Impacts of the COVID-19 Pandemic on Opioid Use Disorder and Services for American Indian and Alaska Native Communities

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Abstract: *Rates of opioid use and overdose in the United States increased during the COVID-19 pandemic, while opioid use disorder (OUD) treatment facilities faced disruptions to services during this time. American Indian and Alaska Native (AI/AN) communities were amongst those most affected by the pandemic, while also experiencing some of the highest rates of opioid-related overdose deaths. As such, this study aimed to investigate the ways in which AI/AN-servicing OUD treatment centers and their communities were impacted by the pandemic. Semi-structured interviews were conducted with ten service providers working at AI/AN-servicing OUD treatment centers between January and April 2021. Treatment centers were located in the Pacific Northwest, the North Midwest, and the South Atlantic regions, and all provided medications for OUD. Using thematic content analysis, three broad domains were identified: (1) impacts to the AI/AN communities; (2) impacts to family and social life; and (3) impacts to OUD treatment services. Our findings indicate that AI/AN clientele and communities were negatively impacted by the suspension of AI/AN traditional practices. The importance of family and community support within treatment was emphasized and how this was impacted during the pandemic, while positive changes to services brought about by the pandemic were also reported.*

INTRODUCTION

American Indian and Alaska Native (AI/AN) peoples living within the United States have faced a long history of inequities linked to European colonialism and its ongoing ills, with settler nations attempting to extinguish AI/AN Nations' sovereignty, languages, and religious practices via forced relocation, land dispossession, coercive assimilation, and other means (Bombay et al., 2014). Although AI/AN peoples have been remarkably resilient in resisting settler-colonialism and perpetuating their sovereignty and traditional practices, the legacy of settler-colonialism has contributed to general inequities among many AI/AN families and communities in terms of poverty, intergenerational trauma, mental health problems, and substance use problems (Gone et al., 2019). In the past decade, some AI/AN communities have described the rising rates of opioid use as their most prevalent and concerning substance use challenge (Radin et al., 2015).

Opioid Crisis in the United States

Over the past two decades, the opioid epidemic has become an increasing concern in the United States, with opioid use and opioid-related overdose deaths rising almost every year at alarming rates. Prior to the COVID-19 pandemic, in 2019, approximately 10.1 million Americans ages 12 or older had misused opioids in the past year, and 1.6 million Americans met criteria for opioid use disorder (OUD; Substance Abuse and Mental Health Services Administration [SAMHSA], 2020a). Opioid overdose death rates in the United States have risen almost every year from 1999 to 2018, accounting for nearly 450,000 deaths during this time, while totaling 49,860 deaths in 2019 alone (Centers for Disease Control and Prevention [CDC], 2021). Rising overdose death rates have been further impacted in the past decade by opioid supplies being increasingly mixed with highly potent synthetic opioids such as fentanyl (Armenian et al., 2018).

Prior to the onset of the pandemic in North America in March 2020, the United States had begun to experience a slight decrease in opioid-related deaths in 2018; however, with the arrival of the pandemic, opioid use and opioid-related deaths rates began to surge. In 2020, opioid-related overdose deaths within the general population are estimated to have increased by 37% from the previous year and further increased by 17% in 2021 (Spencer et al., 2022) and 4% in 2022 (CDC, 2024). The increases in opioid use and mortality rates during the COVID-19 pandemic led many

substance use disorder (SUD) specialists to characterize the situation as an epidemic within a pandemic, putting those who misuse opioids – an already vulnerable population – at even greater risk (e.g., Alexander et al., 2020).

Although the impact of the opioid epidemic has been seen across many racial and ethnic groups, AI/AN peoples are among those who have experienced some of the highest inequities in opioid use problems and overdoses, having rates of opioid-related overdose deaths as high, or higher, than any other ethnoracial group between 2019 and 2021 (Spencer et al., 2022).

Medications for Opioid Use Disorder

Among the general population, medications for opioid use disorder (MOUD; e.g., methadone, buprenorphine, and naltrexone) are considered the "gold standard" of care in OUD treatment, proven to be effective in treating opioid dependence by reducing illicit opioid use and retaining patients in treatment (Connery, 2015). Yet, while research supporting MOUDs effectiveness remains promising, many barriers to the adoption and implementation of MOUD have been documented, including their associated stigma, providers' lack of training with or inability to prescribe MOUD, limited access in rural areas, negative side effects, and fears of illegal diversion (Richard et al., 2020; Roman et al., 2011). Furthermore, MOUD are tightly regulated in the United States, adding another barrier to their accessibility. Methadone is federally regulated by SAMHSA and, with limited exceptions, can only be dispensed at certified opioid treatment programs (OTP). Prior to the pandemic, OTPs were permitted to provide "stable" patients (i.e., low risk of diversion or misuse) with 2-day take-home supplies of methadone, while "unstable" patients were required to visit OTPs daily to receive their dose (SAMHSA, 2015). Buprenorphine is also federally regulated, and prior to the pandemic, provider regulations included: obtaining a federal prescription waiver, conducting in-person medical evaluations prior to prescribing, and limits on the number of buprenorphine clients one could treat at a given time (Davis & Samuels, 2020).

At the onset of the COVID-19 pandemic, U.S. government agencies quickly adjusted MOUD regulatory policies in order to increase patient access to the medications and encourage social distancing. On March 16, 2020, SAMHSA released new guidance allowing OTPs to dispense 28 days of take-home methadone doses for "stable" patients and 14 days of take-home methadone doses for "unstable" patients (SAMHSA, 2020b). As of April 2023, SAMHSA extended these changes, having found "increased treatment engagement, improved patient

satisfaction with care, with relatively few incidents of misuse or medication diversion" (SAMHSA, 2023). Buprenorphine restrictions were also adjusted during and since the pandemic, removing the need for prescription waivers and restrictions on client numbers, while allowing for the use of telemedicine for initial medical evaluations (Kumar et al., 2024).

Opioid Use Disorder Treatment and American Indian and Alaska Native Peoples

Despite both high rates of opioid use amongst AI/AN peoples, and research supporting the efficacy of MOUD, there continues to be limited research with regard to MOUD with AI/AN peoples (Venner et al., 2018); thus, it is unclear to what extent MOUD research is generalizable and transferable to AI/AN populations. Although some studies have suggested that MOUD are helpful for Indigenous peoples in North America (Kanate et al., 2015; Mamakwa et al., 2017), many AI/AN communities lack adequate access to MOUD. A 2017 study surveying 192 AI/AN-servicing SUD treatment centers found that only 28% of the centers reported MOUD availability (Rieckmann et al., 2017), while a later study found that AI/AN-servicing treatment facilities were less likely to offer MOUD maintenance compared to facilities not explicitly serving AI/AN populations (22.4% vs. 27.6%; Krawczyk et al., 2021). This lack of access to MOUD reflects challenges that AI/AN peoples routinely face in receiving access to adequate SUD and mental health treatment (Gone, 2023).

Furthermore, many Indigenous communities in North America face systemic and geographical barriers to OUD services, such as geographic remoteness, difficulties retaining health care professionals, limited access to health care in general, and the need for culturally relevant SUD treatment programs (Dorman et al., 2018; Venner et al., 2018). Some communities may also present their own internal barriers to MOUD implementation, such as stigma towards substance use and treatment, preferences for abstinence-based recovery, community misperceptions about MOUD, and the lack of client privacy that can result from seeking treatment in small tight-knit communities (Landry et al., 2016; Zeledon et al., 2020).

An additional challenge to OUD treatment implementation within AI/AN communities can arise from differing views of wellness and medicine. Traditionally, Indigenous peoples in North America have values and traditions of wellness that can differ from Western medicine, viewing health and wellness as a balance and interaction between an individual's mental, physical, emotional, and spiritual dimensions (McCabe, 2008; McCormick, 2009), while Western medicine tends to focus on the physical and especially neglects the spiritual. Thus, connections with one's

family, community, and cultural traditions often play an essential role in SUD treatment within AI/AN communities and have been found to be protective factors within SUD treatment (Zeledon et al., 2022). As such, many Indigenous-serving SUD treatment centers in North America are increasingly implementing programs using culturally centered care, often resulting in improved outcomes within SUD treatment (Rowan et al., 2014; Zeledon et al., 2020).

Impact of the COVID-19 Pandemic on American Indian & Alaska Native Communities

While the COVID-19 pandemic in the United States had major impacts on all individuals, some AI/AN communities were hit particularly hard. In the initial stages of the pandemic, AI/AN peoples were contracting the COVID-19 virus at disproportionally higher rates, with confirmed cases 3.5 times higher among AI/AN peoples compared to White people in some states (Hatcher et al., 2020), while also experiencing a mortality rate due to COVID-19 that was 1.8 times higher than White people (Arrazola et al., 2020). Furthermore, during the pandemic, research has found that AI/AN peoples reported worsening mental health and increased substance use due to disruptive pandemic experiences and pandemic-related threats to AI/AN culture (Haskins et al., 2023), while the mental well-being of Indigenous youth in both the United States and Canada was also found to have worsened during this time (Mollons et al., 2023). These disparities are unfortunately similar to the disproportionate impacts historically experienced by AI/AN peoples during health pandemics, often related to social determinants of health, intergenerational trauma, and systemic racism within social structures (Blume, 2022; Richardson & Crawford, 2020). Yet despite these impacts, some Indigenous communities in North America mitigated the effects of the pandemic by applying family-centered and land-based approaches within their communities to promote health and wellness (e.g., outdoor traditions like hunting and gathering; promoting family activities; and the use of virtual platforms for cultural ceremonies), further emphasizing the importance of family and cultural traditions (Benji et al., 2021).

With the pandemic having had significant disruptions to AI/AN communities, along with the increasing opioid use and overdose rates during this time, OUD providers working with Indigenous clientele during the pandemic reported concerns with regards to its impact on their clients' mental health and safety (Wendt et al., 2021). With limited research investigating the impacts of the pandemic on AI/AN peoples and OUD treatment, there is a need to evaluate and better understand the ways in which the pandemic uniquely impacted AI/AN-servicing OUD clinics, their clientele, and the AI/AN communities in which these services are situated.

Given that family, community, and cultural traditions often play an essential role in SUD treatment within AI/AN communities, this study aims to explore the impacts that the COVID-19 pandemic had on these areas with regard to OUD treatment, as well as the impacts that it has had on treatment services, their staff, and their clientele. Furthermore, we aim to explore the ways in which the pandemic impacted culturally centered care designs and traditional healing practices that treatment services were implementing prior to the pandemic.

METHOD

Development

This study was developed in response to the COVID-19 pandemic and its impact on OUD and treatment services. Prior to the pandemic, we had conducted community-based participatory research investigating the efficacy and cultural adaptability of MOUD within two Pacific Northwest AI/AN tribal communities. Following the arrival of the COVID-19 pandemic, and hearing from these communities regarding the pandemic's impacts to their treatment centers and community members, our team decided to explore these impacts through interviews with service providers working at AI/AN-servicing SUD treatment centers across the United States. We aimed to investigate how OUD programs were adjusting to pandemic measures and their clients' needs, while exploring how clients were experiencing the pandemic, specifically with regard to their treatment and recovery, their family and community life, and changes to OUD services. Given the urgent nature of the pandemic and its effects on people with OUD, we decided to conduct this small and rapid study.

Study plans were reviewed by the University of Washington Institutional Review Board (IRB) and the Portland Area Indian Health Service IRB. Given that the interviews did not involve personal disclosure, but rather aimed to gather professional perspectives regarding OUD treatment during the pandemic and inform AI/AN-servicing OUD treatment programs, both IRBs determined the study to be exempt from IRB oversight.

Data Collection

Data were collected through interviews with ten service providers working at various AI/AN-servicing SUD treatment centers geographically dispersed across the United States (six located in the Pacific Northwest region; two in the North Midwest region, and two in the South

Atlantic region). Some of the treatment programs specifically focused on MOUD, while others offer broader SUD services that included MOUD. Participants were recruited through calling and e-mailing various SUD programs across the country, while also engaging participants through colleagues and community members with whom the investigators had working relationships. National representation was an initial recruitment goal for this study, with many SUD programs across the country contacted; however, due to limited responses, the rapid nature of this study, and the difficulties that communities were enduring at the height of the pandemic, participants were selected due to availability and a willingness to participate (convenience sampling).

Semi-structured interviews ranging from 30-60 minutes (with exception of one interview, which ran 110 minutes due to it being held over several sessions) were conducted by telephone and audio-recorded with participants' permission. As compensation, participants received a $50 gift card for their time. Interview questions explored the impacts and changes that occurred within treatment, including any positive and innovative changes, and future directions. Interview questions also focused on the pandemic's impacts to family and social life amongst clients and community members, as well as impacts to culture-based activities and traditions, both within treatment and the community. Interviews were conducted between January and April 2021.

Participants identified themselves as working under a variety of titles, including program director, medical director, clinic director, psychiatrist, and clinic provider, with half (5) reporting to hold a director or supervisor title. Most of the participants (7) described working directly with clients in providing services, while the remaining three participants described their role to involve coordination and administration, although described working directly with a team of providers at the services. All participants had worked at their current treatment center for at least two years (including at least one year prior to the pandemic's arrival). Participants identified primarily as women (9) and AI/AN (6), with ages ranging between 35 and 55 years old.

Data Analysis

Audio-recordings of interviews were deidentified, transcribed, and analyzed using thematic content analysis, a qualitative method used to identify, analyze, and report themes within data (Braun & Clarke, 2006). This method included the following steps: (a) acquiring a broad familiarity with the entire corpus of data; (b) systematic generation of initial codes (using NVivo software), including creation of a code book with definitions and examples; (c) tentative identification of major themes and organization of codes into these themes; and (d) an iterative

process of reviewing, restructuring, and refining codes and themes. The first author (who has received qualitative coding training from one of the senior authors, who is an expert in qualitative inquiry and psychology) was the primary coder of the interviews, with a second team member reviewing the coding for consistency and accuracy. Any discrepancies between coders were resolved through discussion or by using a third team member.

As an exploratory qualitative study, this study was not preregistered. Data, materials, and analysis code from this study are available upon request from the author.

RESULTS

We identified three broad domains from the interviews conducted with 10 SUD/OUD providers: (1) impacts to the AI/AN communities in which treatment services were provided; (2) impacts to family and social life; and (3) impacts to SUD/OUD treatment services. Participants are identified within the results section by their self-reported role within the treatment programs.

Impacts of the COVID-19 Pandemic on AI/AN Communities

All participants described the ways in which the COVID-19 pandemic had impacted the AI/AN communities that their treatment centers serve, specifically reporting on impacts to substance use, mental and physical health, and community economics, with some participants reporting on community members expressing a distrust of the government during this time.

Impacts to Substance Use

All participants spoke of how the pandemic impacted rates of substance use among the communities they serve, with many reporting increased opioid use within these communities. Factors such as loss of work, financial strain, diminished access to treatment, and isolation were reported to contribute to these increases. Specifically, relapsed drug use among those in long-term recovery was observed:

> We were hearing of, unfortunately, relapses for individuals who had even long-term recovery; people who had sustained a good amount of time in their own wellness and recovery were unfortunately slipping back into relapse. […] And we were all just trying to figure out what we can do together. (Program Coordinator #1)

A rise in drug-related overdoses was observed in some communities, with some participants suggesting this being due to opioids being cut with Fentanyl. Other participants attributed the rise in overdoses to individuals using drugs in isolation, without the assistance of others to administer naloxone to reverse the effects of an overdose – a situation one participant described as "terrifying." Participants emphasized the difficulties of balancing the pandemic alongside the ongoing opioid epidemic:

> We're seeing these increases in overdoses and then not as many increases in COVID deaths. Just weighing that out and understanding that we might be in a pandemic, but […] we can't just put epidemics on the back burner. […] When people really need our help, we're shutting down services. I understand, people are scared, and it's really life-threatening, but so is opiate use disorder. It kills people too. (Clinic Director #1)

One participant reported that although he had heard about increases in opioid use and overdoses in the community, this was not something that he had himself observed, but had rather noticed substantially less client engagement with SUD treatment programs during the pandemic.

Impacts to Mental and Physical Health

Participants also described the pandemic's impacts on community members' mental and physical health. Participants reported higher levels of depression and anxiety among community members, often related to social isolation and the lack of connection to family. Some community members were described as "heartbroken" around the lack of family contact and feeling that there was "no end in sight." One participant stated:

> I think initially we were just doing what we needed to do, but as the pandemic continued on and we were realizing the severity of the situation, and people were coming to realize that, having to stay home, mental wellbeing, emotional wellbeing was clearly on a decline; the lack of connection; a sense of isolation; the feeling of being alone; the uncertainty of what's to be had in the future. (Program Coordinator #1)

For some community members in treatment, the heightened depression and anxiety brought on by the pandemic was observed to result in relapse, and sometimes overdose, with one participant

reporting some clients having "states of depression" they had not experienced before. Another participant shared concerns about clients having more idle time, stating that being at home alone had been difficult for some. One participant encouraged clients to "learn to be able to be okay with stillness" and "work on their inner healing"; another shared that clients' inability to engage in physical activities, such as canoe clubs and workout groups, had impacted their mental health, as these activities helped clients with their emotional and mental wellbeing during recovery. Outside of treatment, Elders were described to be particularly impacted by the pandemic:

> With our Elders, it was a complete fear factor in shut down. They didn't want to go nowhere, they weren't getting out. Our churches have just recently opened back up. So it almost became isolation. Everybody stayed to self and indoors. (Program Director)

Given that many participants serviced small and tight-knit AI/AN communities, high levels of anxiety among tribal members with regards to contracting the COVID-19 virus were reported, with one participant stating that the introduction of the virus within their community was potentially "catastrophic to the tribal numbers." Yet, even with the impacts to mental health, one participant shared how the pandemic had been used by some clients as a time to reflect and heal:

> I've seen some of my clients discover what they want to do with their life, some wanting to go back to school, some want to work. I've seen some get emotional healing from traumas that they've been through by learning how to meditate. (Program Coordinator #2)

Physical health was also reported to be affected during the pandemic, with some participants reporting high rates of the COVID-19 virus spreading within their community:

> A great number of our tribal members have been sick, and we've lost quite a few. With the ones that we've lost and the ones that have been sick, it's like the whole family was attacked. They spread it throughout the families, grandparents and all. (Program Director)

Anxieties about the virus were also reported to prevent some from seeking medical care:

> People were afraid to go see their doctors and their clinics. And so, we saw a lot of people with medical issues really suspended that medical care, and that can be quite dangerous, actually. (Medical Director)

Others described broader medical impacts of the pandemic among community members, such as increases in weight gain, rates of diabetes, and rates of pulmonary disease.

Economic Impacts within Communities

Communities were reported to be impacted economically by the pandemic, particularly related to business closures and loss of employment. One participant shared how restrictions such as limiting customers in stores and early closure times affected businesses, while another spoke of job loss due to the temporary closure of the local casino, sharing that "financial strain can certainly drive addiction." In spite of the economic difficulties, some participants reported that Tribes assisted their community members by offering utility and rental assistance and greater outreach to members experiencing homelessness. One participant reported how their tribal community took steps to compensate healthcare workers at the treatment center by offering bonuses and wellness packages.

Distrust of the Government

Lastly, an observed distrust of the government among some community members during the pandemic was addressed by participants, particularly regarding the COVID-19 vaccine:

> There's been a lot of fear, not just with the possibility of contracting COVID, but also the deep distrust of western medicine and the vaccinations. In particular, I'm thinking about a tribal Elder that is refusing at this point. And I think a lot of it is based on the unknown, but I also know that Tribes are pretty, or in general, I think distrustful of what the government has to offer [in terms of] medicine and vaccinations. Since they do have a history of bringing viruses to tribal communities and wiping out large numbers of its membership. (Clinical Director #2)

Other participants spoke of providing education and building trust with regard to the COVID-19 vaccine within their community, stating, "I know there's a lot of resistance with, you know, people of color towards vaccinations, higher than white people. So, I think really sort of making efforts

to continue to address the questions or concerns" (Psychiatrist). Another participant spoke of the mistrust of Western medicine they have observed within their community:

> The mistrust for the medical community is huge. Usually, for the community I'm working with, being Native and feeling like you don't have the same level of access to really quality good healthcare, that someone's going to understand what it is that's going on. […] People really think that, "They're aiming this at us to kill us." (Clinic Provider)

Impacts to Family and Social Life

Alongside the increases in substance use and social isolation, participants described how these pandemic impacts affected community members' families and their social lives:

> The way in which we weren't able to actually cope with fatal overdoses, or even deaths in general—our communities are very accustomed to gathering and being together in time of loss, in time of need, and COVID-19 no longer permitted us to do that. So families who were in mourning weren't able to have their loved ones be there. (Program Coordinator #1)

One participant shared how many community members had lost someone close to them due to the pandemic and had been affected by "that great loss, due to COVID." For community members who were in treatment during the pandemic, the need for social support was reported to be particularly important, observing various social connections helping them to get through the pandemic. One participant reported that for some clients, being socially isolated from their family and friends was the most difficult part of their experience:

> I see a lot of mood problems, anxiety, depression—whether it reaches the kind of clinical level of becoming a disorder, or whether it's really just them demoralized by the fact that they can't see their families. Or they feel fearful of going to the store, or they have more disputes with their partners. So I think just the feeling really socially isolated and unable to connect with other people has been the biggest impact for my patients. (Psychiatrist)

Another provider spoke of how their clients contracting the COVID-19 virus added to the challenges of isolation, stating that "community is the comforter and great healer of it all." Several participants shared personal examples of the impacts their families had experienced during the pandemic, with one reporting that her aunt had recently told her, "I'm here all of the time by myself and I am lonely," while another described impacts to family gatherings: "Before the pandemic, my family, we would meet and we would sing our family songs every so often, every few months or just impromptu family gatherings and singing, and that has really been impacted" (Clinic Supervisor). Despite the impacts that isolation had to aspects of community members' social and family lives, one participant expressed understanding the necessity of protecting community members through stay-at-home measures, given that they work in such a small tight-knit community:

> The biggest way that the pandemic has affected our community is the stay-at-home order and the way that the tribe protected us from the virus. […] I totally understand why the Tribe did what they did. It was a protective measure. We have a limited amount of community members, and if we lose one community member, that's a huge impact on our entire village, so I understand why. (Clinic Supervisor)

Alongside pandemic challenges, participants also highlighted positive changes they'd seen to family and community life, reporting how the pandemic had fostered appreciation for family within the community and had been a catalyst for some to reconnect with their families:

> One of the biggest changes we've noticed is families getting back together. Connecting and developing that relationship they once lost. I would say that's by far the biggest and the best. We've had a lot of success stories over the past year that were family, I think 89% of our clients are male and where they hadn't spoke with their father in 10 plus years or 5 years or whatever. And they're developing that relationship again, they're talking for the first time, and having dinner together or whatever, but they're developing that relationship again. They're learning how to be a part of that family circle again. (Program Director)

The impacts to childcare during the pandemic were also addressed. Some participants reported that co-workers described the difficulties of having their children at home more often, although for others, having more time at home with their children was reported as a benefit:

> As an Indigenous mother […] I've appreciated being able to stay home and work and get my job done and still be present and available to my children. Because that, for me, was always a torn situation sometimes because I have a sick child that I need to stay home and take care of and tend to, but I also have a full-time job, I'm the sole provider for my household. (Program Coordinator #1)

Others reported observing a sense of resiliency among their community members:

> The resilience that has come out of COVID-19 on a community level, it's been really profound to watch. Because we always talk about resilience and how we do have it as tribal people. But within this one-year span, being able to watch how we were just responding right away in the beginning to keep everyone safe, and eventually be able to strengthen that, to find other ways of connecting with our tribal members, with ourselves, with our families and with our culture. (Program Coordinator #1)

Impacts on Traditional Healing and Ceremony

Among the impacts to family and social life, all participants addressed the pandemic's impacts to AI/AN traditional healing and ceremony, both within the community and at treatment centers. Given that most traditional practices happen in person, many practices were temporarily suspended due to social distancing measures. Participants described the difficulties of being unable to gather and perform ceremonies around community members' passing:

> When COVID is hitting the community, it's parallel to isolation. And we're such a people of community […] and we can't gather. And so, the normal coping skills and strategies that we have had and always have had, we can't access those. And so there aren't ceremonies happening when people die. And so it's so unresolved and it feels like another sort of injury to the community. (Clinic Provider)

Several participants reported AI/AN traditional healing and ceremony to be important aspects within treatment for AI/AN clients, and as such, these were greatly missed:

> I think that what most people are really longing and asking for, is the cultural aspect of wellness and recovery now […] to gather and just do the song and dances that

> are vital for continued strength and resilience, and a lot of people miss stick gaming [a traditional American Indian guessing game]. I know that canoe journey was deeply missed by all communities in our area. The fact that we weren't able to travel in our traveling canoes and go to each other's tribal communities and participate in protocol; those things are very much missed this last year. (Program Coordinator #1)

Many traditional practices used in treatment were reported to be suspended during the pandemic, including sweats, smudging, drumming and singing groups, canoe trips, beading, weaving, fishing, dancing, and talking circles, where "such great healing takes place and everyone's equal, and the circle is sacred" (Program Coordinator #2). Yet, while many aspects of traditional cultural practices had been shut down during the pandemic, some participants reported using videoconferencing to implement adaptations of certain practices, such as having Elders join treatment groups and pray with clients and performing smudging towards the camera. Providers also encouraged clients to practice traditional healing practices, such as smudging, at home:

> With our people, with American Indian culture, learning how to have your own ceremony at home. […] Back to the culturally based, having the grandparents do storytelling again, because there's so much learning and healing that come when we sit still and listen to our Elders. So getting back to that way of thinking and living, I think it's the perfect time to start utilizing that more. And then encouraging them to discover themselves and take time to heal from their traumas during this downtime. (Program Coordinator #2)

One participant shared how the treatment center's program coordinator was doing weekly check-ins by telephone with clients to encourage traditional cultural activities to promote mental health:

> When she calls and checks in on clients weekly, she has different things she might go through. Have you grounded yourself? Have you walked outside barefooted? To release stress, do you go to the river? What are you doing in different natural remedies for different things? […] They absolutely love it. (Program Director)

Impacts of the COVID-19 Pandemic on SUD/OUD Treatment Services

Along with the impacts to community, participants also addressed the pandemic's direct impacts on treatment services, reporting on the social impacts within treatment, impacts to staff, logistical impacts to treatment services (including telehealth), and innovations to treatment.

Social Impacts to Services

Participants addressed the lack of social connection within treatment services, describing this as an important part of treatment, particularly within group therapy: "It's been really difficult. But I think the biggest thing is just that lack of connection, that lack of sharing a space with someone and feeling like you're part of something" (Medical Director). One participant addressed the inability for clients to connect with their community during the pandemic, seeing this as an important part of treatment:

> A large part of our culture is coming together and being together. I think that's the biggest change. Haven't been able to teach weaving, or haven't done any regalia making, which is something that we do every year in treatment. I think, overall, just the segregation has, of course, really impacted our community from a cultural aspect. (Clinic Supervisor)

Clients that were new to treatment were reported to have a particularly hard time with the lack of social connection that is typically present at treatment services:

> They were just scared. And fear is something that we all have to cope with, but coping skills are not necessarily something that people who are newly in recovery have a lot of. That's one of the things we try to teach them and impart on them is how to cope and how do we manage. And that is difficult when they're feeling alone. (Medical Director)

Relatedly, one participant observed that the pandemic affected interactions among clients within treatment, reporting some clients to have a "high level of irritation" and being "short-tempered."

Impacts on Staff

Participants also addressed the pandemic's impacts on staff working within treatment services. Common impacts included a reduced connection with clients; difficulties with the

Internet and technology; keeping up with pandemic regulations changes; fatigue and burn-out; and obtaining childcare for their children. Overall, it was reported that staff often had to adapt to a greater workload during the pandemic, resulting in "a lot of strain on providers keeping up the work, expectations, caseloads doubling and tripling and the needs of clients getting more intense due to COVID" (Clinical Director #2). Yet, participants also reported positive impacts on staff, including the use of telehealth to facilitate therapy and client check-ups. One participant described how telehealth has helped to free up additional space in their schedule:

> I was doing three groups before with quite a bit of prep before, quite a bit of tear down afterwards, and so now I'm not doing any of that, right? I've actually been able to add a group comfortably into my schedule. Really, it freed up space for us. (Clinic Provider)

It was also reported that with the use of telehealth, some staff preferred working from home, with one participant stating that this allowed her to spend more time with her family and alleviate some of the pressures of parenthood. Finally, one participant shared how the struggles that staff experienced during the pandemic helped create more unity and connection among staff members.

Impacts to Treatment Logistics

All participants spoke about the impacts to treatment logistics during the pandemic, with changes to telehealth being the most common impact reported. Participants reported using telehealth services for individual and group therapy, client check-ins, staff meetings, and traditional practices or ceremonies (e.g., drum groups, smudging). Several participants spoke of how the use of telehealth led to greater treatment access, particularly for those in rural areas:

> We can offer more services, especially to rural patients that did not previously have access to those services because they had to drive really far or they didn't drive, they had to get a ride. […] My no-show rates have really dropped because it's so much easier for somebody to log into appointment or pick up the phone and so the contact has increased via telemedicine visits. So yeah, I would say definitely telemedicine would be the biggest improvement that we've made. (Psychiatrist)

> We thought it was important for them to come to the clinic and be in the clinic and they'd be out to the wind if they didn't cross the doors of our clinic. That was a big

> surprise and shock that we had increased engagement with medicine. (Clinic Provider)

With these increases in access to services, one participant shared how this has prompted the continued expansion of telemedicine platforms at their services, including its use for appointment scheduling, administering questionnaires, and clinical interviews.

However, the switch to telehealth was reported to also have logistical barriers, particularly with some clients' limited access to technology such as phones, computers, and the Internet: "Now we have a group therapy via Zoom, but here on the rez, some of the areas are just dead spots. So some people don't have access to that" (Program Sponsor). Given the restrictions on clients' access to technologies, one participant described providing prepaid cell phones and phone cards to their clients. Others reported that some of their clients preferred face-to-face meetings and that they had experienced "a decrease in numbers because of that lack of face-to-face community. And a large part of healing from addiction is reconnecting with other people who are healthy" (Clinic Supervisor). Another provider shared how the use of telehealth among clients and staff was mixed and was a matter of personal preference, with some finding it "too impersonal to sit on a computer on a Zoom session with a group" (Program Coordinator #1).

Alongside the use of telehealth, other impacts to treatment logistics (including service innovations) were widely discussed and included reduced client capacity; the use of personal protective equipment; increasing means of client transportation to and from services; conducting groups outside when weather permitted; curbside dosing and home delivery of medications; and providing COVID-19 testing for clients. Having staff work from home was a common logistical change to services, yet not everyone reported this at their treatment centers, with one participant describing that given the opportunity to work from home, much of the staff continued to come into work, with the treatment center also experiencing low staff turnover. The impacts to logistical aspects were also reported to impact culture-based activities, such as talking circles:

> We have a culture center that we like to utilize. It has our medicine wheel in it, a fire pit, different cultural-based activities that they can do out there. And there's a lot of our history back there they can learn. We haven't been able to get back there and utilize that. […] We haven't been able to meet to do different cultural-based activities, like beading, teaching them how to quilt, canoe, fish, so that has been a big hindrance. (Program Coordinator #2)

Regulatory Changes

Participants also addressed the MOUD regulatory changes during the pandemic, in which SAMHSA (the federal agency that regulates MOUD) loosened many regulations in order to create greater accessibility to MOUD. Several participants reported positive experiences with these changes, stating, "We were able to give people take-homes that by the previous criteria they would not necessarily have earned. And so, those things were actually good and a positive change from the pandemic" (Medical Director), and "I don't know why there was so much fear about lifting those restrictions. Because I certainly haven't seen any increase in overdoses or diversion" (Clinic Provider). The home delivery of medications during the pandemic was also described as positive for clients who had previously experienced stigmatization when picking up their prescriptions at a pharmacy. However, one participant reported initially following the new guideline but ceased after observing continued and increased opioid use in urine tests, stating, "We want to keep people more accountable than that. We don't want to aid to their overdose. It just seems a little irresponsible" (Clinical Director #2). Lastly, several participants described how the communication of regulation changes from the regulatory agencies was positive, reporting that agencies had "communicated quite well" and were "quite responsive" during the pandemic.

DISCUSSION

This study explored the impacts of the COVID-19 pandemic on AI/AN-servicing SUD treatment services that provide MOUD, through interviews with ten providers working within these services. Participants shared how the pandemic impacted (a) the AI/AN communities that they service, (b) the family and social lives of their clients and community members, and (c) the treatment services themselves. In light of these results, interpretations of the participants' experiences have been made and summarized in the following three most prevalent themes.

The Impacts on Traditional Healing Practices and Ceremonies

All participants described the impacts that the pandemic had on traditional healing practices and ceremonies, both within treatment services and the communities. Due to social distancing measures, many traditional practices and ceremonies were reported to have been suspended during the pandemic, often negatively impacting clients and community members.

The use of traditional healing practices and ceremonies within SUD/OUD treatment are increasingly being recognized as important aspects of treatment with AI/AN clients. In recent years, AI/AN communities and stakeholders, alongside researchers and providers, have expressed the need to integrate AI/AN healing practices as an essential part of OUD treatment with AI/AN clients (Veneer et al., 2018). In a scoping review exploring OUD management among rural AI/AN communities, most studies "reported a preference for culturally grounded health and wellness interventions with rural AI/AN," with three studies reporting a need for culturally adapted MOUD programs (Mpofu et al., 2020). A previous review exploring various cultural interventions used with Indigenous clients in SUD recovery services in the United States and Canada found that these interventions resulted in benefits for clients in all areas of wellness, particularly with aiding in the reduction or elimination of substance use (Rowan et al., 2014).

Thus, our participants' reports of the use of AI/AN cultural practices within their OUD treatment services reflects the growing research supporting the need for and use of AI/AN traditional practices. However, due to the natural experiment created by the pandemic, rather than examining the implementation of traditional practices within treatment, our participants were instead, unfortunately, reporting on the impacts of having these practices suspended from treatment. The reported negative impacts on clients associated with the suspension of traditional practices included heightened isolation and mental health challenges; disruptions to social gatherings and mourning practices; and lower engagement with treatment services. These results are similar to what other MOUD providers working with Indigenous communities have reported during the pandemic, particularly around communities struggling with the inability to perform traditional in-person ceremonies during an already difficult period of time (Wendt et al., 2021). As researchers in this field, we interpret these findings as further evidence that supports the importance and need of integrating traditional AI/AN healing practices within OUD treatment and suggest that such practices may have been more "essential" to treatment than they were considered during the pandemic. Our findings also reflect those reported in other cross-cultural research conducted during the pandemic, which further supported the importance of spiritual practices on mental health during this time (e.g., Biswas & Jijina, 2022). Thus, AI/AN communities and clinics could benefit from exploring solutions to ensure their ability to perform AI/AN healing and spiritual practices in future pandemic or lockdown situations.

The Importance of the Role of Family and Community Support within Treatment

Participants also spoke to the importance of family and community support for AI/AN clients within treatment and the impacts that the pandemic had here. Like the temporary suspension of cultural practices and ceremonies, clients' inability to connect with family and community in the ways that they were used to pre-pandemic was reported to be challenging for many clients, resulting in increased isolation, depression, and substance use—with one AI/AN provider reporting "a large part of our culture is coming together and being together."

The role of family within SUD treatment has been explored within research for decades, with the inclusion of family support often concluded to play a central role within a client's treatment, resulting in sustained recovery, better treatment outcomes, and improved health outcomes for both clients and family members (Rowe, 2012; Ventura & Bagley, 2017). Within collectivist cultures such as China, where family ties play a larger role for individuals, SUD research has found that family support for clients in methadone treatment resulted in increased physical, psychological, and social health amongst clients, while also being negatively correlated with substance use (Lin et al., 2011). Findings such as this may be particularly relevant to Indigenous peoples in North America, where many communities share collectivist cultural values in which the well-being of the family or community is given central importance (Kirmayer et al., 2009). Recent research with AI/AN communities implementing MOUD programs further supports the role of family and community, in which *cultural cohesion* (connection to community and cultural activities) and *family dynamics* (immediate and extended family support) were identified as protective factors in OUD treatment that promoted recovery and overall wellness among AI/AN clients (Zeledon et al., 2020). Furthermore, research conducted during the pandemic suggests that disconnection from community and cultural practices during this time resulted in worsening mental health amongst AI/AN peoples (Haskins et al., 2023). Thus, while disconnection from family and community was difficult for all individuals in North America during the pandemic, this time was likely particularly detrimental for AI/AN SUD clients, for whom connection to family, community, and culture often play a vital role within their recovery. Participants in our study shared how their clinics successfully transitioned to using videoconferencing during the pandemic for individual meetings, group therapy and ceremonies, suggesting that the use of telehealth measure within SUD treatment services to help clients connect with family, community, and culture may play an increasingly important role in AI/AN-servicing clinics.

Positive Changes within Treatment Services

Along with the ways in which treatment had been negatively impacted by the pandemic (i.e., lack of family and community connection, suspension of traditional healing, reduced access to services), participants also spoke of changes that were brought about that were seen as positive and likely to be retained. Amongst these, the most discussed was the increased use of telehealth within clinics. All participants reported implementing telehealth measures during the pandemic, and many reported planning to integrate these within their services post-pandemic, with one participant stating it to be "the biggest improvement that we've made." Various benefits to the use of telehealth were shared, including increased access to services for rural clients, higher attendance rates within group therapy, and greater flexibility for staff (e.g., the capacity to work from home, increased number of client check-ins).

These positive reports reflect what many other OUD providers and researchers have been reporting during the pandemic around the increased use of telehealth, particularly with regards to increasing access to MOUD services and the ability to initiate and prescribe MOUD using video or telephone (Cantor & Laurito, 2021; Nordeck et al., 2020). The increased use of telehealth in OUD services has been particularly beneficial within rural areas during the pandemic, with rural clinics being able to increase the number of clients they serve and expand their region of service using telehealth (Hughes et al., 2021; Wang et al., 2021). The increased accessibility to OUD treatment that telehealth provides in rural areas may have been one of the most important outcomes of the pandemic, as providing MOUD services in rural areas has long been a challenging aspect to OUD treatment. Historically, opioid use in North America had primarily been a concern in urban regions; however, with over-prescriptions of pharmaceutical opioids (i.e., oxycodone) in the past two decades, the rates of opioid misuse and overdose deaths began to disproportionately affect rural areas (Palombi et al., 2018). Yet, with these disproportionate increases, those living in rural areas face significantly lower access to OUD treatment, with rural providers often lacking the capabilities to prescribe MOUD (Haffajee et al., 2019). Thus, the expansion of telehealth within OUD services may be important step in increasing services in rural areas, particularly for rurally located AI/AN communities, who often face even greater barriers in accessing adequate OUD/SUD services (Gone, 2023; Venner et al., 2018).

However, participants' reports of the use of telehealth were not without challenges, with some describing clients' poor Internet reception, a lack of access to electronic devices, and finding telehealth to be too impersonal. These challenges reflect similar telehealth challenges that other

OUD researchers reported during the pandemic (Buchheit et al., 2021) and are also similar to pre-pandemic findings (Lin et al., 2018), suggesting that the pandemic exacerbated already existing challenges. Thus, as telehealth will continue to play an increasingly important role in SUD services, the pandemic may have provided insight into which areas are most in need of improvements, such as creating better telehealth guidelines for SUD services and improving technological access and infrastructures for services and clients (Hser et al., 2021).

Changes to MOUD regulatory policies during the pandemic brought about varying opinions among participants, particularly with regards to clinics dispensing higher MOUD take-home amounts ("carries") than previously allowed. Some participants described these changes as one of the positive outcomes of the pandemic, observing no increases in overdoses or diversion due to the changes. Conversely, one participant called the changes "irresponsible," reporting they had initially followed the guidelines of increasing client dosage, however, quickly returned to pre-pandemic dosing when some clients' urine tests indicated increased usage.

The regulatory changes brought about by the pandemic around increases to MOUD carries and ease of prescribing was welcomed by many OUD clinicians and researchers, expressing that these changes have been long overdue in the United States and that U.S. MOUD policies have lagged behind other countries, such as the United Kingdom, Australia, and Canada (Pena & Ahmed, 2020; Peterkin et al., 2021). Researchers had already been calling for policy changes prior to the pandemic, arguing that strict MOUD policies where a primary barrier to accessing MOUD (e.g., Davis & Carr, 2019), while also noting that underserved, vulnerable, and racialized populations are often those most affected by the barriers brought about by MOUD policies (Nguemeni Tiako, 2021). Thus far, research has supported MOUD policies changes, resulting in "increased treatment engagement, improved patient satisfaction with care, with relatively few incidents of misuse or medication diversion" (SAMHSA, 2023a), with providers describing the increased flexibility around providing MOUD to result in greater individualized, person-centered care (Adams et al., 2023). Providers in our study reported varying experiences with the increases to MOUD carries, both positive and negative, suggesting that the regulatory changes to MOUD may not be a "one size fits all" modification, and that clinics need to assess which changes work best for their clientele and standards of operation. Thus, while MOUD regulatory changes present an opportunity to increase access to the medications and better care, further research is still needed to evaluate the ways in which policy changes should be implemented and retained.

Limitations

Several limitations of this study can be noted. First, this study comprised of a relatively small sample size (10 participants) and, thus, should be seen as exploratory. Although participants were chosen from a variety of different states, their experiences may not be transferable across tribal communities, given the diversity between the tribal communities within the United States, as well as pandemic experiences differing from state to state. The same may be said for the transferability to Indigenous communities within Canada or other nations. Next, while discussing the impacts on providing OUD services, we found participants focused largely on treatment logistics and impacts to their clientele and had far less to say about the impacts to providing specific MOUD (i.e., methadone vs. buprenorphine). This may be due to participants having less concerns or experiences around MOUD barriers and changes during the pandemic; however, while we did ask about impacts to MOUD, we acknowledge that our questions around this topic may have been somewhat limited and that had we inquired into this in more depth, we may have gotten more information about this. Furthermore, this study only considered the perspectives of providers working at OUD services. While these perspectives shed valuable light on this topic, the perspectives of clients and other community members would provide a more well-rounded picture of the impacts. Finally, the information shared by participants in this study pertained to the early pandemic period. As many issues around the COVID-19 pandemic have now mostly subsided, the results of this study may be less applicable to post-pandemic periods. However, the results of our study may serve to inform treatment centers with regards to the ways in which they can plan for and address potential future pandemic waves or other crises.

CONCLUSION

The COVID-19 pandemic had many impacts on AI/AN-servicing OUD treatment centers, bringing about challenges for clients and service provision, while also presenting innovations and changes to services that increased accessibility. For the AI/AN clients and communities serviced by the providers in our study, the suspension of AI/AN traditional healing practices and ceremonies within treatment and the community negatively impacted their clients, as did the lack of connection to family and community members. These impacts were reported to be associated with increased mental health challenges, increased and relapsed substance use, and lower cultural connectivity amongst clients. Research already supports the importance of cultural and family connectivity for

AI/AN peoples in SUD treatment in terms of mental wellbeing and sustained treatment, and participants' reports of clients' lack of engagement in these areas during the pandemic sheds further light on their importance within the treatment process. As such, we recommend that AI/AN communities and clinics consider strategies to ensure client's access and connection with family, community, as well as AI/AN healing and spiritual practices in future pandemic or lockdown situations. The pandemic also brought about changes resulting in greater access to OUD treatment such as the use of telehealth for clients in rural areas and increased treatment flexibility through the easing of MOUD regulatory policies. Thus, while maintaining these changes in post-pandemic times could allow for greater access and flexibility in providing MOUD and OUD treatment services within AI/AN communities, clinics should nonetheless assess which technology and policy changes work best for their clientele and standards of operation. As such, further research and guidance are needed to better understand the impacts of these changes and how to best implement them within treatment services in the future.

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CONFLICT OF INTEREST

The authors declare that they have no conflicts of interest.

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