Treatment of opioid use disorder during COVID-19: Experiences of clinicians transitioning to telemedicine☆

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ABSTRACT

Objective: The COVID-19 pandemic has transformed care delivery for patients with opioid use disorder (OUD); however, little is known about the experiences of front-line clinicians in the transition to telemedicine. This study described how, in the context of the early stages of the pandemic, clinicians used telemedicine for OUD in conjunction with in-person care, barriers encountered, and implications for quality of care.

Methods: In April 2020, we conducted semistructured interviews with clinicians waivered to prescribe buprenorphine. We used maximum variation sampling. We used standard qualitative analysis techniques, consisting of both inductive and deductive approaches, to identify and characterize themes.

Results: Eighteen clinicians representing 10 states participated. Nearly all interview participants were doing some telemedicine, and more than half were *only* doing telemedicine visits. Most participants reported changing their typical clinical care patterns to help patients remain at home and minimize exposure to COVID-19. Changes included waiving urine toxicology screening, sending patients home with a larger supply of OUD medications, and requiring fewer visits. Although several participants were serving new patients via telemedicine during the early weeks of the pandemic, others were not. Some clinicians identified positive impacts of telemedicine on the quality of their patient interactions, including increased access for patients. Others noted negative impacts including less structure and accountability, less information to inform clinical decision-making, challenges in establishing a connection, technological challenges, and shorter visits.

Conclusions: In the context of the pandemic, buprenorphine prescribers quickly transitioned to providing telemedicine visits in high volume; nonetheless, there are still many unknowns, including the quality and safety of widespread use of telemedicine for OUD treatment.

1. Introduction

Many patients with opioid use disorder (OUD) have difficulty accessing medication treatment (National Academies of Sciences, Engineering, and Medicine, 2019). Buprenorphine and naltrexone are effective medications for OUD that practitioners can prescribe in office-based settings, but large areas of the country lack providers who prescribe these medications (Andrilla, Moore, Patterson, & Larson, 2019). To increase access, recent policies, including the 2018 SUPPORT Act,

expanded payment for telemedicine for OUD treatment to all Medicare beneficiaries (National Law Review, 2018). Despite these changes, prior to the COVID-19 pandemic relatively few patients with OUD had used telemedicine (Creedon et al., 2020). Among patients with commercial insurance, telemedicine accounted for just 0.1% of all substance use disorder visits from 2010 to 2017 (Huskamp, Busch, Souza, et al., 2018). Many factors contributed to this low rate of utilization, including reimbursement and regulatory barriers, lack of patient access to technology and broadband, lack of training and comfort among

healthcare providers, and ongoing need for in-person services (e.g., laboratory testing) (Yang, Weintraub, & Haffajee, 2018).

The emergence of COVID-19 pandemic transformed care delivery for patients with OUD (Galewitz, 2020; SAMHSA, 2020). In a matter of weeks in March 2020, many healthcare providers began using telemedicine to treat OUD to both maintain continuity of care and support social distancing. To facilitate this rapid transition, states, the U.S. Department of Health and Human Services (HHS), private payers, and the Drug Enforcement Agency all announced temporary changes to the regulation and reimbursement of telemedicine for the duration of the pandemic (Long, 2020). For example, an emergency exemption to the Ryan Haight Act allows providers to prescribe controlled substances like buprenorphine via telemedicine without an in-person visit. In addition, the HHS indicated that it would waive penalties for good faith use of non-HIPAA compliant videoconferencing software during the nationwide public health emergency (Center for Connected Health Policy, 2020).

To understand the impact of this rapid change in care delivery, we conducted a qualitative study in April 2020 to explore the experiences of providers offering medication treatment to patients with OUD during COVID-19. Our goal was to describe how telemedicine was being used in conjunction with in-person care, barriers providers encountered, and implications for quality of care. Our hope is the results can inform substance use treatment's ongoing COVID-19 response and provide lessons for providers who are considering using more telemedicine both during the pandemic and beyond.

2. Methods

2.1. Study participants and sampling strategy

From April 15 to April 24, 2020, we conducted 18 semi-structured interviews with clinicians waivered to prescribe buprenorphine and who had four types of training (primary care physicians, psychiatrists, nurse practitioners, and physician assistants). Under Drug Enforcement Administration regulations, providers who complete a training course or other appropriate training are eligible to receive a waiver to treat patients with buprenorphine. We worked with a research firm with a panel of 1.9 million healthcare providers to recruit participants. The panel comprises providers who have joined an online platform to access clinical content (news, condition and drug information, journal articles), continuing medical education activities, and clinical tools, and has been used for clinician recruitment in other prior federally funded research studies (Black, Yue, Ball, et al., 2018; U.S. FDA, 2020; Mezher, 2019).

Our four inclusion criteria for clinicians were: 1) currently holding a waiver to prescribe buprenorphine; 2) training as a primary care physician, psychiatrist, nurse practitioner, or physician assistant; 3) offering medication treatment to at least one unique OUD patient each week; and 4) spending > 50% of working hours in an outpatient setting. To represent the range of experiences of waivered providers during the COVID-19 pandemic, we used maximum variation sampling, a common sampling strategy in qualitative research. We sought to interview providers that met our inclusion criteria but varied with respect to outpatient practice setting (e.g., primary care clinics, community health centers), U.S. region, and training.

We sent all clinicians in the research firm's panel an eight-item screener survey on a rolling basis to assess eligibility for participation. We invited those eligible based on inclusion criteria to participate in a 30-minute telephone interview with the study team. We excluded providers who worked primarily in the Military Health System or Veterans Health Administration. We continued to recruit until we reached thematic saturation, defined as the point at which new interviews did not uncover new themes or patterns.

Interviews followed a semi-structured protocol. Topics included 1) details on practice setting and patient population; 2) nature of telemedicine use since March 2020 (e.g., modalities, volume, platforms); 3) changes in workflow and policies around laboratory testing and prescribing; 4) barriers encountered in transitioning to telemedicine; 5) perceived impact of telemedicine on the quality of patient interactions; and 6) patient response to telemedicine. Four members of the study team who were trained in qualitative research conducted the interviews. Study staff recorded and transcribed the interviews. We gave interviewees a $100 gift card for their participation, and they provided verbal informed consent. Harvard's Institutional Review Board approved this study.

2.2. Analysis

We coded all data thematically using Dedoose qualitative research software. We developed a hierarchically organized codebook to summarize themes and identify patterns. We used standard qualitative analysis techniques, consisting of both inductive and deductive approaches (Braun & Clarke, 2014), to identify and characterize instances of themes arising from the domains covered in the interview guide (e.g., telemedicine platforms used) as well as unanticipated themes that emerged (e.g., impact of telemedicine on accountability). The lead author (L.U·P) conducted ongoing coding of all transcripts, refining the codebook as she worked and adding relevant probes to interviews in progress.

3. Results

Eighteen clinicians who prescribed medications for OUD participated in the study. Participants represented 10 different states. Just under half were in private practice, and the rest practiced in hospital primary care clinics, hospital outpatient behavioral health clinics, community health centers, and community behavioral health clinics (Table 1).

3.1. Care models

Before the COVID-19 pandemic, few had used telemedicine to treat patients with OUD (Table 1). At the time of data collection in April 2020, nearly all interview participants were doing some telemedicine, and more than half were doing *only* telemedicine visits with their OUD patients (i.e., not continuing to see any patients in-person) (Table 2).

Most participants who offered telemedicine offered a mix of video and telephone visits. Common video platforms included: Zoom, FaceTime, Google Meet, Google Duo, Doximity, WebEx, and various other EHR-embedded programs. Participants who offered both video and telephone visits favored video visits and used video more often; however, they reported conducting telephone visits with a significant fraction of telemedicine patients (median 20% were via telephone). Clinicians used the telephone for patients who had limited computer literacy (e.g., older adults who had difficulty downloading an app), lacked devices, disliked video (e.g., were self-conscious), or experienced technological problems when participants initiated video visits.

The clinicians providing both in-person and telemedicine used a variety of criteria to decide on the appropriate modality. They used telemedicine for patients at high risk for COVID-19-related morbidity and those living far away. They used in-person visits for new patients as well as patients who had recently relapsed, had a history of medication nonadherence or suspected diversion, lacked devices to support telemedicine, were homeless, were receiving injections (e.g., intramuscular naltrexone), or had a co-morbid condition that required a physical exam or laboratory testing. As one nurse practitioner in a community health center described: "There was one patient [I saw in-person], but it was just because it was an initiation, and there was a little bit of a concern the patient was actually taking suboxone appropriately. … They were missing multiple telehealth visits. So we needed to actually establish that the patient was taking the medication appropriately and

Table 1
Participant characteristics.

Characteristic	N (%)
Profession	
Primary Care Physician	7 (38.9%)
Psychiatrist	6 (33.3%)
Nurse Practitioner	3 (16.7%)
Physician Assistant	2 (11.1%)
State	
NY	6 (33%)
FL	2 (11%)
IN	2 (11%)
PA	2 (11%)
AZ	1 (5.6%)
ID	1 (5.6%)
LA	1 (5.6%)
MI	1 (5.6%)
OH	1 (5.6%)
WA	1 (5.6%)
Primary practice setting	
Private practice	8 (44.4%)
Hospital primary care clinic	4 (22.2%)
Hospital outpatient behavioral health clinic	1 (5.6%)
Community health center (CHC, FQHC)	2 (11.1%)
Community behavioral health clinic	3 (16.7%)
Years in practice	
0–9	9 (50%)
10–19	2 (11.1%)
20–29	4 (22.2%)
30+	3 (16.7%)
Prior experience with telemedicine[a]	
Any prior experience (yes)	2 (11.1%)
OUD medications prescribed	
Buprenorphine[b]	17 (94.4%)
Naltrexone (injectable)	10 (55.6%)
Naltrexone (oral)	3 (16.7%)

NOTE: Methadone is FDA-approved for OUD, but must be dispensed at specialty opioid treatment programs. We recruited buprenorphine prescribers regardless of treatment setting, and therefore limited our data collection for OUD medications to buprenorphine, buprenorphine-naloxone, and naltrexone. In the interest of time, we did not ask participants to clarify buprenorphine vs buprenorphine-naloxone.

[a] Any experience with telemedicine for OUD prior to COVID-19.
[b] Buprenorphine/naloxone and buprenorphine formulations.

Table 2
Variation in care modalities across providers.

	N (%)
In-person care	
No in-person visits	13 (72.2%)
≤50% in-person	3 (16.7%)
> 50% in-person	2 (11.1%)
Telemedicine	
None (in-person only)	1 (5.6%)
Phone only	2 (16.7%)
Video only	0 (0.0%)
Combination of video and phone	15 (83.3%)
Video 75% + of all telemedicine visits	8 (50%)

that we were able to follow-up with a urine drug screen. ... For my established patients, no, I don't want them to come into the clinic."

Participants described several different telemedicine models. In the most common model, clinicians served patients in their homes; however, some clinics that required patients to come in for urine toxicology screening implemented alternative models. There were several examples of patients completing telemedicine visits in the clinic or in their cars in the clinic parking lot following urine toxicology screening.

3.2. Changes in care patterns in the context of pandemic

Most participants reported changing their typical clinical care patterns to help patients remain at home and minimize their potential exposure to COVID-19. Multiple clinicians required urine toxicology screening less often (e.g., with more stable patients) or not using such testing at all.

Many clinicians were using clinical judgment to sort and risk-stratify patients, deciding who needed to be subject to prior requirements. A few were requiring fewer visits in general and sending patients home with a greater supply of OUD medications (i.e., a 30-day supply instead of their typical 7- or 14-day supply). As a psychiatrist in a community mental health center described, "So [prior to COVID-19] we'd do an induction and we would see them the next week. If I was even more concerned, I could see them later the same week. So I could do the induction, we could go ahead and schedule them back in a few days. Saw someone new yesterday, naïve... Well, they weren't totally naïve to Suboxone, because they'd been buying it on the street and taking it. But I stretched the appointment two weeks, which I would not have done otherwise. But, I hate to get people out. People are scared."

3.3. Hesitation to see new patients

Although several participants were serving new patients via telemedicine during the early weeks of the pandemic, others were not or were only accepting patients with whom they had some prior history. One primary care physician in a group private practice explained: "When it's a former patient, what we do is we see them in-person to start them and then do telemedicine for their follow-up visit. And so we've had actually one or two of those every week since this has started. If it's a brand new patient that we don't know at all, we've actually just been putting it off saying, 'I'm sorry we're not accepting patients at this time.'"

Most of the clinicians who were still accepting new patients reported having nursing staff who could be physically present with the patient for the intake and induction or reported having patients enter from other inpatient or outpatient programs. According to a psychiatrist in a hospital outpatient behavioral health clinic, "Most new patients come through the residential program anyway and continue in the outpatient clinic side after residential, so having the residential program continue on through COVID-19 has allowed new patients to still have the initial urine toxicology screens to assess in-person for opioid withdrawal. We use telemedicine for follow-up but really only for that."

3.4. Impact on quality

A handful of participants did not feel that there was a significant quality difference between telemedicine and in-person visits, and the general sense was the transition to telemedicine had gone well.

Participants observed several positive benefits of telemedicine. First, multiple participants commented that telemedicine increased access and convenience for patients because patients no longer had to travel to appointments. Several observed that this additional convenience, as well as that "there's literally no reason for them to not come to their appointment" (since most patients are at home for social distancing) has significantly reduced the no show rate. A few participants also mentioned that telemedicine has allowed them to offer visit times outside of business hours, reduced patient time spent waiting, and helped with clinic throughput (e.g., if a telemedicine visit ends early, clinic staff can call the next patient early.) Second, some participants pointed out that offering telemedicine greatly reduced patients' anxiety about traveling and sitting in a crowded waiting room during a pandemic. Last, several participants reported that video visits that provided a glimpse into patients' homes and home life helped to create intimacy and connection.

However, many expressed concerns about the impact of

Table 3

Impacts of telemedicine on quality of patient interactions.

Theme	Quotes
Negative impacts	
Less structure and accountability	"So I think it's better to make them show up and give them a purpose, and make them engaged more by actually having to go somewhere and show up and be accountable in person." -Nurse Practitioner, Solo Private Practice
	"Comprehensively speaking it eliminates some of the responsibility aspect and the structured aspect of taking the time to show up to the clinic to have that in-person interaction, go through the drug testing procedure, and really be able to abide by clinic policy. That structure is part of the benefit of being involved in a MAT program where you are actually required to show up and abide by all of the policy decisions." -Psychiatrist, Hospital Outpatient Behavioral Health Clinic
Less information to inform clinical decision-making	"I'm very accustomed to being able to see nonverbal cues, nonverbal language, be able to see with crystal clarity affect changes and I can't do that as readily now. Even with video and certainly by telephone. I realize that there are some parts of that interaction, not to mention, the face-to-face kind of interaction that I just can't pick up on now." -Psychiatrist, Community Behavioral Health Clinic
	"My worry is the telemedicine and not seeing people in person, so are they going to always be truthful? You know what I mean? I don't know. That's the only thing that I feel like you'll lose. If someone's all anxious and nervous in person, you're like, 'What's up? What's wrong with you? You're normally not like this.' Versus on telemed, you can't tell." -Nurse Practitioner, Group Private Practice
	"I would say that there's a reduction in the quality of my ability to examine and assess patients with telemedicine visits. It's kind of difficult to describe, other than to say I'm less comfortable in making medical decisions for my patients when I can't have that, the objective and subjective data available to me when I have an in-person encounter with a patient." -Primary Care Physician, Hospital Primary Care Clinic
	"There's a lot of times when you make a decision to initiate suboxone for somebody through videoconferencing you are relying more heavily on patient endorsement of those symptoms so you run a higher risk of putting somebody in withdrawal because they are telling you they are having withdrawal symptoms but you can't assess as well to observe those symptoms…there is a responsibility on patients to be truthful with you about those things." -Psychiatrist, Hospital Outpatient Behavioral Health Clinic
More difficult to connect/establish connection	"My feeling is that you make less of a connection to the individual. And it could be because I'm a bit biased that the only times I've done phone visits prior to this is when people were traveling, so they were coming back and I would see them. I don't know how it will play out if I'm just seeing them every week or every couple of weeks or once a month just by phone. There's less of a connection there. So I have some concerns that it may not be as strong of a bond and have a harder time managing the maintenance of the taper and detox." - Psychiatrist, Solo Private Practice
	"I think they miss being in person with the doctor. That's been my take on telemedicine overall. On the one hand, I think I was skeptical at first. I found as a clinician, I don't think that I'm losing a lot… I think patients seem to miss that interaction face to face and missing a little bit of positive transference. And so I think that's been what they've complained about…So what I think is there's always the feeling that you're losing a little bit that way or lack of connectedness." -Psychiatrist, Community Mental Health Center
Technological challenges	"In terms of video or FaceTime, sometimes it freezes. I use the video conference site that I use is doxy.me. It works very well, but some people are not into technology, especially some of the older people. The adolescents and the young adults, it's not an issue." -Psychiatrist, Solo Private Practice
	"So we have our patients who don't know how to use the apps/don't know how to download. We have patients who don't have any money for a phone. Then even if we do get them and they say, 'Yeah, my phone works,' I've had a few where setting up and trying to talk to them, the audio is off or they don't know how to fix it, or they're in a bad spot in their car and so they have to move somewhere else."- Nurse Practitioner, Group Private Practice
	"One barrier is definitely technological savvy or know-how of both the patients and the providers. I think that they've done a pretty good job of getting all of the providers up to speed with how they use this technology. So, but for a lot of patients, getting them the information of how to access telemedicine visits. Then having services to help them through that has been a real challenge. I'm not a part of the IT workflow or department here, but I would imagine that if we have sent these out to thousands of patients, this type of information, there is going to be a lot of questions. I don't know that an IT person is always available by phone to help somebody through that." -Primary Care Physician, Hospital Primary Care Clinic
Shorter visits	"I've noticed sometimes, not always, because it depends on if you're having problems with the connection. The visits aren't as long because they're just like, 'Okay, yeah. Uh-huh.' Whereas someone who's comfortable in your office is wanting to lay it all out to you. You know what I mean? It just depends. I don't know if they don't have minutes or if they don't have a lot of time, where they're at, where they're having the visit. Definitely in person is so much better." - Nurse Practitioner, Group Private Practice
	"In general, I feel negative, because when I see patients, we talk a lot and… the video conversations really are much shorter. I mean, I just kind of go down my checklist. I say, 'OK, your birth date is this and you're not allergic to any medicines and are you on a new medicines now?' And for the women, 'I want your last menstrual period and how are things going and what other medications are you on right now and how's work going, how's coronavirus affected you?' And, you know, we don't really talk about anything else." -Primary Care Physician, Group Private Practice
Positive impacts	
Increased access and convenience	"I have a lot of patients who will never want to go back…A lot of people don't have transportation, gas money. We live in a rural area so it's hard. I have patients that drive an hour to come and see me, so if it's easier to just put up their camera versus driving an hour and an hour back. So, it's definitely been more convenient. I don't see that things are going to go back to 100% normal once the pandemic's over, because it just doesn't make sense after it's been working this way." -Psychiatrist, Hospital Primary Care Clinic
	"I have 100% compliance [no no shows]. Because like if they say, 'Call me at one o'clock,' then they're there, they're ready to roll. Whereas in office, they roll in late sometimes, or no show at all. So, it definitely increased patient engagement." -Nurse Practitioner, Solo Private Practice
Reduced anxiety	"But they welcome the phone and FaceTime because they don't want to go out in the pandemic. Trains, notoriously bad environment, they don't want to go out. Some of them are also scared even though my office never really had a large waiting room volume…they don't want to be in the waiting room, a doctor's office is associated as a sick place, right? They figure we have COVID patients too, so they've been all like, oh great, great, it's fine, it's fine. They're happy." -Primary Care Physician, Solo Private Practice

Table 3 (*continued*)

Theme	Quotes
Video visits in home can facilitate better emotional connection	"Now, they have their suboxone. They don't have the anxiety of it, so they can stay at home. They know that they're at a higher risk due to other comorbidities. They can stay at home. They can relax. They don't have to worry about this thought process of, will I get my medication? And I think a lot of… Giving them that medication relieves that kind of anxiety that our world or our nation is going through right now." -Nurse Practitioner, Community Health Center "Someone yesterday that… she was in her bedroom, and she's totally comfortable with it. Then all of a sudden I saw things in the background. I'm like, 'Oh my God, what's that dress?'… and she started telling me, and it became actually more connected, because I saw what she was talking about. I saw someone's dog sitting on her lap. I have two dogs and I understand what it means for me, and I could see the connection. I can see, and we talked about that, because of something that just happened to jump in her lap, it wasn't a formal thing."-Psychiatrist, Solo Private Practice

telemedicine on the quality of their interactions with patients, particularly over the long-term (Table 3). First, they pointed out that in-person visits provide an important structure that supports accountability, which telemedicine could not fully replicate. Second, they explained that video and telephone visits provide less information to inform clinical decision-making. For example, it is harder (or impossible in the case of telephone) to observe certain physical symptoms of opioid withdrawal, such as goosebumps and pupil dilation or constriction. Because of difficulties in picking up nonverbal cues through telemedicine, providers perceived it to be more challenging to detect lies about drug use or diversion. Because telemedicine prevented clinicians from using their full powers of observation, they reported asking patients more questions about their physical symptoms and relying more on patient self-report than observation. Third, several pointed out that it is more challenging to connect and establish rapport with patients via telemedicine. Fourth, several described technological difficulties with telemedicine that impacted the flow of visits and caused frustration (e.g., dropped calls, video freezing). The technological problems that participants mentioned stemmed not only from equipment failure, but from limited bandwidth and computer literacy in certain populations (e.g., older adults). Last, some mentioned that telemedicine visits tended to be shorter than in-person visits and did not go into as much depth.

An additional concern in the context of the pandemic was reduced access to other behavioral health services. For example, participants pointed out disruptions in peer support resources and noted that some Narcotics Anonymous meetings stopped or moved to an online format. Some clinics had not yet figured out how to offer group therapy sessions via video, and some therapists in the community had stopped providing care. A psychiatrist in solo private practice explained, "It is very difficult to get counseling right now because most of the counselors have closed up shop. Some of them are doing telemedicine, but most of them have just closed up shop."

3.5. Plans for future use

Most participants predicted that they would continue to use telemedicine after the COVID-19 pandemic because it is more convenient for patients. Nonetheless, they also suggested that telemedicine could not entirely replace in-person care for an extended period, and some in-person visits should still be required. As a primary care physician in solo private practice explained,

> I think more telehealth, especially for suboxone, makes sense, because it happened easily, we've been effective with it, we're largely comfortable with it, and the patients are happy with it. So yeah, probably more of it. We went from 95% in office, 5% out [telemedicine], before. Now it's flipped: 95% phone, 5% [in-person]. It'll probably settle in somewhere 50–50. … Every three months, every fourth visit you need to be [in-person]. Something like that. We'd probably insist on that.

Several participants explained that their future use of telemedicine would be dependent on the reimbursement and regulatory

environment.

4. Discussion

The COVID-19 pandemic has resulted in a sudden and dramatic shift to telemedicine among OUD providers. Although clinicians did have concerns about the quality of care provided, they also noted some distinct advantages, including increased access and convenience for existing patients. Consistent with American Society of Addiction Medicine guidance (American Society of Addiction Medicine, 2020), participants were using their clinical judgment on when to require in-person visits and when to relax prior standards. We also observed examples of new and flexible telemedicine delivery models, such as telemedicine in patients' cars following in-office urine toxicology screening, that leveraged different modalities and physical locations to address patients' needs and were in line with their computer literacy.

Telemedicine, as well as other COVID-19-related changes to the delivery of OUD care (e.g., less urine toxicology screening), may have negative consequences for the quality of OUD care. However, the greater access and convenience for *existing patients* may also have a positive impact, such as improved retention in treatment. As the pandemic continues, the use of laboratory testing will likely need to evolve. For example, those who are currently waiving urine toxicology screening will need to find safe ways to incorporate it. Alternatives to traditional laboratory testing and technological capacity for home monitoring might evolve to further facilitate social distancing. Future research will need to assess the net impact of telemedicine for OUD on quality and treatment adherence. This is especially important given the dearth of evidence on the effectiveness of telemedicine delivered into a home and how it compares to in-person care (Lin et al., 2019). Clinicians' reluctance to take on new patients was one concerning finding in our interviews. Research should explore why this is the case. New treatment strategies or guidelines may be needed to improve clinicians' comfort with home-based inductions.

There are several notable differences and similarities in the experiences with telemedicine during the pandemic between OUD providers and psychiatrists providing mental health care (Uscher-Pines et al., 2020). Although both types of providers rapidly transitioned to telemedicine, OUD clinicians made larger shifts in their clinical care patterns (e.g., changes to prescribing, laboratory testing) and expressed a wider range of quality concerns. They were also more likely to require some in-person visits and to express reluctance to take on new patients. These differences are likely due in part to the numerous regulatory requirements for OUD treatment and the unique challenges specific to treating addiction. In both studies, clinicians reported relying on telephone visits to serve certain populations who faced barriers to engaging in video visits. They pointed out a number of barriers, including insufficient minutes on mobile phone data plans, limited broadband, and challenges with digital literacy. Some clinicians also felt that certain video platforms were more user-friendly than others and therefore better for reaching underserved populations. Future research should study which platforms are best suited for treating OUD.

Our study had several limitations. First, we recruited waivered

clinicians from diverse practice settings in an effort to represent the full range of experiences using buprenorphine to treat patients with OUD. However, a larger sample would be needed to compare and contrast results by practice setting. Second, we described experiences from the first few weeks of the pandemic, and perceptions will likely have changed over time. Third, we sampled widely from different geographic regions, but states vary with regard to COVID-19 risk and policies, such as nurse scope of practice and controlled medication prescribing. Fourth, we did not gather data on years of experience with OUD medications, which could influence willingness to transition to telemedicine. Fifth, although clinicians discussed patients' experiences with the transition to telemedicine and the feedback they provided, we did not talk to patients. Future research should evaluate patient satisfaction and experiences with telemedicine for OUD treatment.

Researchers have observed that we now confront colliding epidemics (Becker & Fiellin, 2020). Because of stress, isolation, and financial hardship, overdose deaths are increasing across communities in the U.S (Wan, 2020). The need for OUD care is likely to increase further in coming months. However, access challenges are now exacerbated because obtaining medications and other OUD treatments may require patients to risk exposure to COVID-19. Telemedicine has become a critical tool during the pandemic and is likely to be a key component of care post-pandemic given that it can increase access to care in communities without waivered clinicians. Nonetheless, like with COVID-19 itself, there are still many unknowns, including the quality and safety of widespread use of telemedicine for OUD treatment.

Author statement

Uscher-Pines, Raja, and Sousa helped design the study, participated in data collection and analysis, and wrote the paper.

Mehrotra, Barnett, and Huskamp obtained funding, helped design the study, participated in interpretation of data, and critically revised the paper.

Declaration of competing interest

The authors have no conflicts of interest to disclose.

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