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Characterizing Perceptions of Opioid Treatment Program Access Barriers During Disasters

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Abstract

Objectives: A public health emergency was declared for the opioid crisis in 2017 and remains in place. Between 2017-2024, there were 164 billion dollar disasters. People who use drugs (PWUDs) are highly susceptible to disasters; however adaptive capacity of opioid treatment programs (OTP) is not well understood. Identifying and addressing gaps to increase resilience and reduce morbidity and mortality among PWUDs is critical.

Methods: A semi-structured interview guide with 8 questions was developed to assess how disasters impact service provision and other aspects of OTPs. OTP leaders, government officials, community health navigators, and advocates received an email invitation to complete an interview via Zoom. Transcripts were independently hand coded to inductively identify themes.

Results: Eleven interviews were completed. Four themes were identified including client challenges securing housing and reliable transportation, disaster-related communication barriers, stigma around help seeking, and issues related to policies and practices such as regulations and insurance coverage that are inflexible during a disaster.

Conclusions: Disruptions to OTPs during disasters require preparedness planning adaptations like more flexible guest dosing. The ongoing public health emergency of the opioid epidemic and the increasing frequency and severity of climate and weather emergencies requires adaptations to a highly regulated system to address vulnerabilities.

Disasters have inequitable impacts on physically and socially vulnerable populations, compounding existing inequities through damages to social and infrastructural systems.[1] Among populations who have been identified as particularly susceptible to the effects of disasters are individuals with substance use disorders.[2,3] People who use drugs (PWUD) may be at higher risk of negative outcomes from disasters due to a cluster of intersectional factors related to health, housing, and socioeconomic status, in addition to drug use or misuse.[2] Beyond these vulnerabilities, other disaster-related factors such as disruptions to medical care, regulatory inflexibility, and a lack of coordination contribute to the limited disaster resilience of PWUD and the systems that support treatment and recovery.[4]

With the overwhelming burden of opioid use disorders (OUDs) in the US, treatment is imperative for reducing the risk of overdoses. The US Food and Drug Administration (FDA) has approved effective medications for opioid use disorders (MOUD) that include methadone, buprenorphine, and extended-release naltrexone.[5] MOUD mechanisms work by reducing withdrawal symptoms and opioid cravings while decreasing the biological response to future drug use. Although proven effective, there are barriers to utilization of MOUDs, such as the need for daily dosing. Within recent years, the FDA has approved MOUDs that require only monthly injections. However, limited access to these monthly treatments continues to hinder the uptake and utilization of these MOUDs in many substance use disorder treatment organizations.[6]

In its All-Hazards Response Planning for State Substance Abuse Service Systems, the Substance Abuse and Mental Health Services Administration (SAMHSA) identified several subpopulations within PWUDs as being especially vulnerable during and after disasters. Included are individuals who rely on methadone or other medications for OUD and cannot access their program, substance abuse treatment patients who require intensive services, individuals in recovery who worry they may relapse as a result of the disaster, and persons receiving inpatient substance abuse treatment who cannot easily access other services.[2] Without access to medication treatment during a disaster, withdrawal can lead to severe physical and mental health symptoms as well as increased risk of illegal use, unsafe injection practices, or treatment lapses.[7]

Prior Research on Disasters and PWUDs

Hurricanes Katrina and Sandy exemplified many of the barriers that persons who were receiving medication treatment faced in a post disaster environment. Barriers included social stigma from health care and emergency management as well as fear of discrimination when seeking services after a disaster event.[7] For example, after Hurricane Katrina, people receiving medications for OUD were escorted by police to OTPs, heightening concerns about access, trust, and stigma.[8] Some shelters were hesitant to serve displaced persons who had been receiving medication treatment, making it difficult for individuals not only to safely evacuate but also to maintain uninterrupted care.[9] In other cases, shelters were ill equipped to address substance abuse treatment with limited or no behavioral health staff.[3] In Houston shelters after Hurricane Katrina, staff and volunteers were not trained to recognize symptoms of opioid withdrawal and mistook them for a potential outbreak of gastroenteritis.[8] Clients of OTPs are an overlooked population for disaster planning and preparedness in part because their perceptions of emergency preparedness and planning has not been well captured in the disaster research literature.

Several studies of OTP adaptation to a public health emergency were conducted during the COVID-19 pandemic, which disrupted many aspects of OTP services. Health, social, and structural systems that PWUD depend upon were impacted by the pandemic, particularly OTPs, which rely on frequent client interactions and a high level of medical supervision and monitoring.[4] As other public health and health care resources were redirected to the emergency response, stress associated with isolation, housing insecurity, lost income, a lack of trusted information, and stigma created high risk environments for PWUDs.[10] Client volumes were reduced in many programs due to the implementation of increased safety protocols like social distancing and masking[11] and the limitations on access to physical spaces for harm reduction and other programs.[4] Additional stressors, such as a lack of funding, materiel shortages, burnout, concerns about infection control, and caregiving responsibilities impacted staff, who were infrequently included in studies of the pandemic's impacts on health care workers.[12]

Disasters interrupt many types of systems and infrastructure, including health care, transportation, and social services, and these interruptions have outsized effects of sub-populations with opioid use disorder.[13] For example, a pre-post study among rural Puerto Rican residents compared overdose experiences of PWUD in 2017 (before Hurricane Maria made landfall) and in 2019. In the 2 years after Hurricane Maria, the odds of an overdose were 3 times the odds of an overdose in the 2 years prior to the storm's landfall.[14] Another study showed that, after Hurricane Sandy in New York City, there was an increase in the sharing of injection equipment and injection with somebody outside their regular networks, accompanied by a rise in opioid withdrawal episodes.[15] One of the consequences of disasters caused by natural hazards is the creation of harmful risk environments. To address these compounding and cascading risks, states have used both disaster declarations and public health emergency declarations to enable officials to take actions in response to the opioid epidemic that include the reallocation of funds, mandated data sharing, and enhanced cooperation between public health and law enforcement authorities.[16]

Increasingly frequent and severe disasters mean that all types of OUD programs must be better prepared to provide continuous service to clients in all types of disasters. According to the US Centers for Disease Control and Prevention, in 2022 an estimated 9.4 million people needed treatment for OUD yet only 55% of those receive any treatment, while only 25% receive medications.[17] During that same year, the US experienced 18 weather or climate disasters that resulted in greater than $1 billion in damages, including winter storms, heat waves, wildfires, droughts, floods, tornados, and tropical cyclones.[18] For programs that are "woefully underfunded and under-resourced," disasters will exacerbate existing and create new challenges for both OTPs and PWUDs.[12] This project sought to identify gaps in OTPs preparedness, planning, and policy that could be addressed to make these systems and programs more resilient to future disasters.

Methods

The physical addresses of all 20 OTPs in Delaware were downloaded from the US Department of Health & Human Services and confirmed by the Delaware Division of Substance Abuse and Mental Health. Contact information for each OTP was collected based on available online information. Each OTP was contacted via email to schedule an interview at a mutually convenient time. Up to 3 reminder emails were sent to each contact.

A key informant interview guide was developed based on models from prior disaster research with other social service providers and a review of the literature on disasters and OTP services. Two trained graduate students independently coded the interview transcripts to identify themes. Inductive coding was used – the themes were not pre-identified – and compared for agreement in meetings with the senior author. The interview guide and all related materials were submitted for review to the University of Delaware Institutional Review Board and were determined to be exempt (IRB# 2234207). After obtaining oral consent, interviews were conducted, recorded, and transcribed using Zoom (San Jose, CA).

Results

Eleven interviews were completed between September 26, 2024 and October 27, 2024. Of the 20 OTPs in Delaware, leadership from 7 (35%) completed an interview. An additional 4 interviews were completed through referrals to state agency staff, community health navigators, and other advocates who work directly with PWUDs. The average duration of the interviews was 25 minutes (Range: 18-41). Several themes were identified in the key informant interviews.

Housing and Transportation

Housing and transportation are always a challenge for clients receiving treatment of opioid use disorder – 1 respondent called them "a blanket issue" – and these challenges would be intensified during a disaster. As another respondent shared, social determinants of health (SDOH) like safe and affordable housing are "factors that keep people in a state of continuous use." Affordable housing in Delaware - in general - is a critical unmet and persistent need that one respondent said, "always feels like an emergency." Another pointed out that [their organization] provides "lockboxes for clients so that they can access medications in a locked, stored container if they are unhoused." Public transportation and access to ride share services are also limited. Many of the programs are not on a bus route and often clients are "responsible for finding logistic support, travel, etc." when "you would have to travel on a DART [Delaware public transit] bus for more than 90 minutes" or "walk for 5 or 6 miles to reach a bus stop." One respondent pointed out that "when a private ride company sees where they are taking people, they do

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not accept the ride." OTPs do interface with ride share services such as Round Trip to address some of the limitations related to transportation, "It is a little pricey, but they pick up wherever they are. This is a lifesaver."

Communication

While many people can rely on receiving emergency information via mobile phone alerts, many clients of OTPs do not have cell phones, or, if they do, the numbers can change frequently. "Free cell phones can be accessed but once the minutes are used up, there are no more calls, and you cannot text. The typical way that people get news [about emergencies], this population cannot." As one respondent pointed out, "[state emergency officials] have evacuation routes, notifications sent out, public announcements, they have a lot of forethought into the placement and availability of assets. But…what are [our clients] able to do to prepare themselves?" Within the networks of OTPs and dosing clinics in Delaware, there is relatively good communication, which can rely on "emails, 24/7 hotline numbers, and designated ways to verify" required information, even in a disaster situation. To address barriers to effective communication about disasters to PWUDs, 1 respondent suggested that emergency communications' plans should include "TV, social media, and different hotels where clients live because a lot of this population resides in hotels, or the Hope Center [a hotel-based shelter for unhoused residents of New Castle County, Delaware]."

Stigma

Many people with behavioral and mental health conditions, including substance use disorder, face tremendous stigma when seeking help in both non-disaster and disaster settings. As one respondent put it, "it is hard for people to find sympathy for drug addicts, and they do not want to go the extra mile. Our clients are ridiculed and degraded" as they try to get sober. Stigma extends to formal health care settings, and another respondent reported barriers to receiving appropriate or compassionate care at the emergency room or in a hospital setting, particularly for treatment for infections or more severe side effects from the use of xylazine. One respondent mentioned that "clients would rather die than go to the emergency room, because they feel that they response will just be 'oh, here you are again.'" A care coordinator pointed out, "It can take 30 days [for a client] to clear an infection [spreading from injection sites], and an amputation may even be required. A compassionate provider will reach out to a case manager, but that doesn't always happen. [After these infections and the necessary treatment] people are no longer self-sufficient, there is a new wave of desperation, and their appearance may be visually jarring to others." Again, evacuation or other changes to where, and from whom, clients receive care can interrupt treatment. "Once clients get used to the people they receive care from, they do not want to seek care elsewhere. They want to receive care in places where they have rapport, and they can be honest about challenges." A respondent also pointed out that stigma could be increased if those seeking treatment for substance use disorder came to the emergency room when "[health care providers] might be serving the injured or others from the large percentage of the population that may be impacted by the disaster."

Regulatory, Insurance, and Other Challenges

OTPs are understandably highly regulated by both federal and state authorities. However, many of the ways in which these regulations are operationalized make it difficult for OTP clients to take protective actions, such as evacuating. One respondent explained regulatory and operational challenges faced by their clients.

"[For an evacuee] I would need to identify a clinic that will do guest dosing, fax and give them time to review the materials. Paperwork is inconsistent. It really just depends. In a perfect world, a guest dosing facility would just take you. But a disaster that lasts longer than 2 or 3 days would leave patients struggling, with the impacts of a disaster introducing a new wave of desperation."

For some, guest dosing is not a complicated process, but there is a cost, which makes it inaccessible to many clients. As a respondent pointed out, "facilities have a charge, and depending on [the client's] insurance, if you go from Delaware to Maryland, that charge will not be covered." Further, waiting periods and transitions from incarceration can make verification of insurance difficult, which, along with other barriers, can mean that "you have to buy black market because you do not have the ability to get [MOUDs]." However, several respondents reported that their OTPs preposition supplies and have Memorandums of Understanding with partner agencies to avoid complications for clients or to adapt to highly regulated environment during an emergency. For example, one respondent stated, "we have an agreement that [OTP] will guest dose up to 150 of our patients." Telehealth and mobile dosing, which are increasingly available "due to the lifting of some restrictions in the spirit of harm reduction," are potential solutions that can help OTP providers design more accessible "treatments within the parameters that are set out for us [by SAMHSA]." However, "we cannot put into [a client's] preparedness plan the exceptions they would need to ask for from the state [in a disaster] because we don't really know what they would be" because each patient and emergency is unique.

Discussion

The loss of access to OTPs due to disasters is expected to grow over time. For example, in one study Delaware, the population of PWUDs impacted by flooding in the state will increase when using projected flood risk for 2035 and 2050.[19] Many individuals and communities in Delaware are in danger of losing access to acute care during a disaster, and OTP clients are especially at risk due to their specific and unique needs. In particular, of the 20 OTPs in Delaware, all will be at risk of flooding by 2050, rendering facilities unreachable by clients due to flood-induced spatial isolation.[19] As 1 key informant pointed out, "consistency is key," and the disruptions to care for members of this population due to a disaster can have detrimental effects. Transportation; communication; stigma; and regulatory, insurance, and other challenges, were the most salient disruptors discussed in interviews.

Transportation is a persistent challenge for OTP clients. A study of 84 methadone treatment programs in the US found that – even in non-disaster settings – 60% of patients travel less than 10 miles to the OTP, 6% travel between 50 and 200 miles, and 8% travel across a state border.[20] In the State of Delaware's 2022 Community Health Needs Assessment, 19% of respondents in New Castle County – the most populated county, including Wilmington and its metropolitan area – reported that they experience transportation barriers that prevent them from reaching medical appointments, work, and other necessities for daily living.[21]

Delaware's population is growing and changing rapidly, and new or short-term residents are likely unaware of changes in the community over time, such as local flooding trends. In addition,

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many of the State's OTP clients are transient, moving through Delaware or between Baltimore, MD, and Philadelphia, PA, making formal information sharing related to disaster preparedness difficult. During a disaster event, disruptions to communication and information systems that are in place for regular operations are common and limit the effectiveness of response, recovery, and other disaster supports.[22] Further, information and communication challenges post disaster can also contribute to a further loss of social connection in the community as well as social disengagement among PWUD when they are unable to reach people with whom they already have a connection or relationship. In New York City following Hurricane Sandy, difficulties with communication among staff, between staff and clients, and between OTPs and regulators and government agencies were all noted, contributing to a poor disaster response for PWUDs.[23] Similarly, in New York and New Jersey, communication infrastructure disruptions led to problems with transportation, dose verification, guest dosing, and take home dosing, disruptions that can increase the risk of relapse, infection, overdose, and death.[9]

Although opioid overdose deaths in the US doubled between 2015 and 2022 and 4% of US adults need OUD treatment, stigma remains.[11] Stigma may result in reduced engagement with emergency management functions and services and limit the inclusion of PWUDs in emergency preparedness planning. This lack of inclusion may be driven by a lack of involvement in, and engagement with, PWUDs, their advocates, and service providers due to fear of discrimination or negative attitudes and behaviors among responders.[7] After Hurricane Maria in Puerto Rico, stigmatization and social exclusion were blamed, alongside disruptions in access to electricity, transportation, and medical supplies, for a decrease in access to evidence-based harm reduction approaches and an increase in overdose deaths.[24]

Regulations around OTPs vary widely by state, and most are not in alignment with evidence-based policies that can increase access to care and retention in OTP treatment.[25] State-to-state variations are particularly important challenges to consider for a state like Delaware, where there is significant population movement between neighboring states. These variations, and the fact that systems (e.g., emergency medical services, emergency departments, OTPs, and disaster medicine) are siloed in most jurisdictions, results in limited ability to collect, analyze, and act on data related to the experiences of people with OUDs in disasters.[26]

This research has several important limitations. Because most participants in the key informant interviews work as advocates or service providers for programs that serve PWUD, there is the possibility of selection or undercoverage bias. Additionally, the overall sample size was small, although it included leadership from 45% of the State of Delaware's OTPs. As mentioned above, these findings may not be generalizable to other jurisdictions that may have different policies or requirements around preparedness and response planning for OTPs or different regulations related to providing services to PWUD in general or during an emergency. However, many of the regulations regarding the operation of OTPs are based on federal guidance provided as part of SAMHSA's All-Hazards Response Planning for State Substance Abuse Service Systems.

While the growing risk of flood-related access loss to OTPs may be partly addressed by 2024 changes to Title 42 requiring preparedness planning for OTP accreditation, certification, and training, a better understanding of the health impacts of disasters on PWUD and the systems that provide services and advocacy to them are needed.[7] Although each of Delaware's OTPs has an emergency plan in place, only 1 key informant mentioned that their plan is ever exercised, and another respondent mentioned the lack of contingency planning for any major emergency that may close or isolate a facility. The addition of requirements, such as more frequent drills and exercises, other types of plans, such as continuity of operations plans, could assist with the development of protocols for medical surge, staffing, supplies, and other aspects of ensuring health care continuity.[27] A rapidly changing and mobile population also requires an agile and dynamic emergency planning and response process, with regular multiagency exercises and after-action reporting that openly identify and address barriers to implementation.[28,29] This type of planning, capacity building, and resource sharing – often among non-traditional disaster response partners and multi-state entities – presents major challenges including securing funding, negotiating mutual aid agreements, and changing perceptions about PWUDs.

Conclusion

Similar to other social services' infrastructures like domestic violence shelters or food pantries, services for PWUDs face severe shortages and gaps in non-disaster times that are exacerbated by a disaster's impacts. Consideration of factors like health and social services as part of pre-disaster planning is essential to meet known needs as well as new gaps in services that arise as a result of the disaster. SDOH – factors like poverty, unemployment, level of education, and housing – contribute to more than half of the negative health outcomes in the US. Poor social determinants and related negative health outcomes are exacerbated in disaster contexts. Accordingly, the intersectional risks faced by OTPs and their clients during a disaster require vastly larger and better coordinated efforts across research, policy, and advocacy to increase disaster resilience.

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