in OTPs to help monitor symptoms of ongoing substance use. We observed substantial variation in screening procedures. About a third of clinicians stated their OTPs had not changed their toxicology screening protocols. About a quarter discussed screening less frequently, using a system based on patient risk. Some clinicians expressed concern over the potential increased risk as a result of less frequent screening. One participant explained “We’re not able to collect urine toxicologies as frequently ... that’s a disadvantage because we’re flying more blindly. Luckily though we haven’t had any reported overdoses since switching over” (ID# 164). Another quarter of clinicians reported that they had stopped screening for a period of time. A few clinicians discussed referring patients to outside laboratories for screening for a period of time, which may have resulted in less oversight of the sample collection (i.e., nonwitnessed) compared to their onsite collection protocols.

3.2.3. Theme: most psychosocial services were transitioned to telemedicine and the frequency changed

The majority of clinicians stated that they transitioned psychosocial services to telemedicine (i.e., either by phone or video), and many reported that therapy was happening less frequently (45%). One clinician reported that therapy was no longer required to reduce stress on “overwhelmed patients” (ID# 162). Sometimes programs stopped or delivered much less often group therapy, which is common in addiction treatment settings, due to the need to minimize contact and technical challenges with telemedicine groups. But in one case, a clinician said therapy was actually happening more frequently due to the convenience of serving patients at home.

3.3. Use of telemedicine during the pandemic

3.3.1. Theme: most OTPs offered telemedicine services either for medication management and/or psychosocial services

A majority of respondents (85%) reported that their OTP offered telemedicine services at the time of the interview. Although some clinicians reported prior experience with telemedicine, a little less than half (44%) reported that it was a new experience. A participant noted, “They’ve been trying to push it for a while, for whatever reason, there was so

much resistance from the patients, from the staff. ... I think COVID kind of pushed us into having to do it” (ID# 164). About one quarter mentioned that prior to COVID-19, insufficient reimbursement had been a major barrier to widespread use.

3.3.2. Theme: telemedicine modality (i.e., phone or video) varied depending on patient and clinician factors

Although many participants expressed a preference for video visits, participants reported a wide range in the percentage of telemedicine visits that they conducted by phone (i.e., from 20 to 90%). Clinicians described a similar set of barriers to conducting video visits, especially patient lack of access to the technology (e.g., no smart phone, lack of data on phone, no Internet access) or limited digital literacy. According to one participant “A little bit [of barriers] based on the equipment [patients] have. Also, if they have access to be available on a video. Mostly that, there have been some patients who are just not so savvy with their computers and things of that nature. And the people that we feel have been more stable ... it’s okay to do telephone rather than video” (ID# 082).

3.3.3. Theme: OTPs initially faced logistical challenges with telemedicine use

Some clinicians described challenges that their OTP faced in implementing telemedicine services. Many expressed clinic capacity challenges: “We weren’t really set up to do telehealth. We had thought about doing it, but it does require some infrastructure. Then, once telehealth became popular, the whole Zoom bombing thing happened, so we were concerned about using Zoom, so we went to another platform to do telehealth ... [which] ended up increasing the costs, so there was a little bit of a lag to getting that done” (ID# 164). Some participants expressed concerns about the platforms available (e.g., lack of HIPAA compliance) as well as the stability and reliability of existing options. There was also concern about the staff time spent assisting patients with using telemedicine platforms. One participant explained “[Telemedicine] requires extra staff time to coordinate visits and do tech support. ... Normally we’re done at least by 5:00. The other day, I mean literally we were still calling clients at 8:00 at night” (ID# 162).

3.4. Patient response to telemedicine

3.4.1. Theme: clinicians perceived that patients generally found telemedicine acceptable

Most clinicians (82%) indicated that patients have responded positively to telemedicine, because it saves time, reduces risk of COVID-19 infection, removes transportation barriers, and is more flexible. A participant explained, “Surprisingly, it’s been a very positive response because people don’t like waiting for an appointment, going into a clinic and having to wait for the doctor and doing all those things. And then you add on top of the fear that you may get sick because you’re out during a pandemic. ... And they feel that it’s even more private, that it’s right from their homes” (ID# 085). A few clinicians (18%) expressed that patients did not prefer telemedicine because it was impersonal or clinicians felt that patients were isolated or had technical problems. One participant noted, “They’ll keep asking, ‘When are we going back to the center?’ And I’m like, ‘Well, hopefully soon. We just got to wait [till] this thing clears up.’ ... I’m going to say mid-30s and up. They just don’t like this” (ID# 162).

3.5. Implications for quality

3.5.1. Theme: most clinicians thought that changes in service delivery had a negative impact of the quality of care

We asked how the changes in service delivery, in particular the shift to more telemedicine-based care, impacted treatment quality. The majority of participants (75%) mentioned negative impacts on quality. The most common issue was the inability to adequately assess patient status. A participant explained, “It’s a much shorter period of time compared to, they show up at clinic, they walk in the door, other people have eyes on them

... that's why I would reserve this for patients that I know ... If it's just a phone interview, sometimes you have no idea who you're really speaking to" (ID# 164). Another participant stated, "You need to see the patients, you need to touch the skin. ... Is the patient hydrated, the dry skin. You have to look at the arms, if they have track marks. You have to look at the eye. How can you do [this] with telemedicine?" (ID# 086). Another reported drawback included the patient-clinician relationship, "I think especially for the telephone visits, I feel that maybe not seeing the person, it makes it harder to build rapport with them. I think that's probably the biggest issue" (ID# 152).

3.5.2. Theme: despite perceived negative impacts on quality, some participants noted benefits of the new service delivery changes

A little over half of clinicians also mentioned the positive impacts of new delivery models (telemedicine in particular), including learning more about patients' environments. A participant explained, "I actually really like it because I could see patients in their home environment, and they would show me their pets and their pictures. And it was very unique. And I'd say it did not affect the quality of our visits" (ID# 044). Other participants noted that patients appeared more comfortable. According to one participant, "They're in their car or their bedroom and they feel as if they're in their own safe space. I feel like for some patients that is beneficial and they feel like they can kind of open up more" (ID# 041). Some clinicians indicated that telemedicine may represent a viable long-term option for more stable patients. One participant noted, "Some responsible patients, they do not need to come [in]. Waste of time, waste of resources. It's easier to do it on the phone. ... They have been coming [in] for years and they're responsible. They take their medicine, they go to work, they have families" (ID# 086).

3.6. Future service delivery plans

3.6.1. Theme: most clinicians thought service delivery changes—primarily telemedicine—are desired and sustainable, but there are financial limitations

Most clinicians (63%) expressed that they wanted to continue providing care through telemedicine, but expanded reimbursement would need to continue to make it feasible. A participant explained, "We just need insurances to treat it properly and to compensate providers" (ID# 161). Those who expressed that they did not want to continue telemedicine (21%) mentioned that they were concerned about the quality of care or that patients preferred in-person care. Others who were undecided about continuing telemedicine suggested that the utility depended on patient needs and access.

While many clinicians reported that they appreciated increased flexibility regarding methadone dispensing and the use of telemedicine, a few expressed concerns about liability and patient risk under the new protocols, both of which have implications for sustainability. A participant explained, "... It's been an interesting balance to strike regarding making sure that our patients are getting not too much methadone that could potentially be dangerous or diverted, but also ensuring we're reducing everyone's exposure, especially those who are higher risk" (ID# 041).

Overall, clinicians who had implemented changes to service delivery were generally optimistic about its impact on treatment delivery. We heard "the levers for telemedicine, for take home supplies of methadone have really been a game changer. And I'm really hoping that it's something that is extended and we can move that up permanently" (ID# 088) and "so it's very convenient for them to do telehealth. I cannot tell you enough. I say, if I have to put my money in stock, I will put it in telemedicine, because it's going to be the future of medicine eventually. It's been very good for patients" (ID# 044).

4. Discussion

In this qualitative study, clinicians discussed multiple changes to care delivery for methadone patients in response to the pandemic. While many OTPs provided an increase in the number of take-home doses, some clinicians reported some hesitancy around dispensing more take-home doses. Further, access to ancillary services, including urine

toxicology screening and psychosocial services, including individual and group therapy, were oftentimes reduced. Telemedicine utilization increased dramatically. Clinicians expressed mixed perspectives about the treatment changes. Some noted that care became more convenient for clinicians and patients; however, many discussed concern over increased risk for diversion and overdose, and highlighted that certain patients favored a return to pre-COVID-19 style care. Also, it appears the pandemic response may have restricted access to care at least initially and particularly for new patients while clinics established safety protocols for in-person visits. Concerns about access and quality appear critically important due to reports suggesting opioid-related mortality rates may have increased during the COVID-19 pandemic (American Medical Association, 2020).

This study used in-depth qualitative data collection to gain information about OTP clinician experiences early after policy changes were made in response to the COVID-19 pandemic; it builds upon prior work exploring the use of telemedicine among buprenorphine prescribers (Uscher-Pines et al., 2020). In both studies, clinicians reported the need to offer telephone visits due to patients' lacking access to video devices or broadband and challenges with digital literacy. Providers in both settings also reported not accepting new patients for a period of time. While both studies described some common advantages and disadvantages to telemedicine, clinicians treating methadone patients were more likely to indicate that certain patient populations were dissatisfied or resistant to telemedicine compared to patients receiving buprenorphine. Further, due to both patient and clinician factors, we heard that more OTP clinicians planned to stop providing telemedicine services after the pandemic. Future research should explore drivers of telemedicine satisfaction and response among OTP patients.

Although many clinicians appreciated the opportunity to provide increased take-home doses of methadone and deliver more telemedicine services, we found that most clinicians were not taking full advantage of the new flexibilities. This suggests that temporary changes in policy may not be enough to change clinician behaviors in a pandemic. Delivery transformation may require additional steps, including a commitment from policy-makers that changes are not temporary (and as such are worthy of investment). Other studies have described the implementation of telemedicine in various settings (Dopp et al., 2017; Myers et al., 2020), but additional resources and technical assistance specific to OTPs will likely be needed for telemedicine to be implemented in this setting. In addition, some clinicians expressed concerns about the legal liability associated with these new flexibilities—OTPs will need to address these concerns if these policies are maintained. Programs will need to examine objective patient outcome data to determine whether the flexibilities have resulted in poorer patient outcomes.

The lack of consistent urine toxicology testing under the current conditions is also worth further investigation. OTPs have established these services to assist OTP providers in monitoring adherence to prescribed medication, detecting substance use that could complicate treatment response, and for monitoring possible medication diversion (American Society of Addiction Medicine, 2017; Substance Abuse and Mental Health Services Administration, 2015). Urine toxicology testing is recommended throughout the OUD treatment continuum, including during maintenance and recovery phases. Whether modifications to the screening protocols in OTPs during the COVID-19 pandemic have led to adverse patient outcomes should be subject to further study.

At present, policy-makers and payers are evaluating whether to maintain many of the policy changes that have been put in place for the public health emergency. Participants suggested that the rapid transition to telemedicine would not have been possible without favorable reimbursement policies. Ongoing use of telemedicine will also likely require flexibility to use telephone visits given that many OTPs lack supportive infrastructure and have patient populations who are not prepared to participate in video visits. Recent literature has highlighted that clinicians are starting to revert to in-person visits as they become more feasible again (Mehrotra et al., 2020). As research has found for

OUD treatment more generally, continued use or adoption of telemedicine, in some cases, will require adequate reimbursement strategies (Meinhofer & Witman, 2018; Mojtabei et al., 2019). Moreover, reimbursement strategies have been an effective policy lever to increase treatment access and delivery in the past (Yarbrough et al., 2020).

Consistent with previous research that has examined OTPs during environmental disasters (Matusow et al., 2018), OTPs have no room to better prepare the methadone treatment delivery system for such emergency scenarios. Our findings also underscore the need to consider alternative models of methadone treatment delivery. Other research has shown that methadone treatment access is already limited, especially for rural populations (Rosenblum et al., 2011). For example, research in other countries has shown that methadone dispensing through pharmacies can be safe, effective (Calcaterra et al., 2019), and increase access (Joudrey et al., 2020; Kleinman, 2020), especially during a public health emergency when OTPs may not be adequately prepared to make alterations in care delivery. Experts in the field suggest that while the easements in policies to increase the number of take-homes is recommended in the case of emergencies, the use of alternative forms of treatment delivery are also needed (Cochran et al., 2020; Green et al., 2020).

4.1. Limitations

Our study had several limitations. First, we provide data from the first few months of the pandemic, and experiences are likely to change over time. Second, states vary with regard to COVID-19 risk and policies, and we were not able to capture the full extent of that variation. Third, our study was designed to explore clinicians' experiences; more work is needed to understand perspectives and outcomes for patients and other stakeholders (e.g., OTP administrators, front-line staff, and policy-makers). For example, our study was not designed to assess whether changes in service delivery had an impact on patient outcomes.

5. Conclusions

The new flexibilities provided to OTPs helped to maintain care continuity, increase convenience, and reduce infection risk in the early months of the COVID-19 pandemic. However, our study suggests that quality of care as well as access may have declined and also revealed issues for sustainability. Policy-makers should make note of these findings given the current inadequate treatment for OUDs (Haffajee et al., 2019). Future research should examine how these changes in methadone services and telemedicine impact treatment access and outcomes, including retention, diversion, overdose, and deaths.

CRedit authorship contribution statement

Sarah B. Hunter: Conceptualization, Funding Acquisition, Methodology, Project Administration, Data Collection, Formal Analyses, Writing-Original Draft and Review & Editing. Alex R. Dopp: Data Collection, Formal Analyses, Writing-Review & Editing. Allison J Ober: Data Collection, Formal Analyses, Writing-Review & Editing. Lori Uscher-Pines: Conceptualization, Funding Acquisition, Methodology, Data Collection, Formal Analyses, Writing-Original Draft and Review & Editing.

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Declaration of competing interest

All authors declare no competing interests.

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