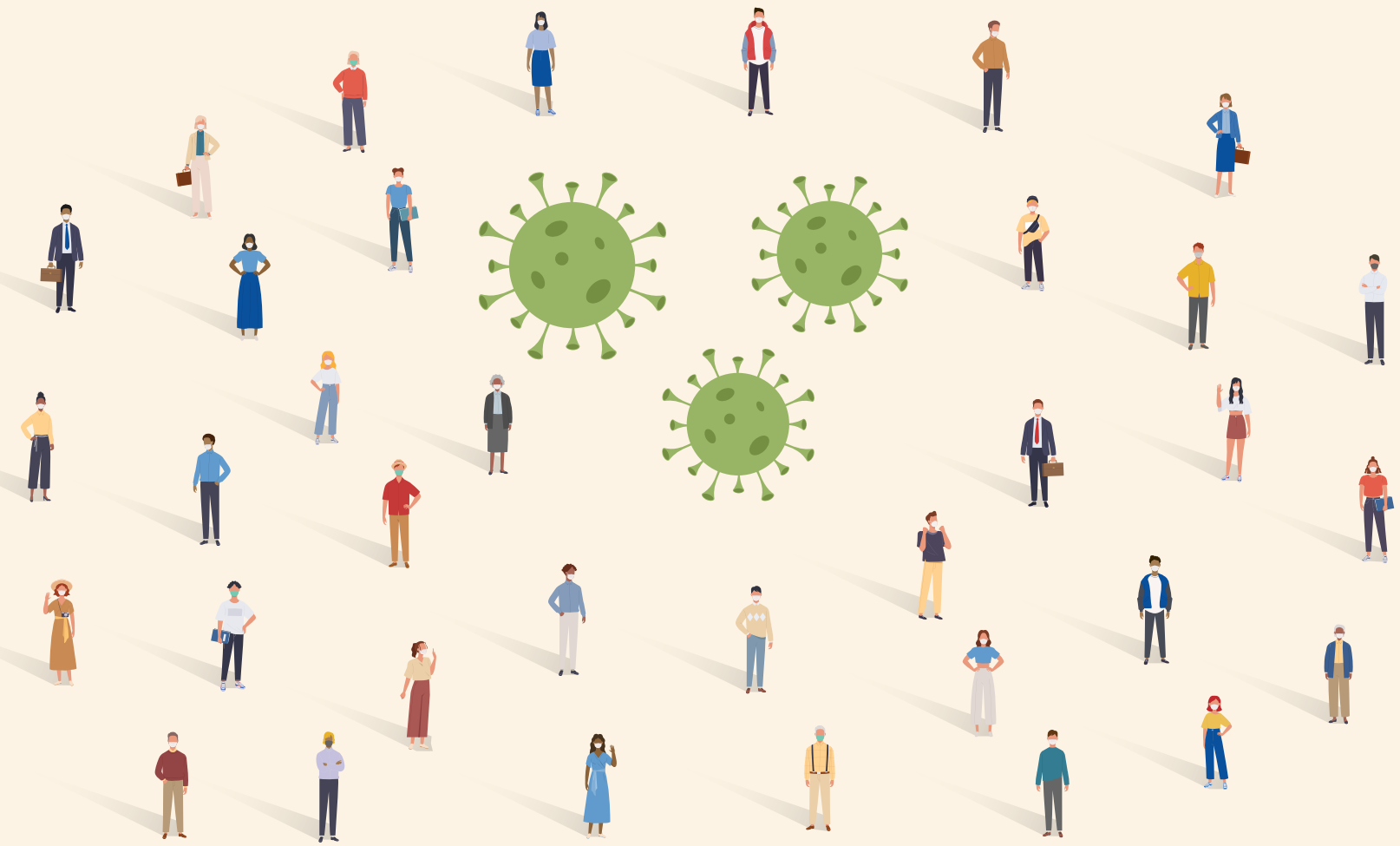
# COVID-19 PANDEMIC
# IMPACT ON HARM REDUCTION SERVICES:
## An Environmental Scan



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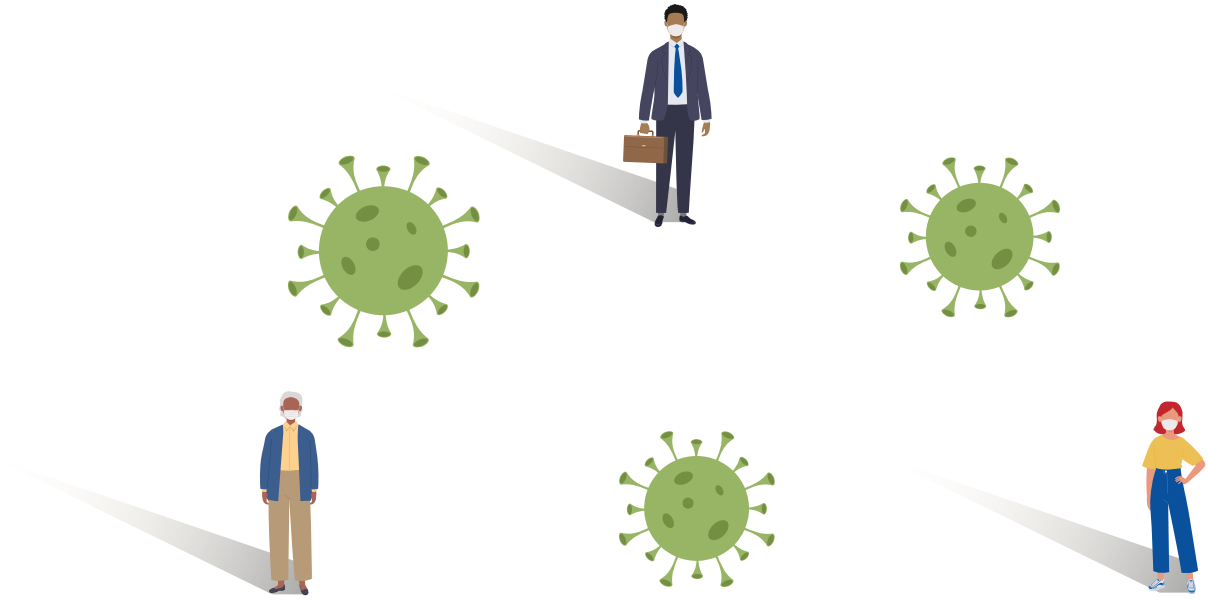

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# COMMONLY USED ACRONYMS

| | |
|---|---|
| **BIPOC** | Black, Indigenous and people of color |
| **CDC** | Centers for Disease Control and Prevention |
| **DEA** | U.S. Drug Enforcement Administration |
| **ED** | emergency department |
| **EMS** | emergency medical services |
| **HHS** | U.S. Department of Health and Human Services |
| **MAT** | medication-assisted treatment |
| **MOUD** | medications for opioid use disorder |
| **NASEN** | North American Syringe Exchange Network |
| **OTP** | opioid treatment program |
| **OUD** | opioid use disorder |
| **PPE** | personal protective equipment |
| **PWSUD** | people with substance use disorders |
| **PWUD** | people who use drugs |
| **SAMHSA** | Substance Abuse and Mental Health Services Administration |
| **SIP** | shelter-in-place |
| **SSP** | syringe services program |
| **SUD** | substance use disorder |

# EXECUTIVE SUMMARY

The COVID-19 pandemic has profoundly worsened the overdose crisis in the U.S. and magnified disparities in access to health care, social services and other basic needs experienced by people who use drugs (PWUD) and people with substance use disorders (PWSUD). Overdose rates are rising steadily, with death rates estimated to be 22.8% higher in July 2020 compared to July 2019. For decades, harm reduction organizations have provided essential, nonjudgmental services that promote safer drug use, prevent overdose death, link people to treatment and recovery supports and support holistic health.

To better understand the impact of the pandemic on harm reduction organizations and PWUD, the National Council for Behavioral Health, with support from the Centers for Disease Control and Prevention (CDC), conducted an environmental scan consisting of a literature review and 21 key informant interviews with staff from harm reduction organizations in the U.S. Information collected through the literature and from key informants demonstrate that the pandemic has resulted in: 1) increased health and social harms to PWUD, 2) significant disruptions to harm reduction services and operations and 3) innovative adaptations by harm reduction organizations to continue to serve the needs of participants.

**The COVID-19 pandemic has resulted in increased health and social harms among PWUD.** Rates of substance use and their associated harms, such as skin and soft tissue infections due to reduced access to safer use supplies or fear of seeking medical care in emergency departments (EDs), have increased and worsened. Meanwhile, mental health and peer supports are limited, as public health guidance to isolate from others to reduce COVID-19 transmission contradicts harm reduction's messaging to never use alone.

There has been significant disruption to harm reduction services due to the pandemic and, in some cases, they have been suspended or terminated. Staff and volunteer hours have been reduced to limit in-person interactions in accordance with public health guidance; however, reduced staff capacity in tandem with the increased need for services has resulted in high rates of staff burnout. Disruptions in the supply chain have led some organizations to struggle to provide participants safer use supplies, while others are unable to provide HIV and hepatitis C testing due to risks of COVID-19 transmission. Further, social distancing protocols have prevented staff and participants from engaging in social activities that are integral to the harm reduction community.

In light of the impacts on PWUD and harm reduction services, these organizations have implemented a range of adaptations and innovations to continue supporting their participants while adhering to COVID-19 safety guidance for staff and participants, including:

- **Operational changes:** Moving services like supply distribution, group meetings and testing outdoors or to a mobile vehicle; transitioning to mobile, mail and contactless deliveries; implementing COVID-19 protocols for staff and participants; and reducing staff and volunteer hours.
- **Supply distribution:** Distributing supplies via mail, home or contactless delivery, prepackaging harm reduction supplies, increasing outreach in the community and quarantine hotels, changing organizational policies to increase the number of supplies distributed at a given time, providing personal protective equipment (PPE) and providing access to food and hygiene supplies.
- **Technology-based adaptations:** Implementing telehealth assessments, inductions and prescriptions for buprenorphine; hosting virtual group meetings, recovery support and mutual aid meetings; and promoting virtual peer support services for PWUD.
- **Partnerships and collaborations:** Developing and enhancing cross-sector partnerships, including academia, advocates, health care providers, homeless services and mutual aid groups.
- **Resources and tools:** Developing educational materials and guidance documents for PWUD, sharing and updating in real-time resources and documents and hosting and attending webinars and peer-to-peer learning opportunities.

Although the COVID-19 pandemic has significantly impacted the health and well-being of PWUD, harm reduction organizations have made creative adaptations demonstrating their resolve to continue meeting the needs of their participants. Organizations have not only continued to provide participants with harm reduction services, including to meet participants' basic food and hygiene needs, some also expanded their scope to provide COVID-19 education and prevention supplies. Despite their resilience, myriad challenges remain, including reduced funding and resources, high rates of stress and burnout among staff and reduced social connections with PWUD. Policy changes and targeted resources and funding are needed to ensure that harm reduction organizations have the capacity to support their participants through and after the pandemic and that services remain available and accessible.

# INTRODUCTION

On January 24, 2020, the Secretary of the U.S. Department of Health and Human Services (HHS) renewed a determination of a nationwide public health emergency due to the opioid crisis, which was first declared a public health emergency in 2017.[1,2] One week later, on January 31, 2020, the Secretary declared a nationwide public health emergency due to the novel coronavirus.[3]

The impact of the COVID-19 pandemic on the existing overdose crisis has been consequential but not fully understood. Since the onset of the pandemic, overdose and overdose death rates have risen alarmingly across the nation.[4,5,6] The pandemic and subsequent policy responses have caused unprecedented disruptions to daily life, including increased social isolation, loss of employment, loss of housing and decreased access to health care and social services. [7,8,9] People who use drugs (PWUD), and other socially marginalized populations are at greater risk of pandemic-related health, social and economic harms, which also exacerbate risks related to substance use, including overdose and overdose death.[10,11]

Organizations that provide harm reduction services to PWUD have also experienced substantial disruptions to daily operations during the pandemic and, in some cases, have suspended services.[12] However, in response to the increased health, social and economic risks among PWUD, many harm reduction organizations have quickly innovated and adapted to meet participants' needs, while also protecting the health of staff and complying with local, state and national regulations and guidelines.

To better understand the impact of the COVID-19 pandemic on harm reduction services for PWUD and participants of harm reduction programs, the National Council for Behavioral Health, with support from the CDC, conducted an environmental scan consisting of a literature review and key informant interviews with harm reduction services providers. Key findings are described below.

# BACKGROUND

For more than two decades prior to the onset of the COVID-19 pandemic in the U.S., communities across the country faced an overdose epidemic resulting in nearly 450,000 opioid-involved overdose deaths between 1999 and 2018.[13] Notably, between 2017 and 2018, overall opioid-involved death rates decreased by 2%; however, rates began rising again in Spring 2019.[14] Since the onset of the COVID-19 pandemic, overdose rates have increased significantly. There were 83,544 reported overdose deaths in the 12-month period ending in July 2020, based on provisional data.[15] Nationwide, reported overdose death rates are estimated to be 22.8% higher in July 2020 compared to July 2019, with all but three states showing an increase in overdose deaths (exceptions include Alaska, North Carolina and North Dakota).[16] In the remaining states, increases in overdose deaths between July 2019 and July 2020 range from 3.2% in New Hampshire to 56.8% in the District of Columbia.[17]

Despite the high rates of overdose and overdose deaths across the nation, overdose and other substance use-related harms are preventable. Evidence-based harm reduction practices and strategies exist across a continuum of care for PWUD and PWSUD.[18,19] Additionally, harm reduction strategies have been adopted by a range of organizations, including syringe services programs (SSPs), public health agencies, coalitions, recovery community organizations, opioid treatment programs (OTPs), mail-based supply distributors, hospitals, community behavioral health organizations and others.

While no universal definition of harm reduction exists,[20] the National Harm Reduction Coalition defines harm reduction as "a set of practical strategies and ideas aimed at reducing negative consequences associated with drug use. Harm reduction is also a movement for social justice built on a belief in, and respect for, the rights of people who use drugs."[21] More simply stated, the goal of harm reduction is to "meet people where they're at, but not leave them there."[22] To guide harm reduction practice, the National Harm Reduction Coalition describes eight foundational principles, including the provision of non-judgmental, non-coercive services and care.[23]

Common harm reduction strategies include syringe access and exchange, overdose education and naloxone distribution, safer use education, drug testing, low-barrier access to buprenorphine for opioid use disorder (OUD), safe supply distribution, HIV and hepatitis C testing, wound care, peer support, food, transportation, housing services and linkage to treatment, among others. Organizations that provide harm reduction services are often low-barrier, community-based providers that have gained the trust of PWUD by adopting principles that put the interests of PWUD first. Furthermore, many organizations that provide harm reduction services are led by people with lived experience of substance use.

For purposes of this report, harm reduction organizations are defined as organizations that provide services or supplies to PWUD that have adopted principles and practices to reduce the negative consequences associated with substance use without requiring program participants to stop using substances. Harm reduction organizations vary in the scope and types of services provided, but they share common values based on engaging and supporting PWUD regardless of individuals' readiness to stop using substances or engage in treatment.

Harm reduction services have long been essential to preventing death and improving the lives of PWUD; however, the need for harm reduction services has been intensified due to the COVID-19 pandemic, as demonstrated by increasing rates of overdose.[24] Despite an increased need for services, harm reduction organizations have faced significant challenges to maintaining day-to-day operations during the pandemic.[25] As such, harm reduction organizations have rapidly adapted and innovated to continue to meet the needs of PWUD during the pandemic. This report describes the impact of the COVID-19 pandemic on harm reduction organizations and their participants and identifies strategic adaptations that organizations have implemented to maintain service delivery for participants.

# METHODS

Between September 2020 and February 2021, National Council staff conducted a mixed-methods environmental scan that included a review of published literature and web-based materials and key informant interviews with harm reduction stakeholders.

## LITERATURE REVIEW

Existing published peer-reviewed, white and grey literature was reviewed between September 2020 and February 2021. Because the impacts of the pandemic were occurring at the same time that data were collected, efforts were made to review a broad scope of information that reflected real-time experiences and insights, including national webinars, organizational educational materials and news media, among others.

To identify and analyze existing literature and information, keyword searches were conducted within research databases, national harm reduction organization websites and national technical assistance provider organizations, among others. Reviewed literature and publications were limited to documents published between February 2020 and February 2021. Documents in languages other than English or focused on countries other than the U.S. were not included in the review.

Information sources included:

Academic research databases, including, but not limited to:

- PsychInfo
- EBSCOhost
- PubMed
- CINAHL
- Academic Search Premier
- ProQuest Central
- ScienceDirect

Web-based educational materials and information sources, including, but not limited to:

- National harm reduction email lists and newsletters
- Live and recorded webinars and presentations
- Fact sheets, educational briefs and implementation guides
- News reports

Organizational websites, including, but not limited to:

- Federal, public health agencies and organizations (e.g., CDC, Substance Abuse and Mental Health Services Administration [SAMHSA])
- National, state and local public health agencies and organizations (e.g., National Association of County and City Health Officials [NACCHO], American Public Health Association [APHA], Association of State and Territorial Health Officials [ASTHO], American Psychological Association [APA], American Academy of Addiction Psychiatry [AAAP], American Society of Addiction Medicine [ASAM])
- National harm reduction coalitions and networks (e.g., National Harm Reduction Coalition, North American Syringe Exchange Network [NASEN])
- Organizations that provide harm reduction services (e.g., syringe services, naloxone distribution, overdose prevention and reversal training, medications for opioid use disorder, street outreach to PWUD)
- National technical assistance providers (e.g., National Alliance of State and Territorial AIDS Directors [NASTAD], AIDS United, Addiction Technology Transfer Center [ATTC], Opioid Response Network, Providers Clinical Support System, National Health Care for the Homeless Council, Vital Strategies)
- Research and policy organizations (e.g., Pew Research Center, Network for Public Health Law, Harm Reduction International)
- Universities and academic research centers

Key search terms included:

- COVID-19 (including variants, such as coronavirus, COVID, SARS-CoV-2, etc.) + harm reduction (including variants, such as syringe services, syringe exchange, medications for opioid use disorder, suboxone, etc.)
- COVID-19 + opioid use (including variants, such as opioid use disorder, opioid epidemic, opioid overdose, etc.) + harm reduction
- COVID-19 + substance use disorder treatment initiation (including variants, such as opioid use disorder treatment initiation, buprenorphine treatment initiation, etc.)
- COVID-19 + people who use drugs (including variants)

## KEY INFORMANT INTERVIEWS

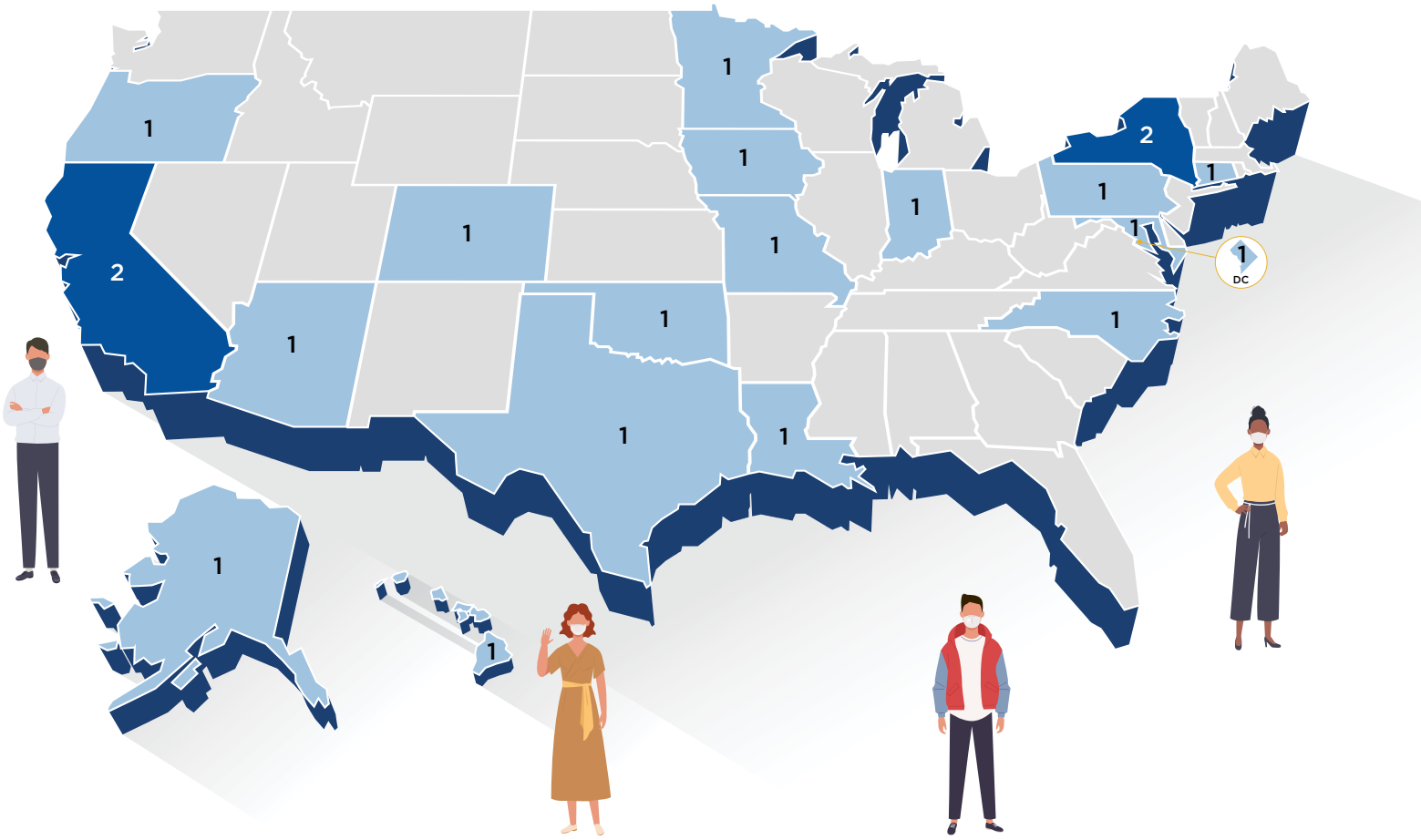
Between September and November 2020, project staff conducted key informant interviews with a sample of leadership from 21 harm reduction organizations that provide services to PWUD. Key informant organizations were identified using the NASEN Syringe Exchange Program Locator.[26] Key informants were chosen based on a number of factors, including geographic location, COVID-19 case and death rates in the organization's service area,[27,28] whether the organization was located in an area deemed to have a high need for OUD treatment providers,[29] whether rates of overdose increased in the organization's state since the onset of pandemic[30] and whether information was available on the impacts or adaptations the organization experienced or made in response to the pandemic.[31]

To facilitate the interviews, a semi-structured interview guide was developed (see Appendix C). Interviews took place using Zoom videoconferencing software and were approximately 60 minutes in duration. Interviews were recorded and transcribed with the consent of the participants. A $75 electronic gift card was provided to each participant as an incentive for completing the interview. Interview data were coded in vivo, using sentences and phrases directly from interviewees, to develop key themes using grounded theory. Codes were then analyzed for patterns and relationships.

## Overview of Key Informants

A total of 21 key informants from 19 states, including the District of Columbia, participated in qualitative interviews (Figure 1). Informants from the same states (California and New York) represented different organizations based in different cities. One informant's organization serves communities across the U.S., while all others provide local or statewide services. All of the key informants were current or former staff of organizations that provided syringe and other harm reduction services and supports to PWUD during the COVID-19 pandemic. Key informants represented diverse geographic locations, including urban and rural areas and served diverse communities and groups, including Black, Indigenous and people of color (BIPOC), people who speak languages other than English, LGBTQ+ communities, people experiencing homelessness and housing instability and people transitioning from correctional settings to the community, among others.

*Figure 1. Number of key informants by state (n=21)*




Preliminary data show that overdose rates have increased since the onset of the pandemic in all 19 states represented by key informants.[32,33] Six of the key informants were located in areas determined as having a high need for OUD treatment by HHS.[34] Among counties where key informants' organizations are based, COVID-19 county cases per 100,000 ranged from 788 in Multnomah County, Oregon to 3,640 in Bronx County, New York. Additionally, COVID-19 fatality rates ranged from 0.73% in Anchorage County, Alaska, to 7.98% in New Haven County, Connecticut.[35] COVID-19 county case and fatality rate data were collected in September 2020. See Appendix D for additional key informant information.

# FINDINGS

Several major themes were identified through qualitative data analysis and the literature review. Findings are categorized into three main topic areas:

**1.** IMPACTS OF THE COVID-19 PANDEMIC ON PWUD.

**2.** IMPACTS OF THE COVID-19 PANDEMIC ON HARM REDUCTION ORGANIZATIONS.

**3.** ADAPTATIONS AND INNOVATIONS MADE BY HARM REDUCTION ORGANIZATIONS IN RESPONSE TO THE COVID-19 PANDEMIC.

# 1. IMPACTS OF THE COVID-19 PANDEMIC ON PEOPLE WHO USE DRUGS

There is limited research available on the detrimental effects and increased risks of the COVID-19 pandemic on PWUD. The available literature and research demonstrates that the pandemic has led to increased health and social risks, including overdose and overdose death, social isolation and disconnection, decreased access to treatment and support services, increased housing instability and homelessness and increased economic instability, among others.[36,37] Qualitative data from key informants support existing research findings and offer valuable insights on the pandemic's impact among harm reduction participants.

## Risk of COVID-19

Few studies exist relating to the prevalence of COVID-19 among PWUD;[38] however, several studies describe increased risks among PWUD for contracting COVID-19 and for having more severe symptoms of the disease.[39] To estimate the prevalence of COVID-19 among PWSUD, in June 2020, Wang and colleagues conducted a retrospective case-control study analyzing electronic health record data from 360 hospitals in 50 states.[40] Among a total of 12,030 patients diagnosed with COVID-19, 15.63% (n=1,880) had a lifetime SUD diagnosis. The risk for COVID-19 was significantly higher among patients who had an SUD diagnosis within the last year compared to patients without an SUD diagnosis within the last year. People with OUD had the greatest risk for COVID-19 among PWSUD. People diagnosed with OUD within the last year were 10 times more likely to have COVID-19 than people without an SUD diagnosis within the last year.[41] People with lifetime diagnoses of SUD experienced more severe outcomes related to COVID-19, including higher rates of hospitalization and death.[42] Researchers cite higher rates of comorbidities among PWSUD and PWUD, including pulmonary and cardiovascular disease, as one reason for increased risk of contracting COVID-19 and for having a greater severity of the disease;[43,44,45] however, the study led by Wang found that people with OUD who had higher risks of COVID-19 did not have higher rates of comorbidities compared to patients with other types of SUD.[46]

In addition, racial disparities have been observed among PWSUD with COVID-19. Wang and colleagues found that African American patients with SUD and COVID-19 suffered worse outcomes, including higher rates of death, than White patients.[47] These findings are consistent with data showing that COVID-19 had a disproportionate impact on African Americans, regardless of whether they have an SUD.[48,49]

While the literature focuses primarily on epidemiological data, key informants discussed observed COVID-19 cases among participants. The majority of key informants reported that rates of COVID-19 were low among their participants at the time interviews were conducted based on participants' self-reporting of disease status or symptoms. Actual rates of COVID-19 among participants were largely unknown by interviewees at the time data was collected. One key informant attributed the low rates of COVID-19 among participants to the fact that many of the participants they serve continued to live outdoors rather than entering the shelter system as a protective factor against COVID-19.

> *Our rates of COVID amongst people who live outside has been really low."*

> *" I was very worried about particularly the encampments because that's a lot of close people.... I was worried about them primarily in the beginning, but there has been no outbreak at any of the encampments we serve. I talk to clients who have older relatives who have gotten sick and/or died. But our clients, no."*

Key informants also described perceptions of risk among participants and how participants have been managing the risk of COVID-19 alongside other health and social risks. While some participants weighed the risk of contracting COVID-19 against remaining unsheltered, interviewees suggested that others felt COVID-19 was just one additional burden on a community already overburdened and vulnerable.

> *Clients don't really feel like COVID-19 is anything different. I mean, we're having to let them know the importance of social distancing, wearing a mask and things of that nature. But I think they have so many other barriers that COVID-19 is not really a priority."*

> *" I wouldn't say that they're worried about [COVID-19]. They're really in survival mode."*

Additionally, some interviewees explained that information about COVID-19, particularly in the first few months of the pandemic, often did not reach participants of harm reduction programs, some of whom are disconnected from regular channels of news and public health education, which may have contributed to a reduced sense of risk around COVID-19.

> *What we found is that our participants knew that something was circulating, weren't exactly sure what it was. Again, you have to think of folks who are very disenfranchised from the news media outlets. The [public health department] relied heavily on news media, on the Internet, on articles, which for our population, isn't something that they get to very regularly. And so I think they needed to do more street-based community outreach that involves subway platforms, commuting hours, neighborhood walks, stopping into the bodegas, literally on the ground really kind of basic public health."*

## Substance Use

The COVID-19 pandemic and subsequent policy responses, such as stay-at-home orders, have also exacerbated substance use among PWUD and PWSUD. Self-reported increases in drug and alcohol use have been documented in the literature. Social isolation and shelter-in-place (SIP) policies have been cited by study participants as stressors linked to increased use.[50,51,52]

A study conducted by Taylor and colleagues in May 2020 of 3,075 adults in the U.S. and Canada found that substance use increased significantly during the pandemic.[53] Twenty-three percent of respondents who used alcohol prior to the pandemic reported their alcohol use increased during the pandemic and 31% of people who used recreational drugs prior to the pandemic reported their drug use increased during the pandemic. Among survey respondents who were in self-isolation at the time data was collected, 26% reported they consumed more drugs or alcohol than they normally would to cope with isolation.[54] Another study conducted by Hochstatter and colleagues between March 2019 and March 2020 assessed changes in substance use and precursors to substance use, such as confidence to remain sober, engagement in recovery support meetings and interactions with other PWUD, during the COVID-19 pandemic among PWSUD and people living with HIV in Wisconsin.[55] While no significant difference was reported in alcohol and marijuana use compared to before the pandemic, use of illicit substances (i.e., heroin, prescription opioids, cocaine, methamphetamine and sedatives) increased from 10% to 18%. Participants also reported decreased confidence in their ability to stay sober, lower rates of attendance at recovery support meetings and increased time spent with PWUD.[56]

Between April 27 and May 8, 2020, the Addiction Policy Forum conducted an online survey with 1,097 people with histories of substance use and family members of PWUD and PWSUD (survey respondents could identify as belonging to more than one of these groups).[57] This survey was administered rapidly to assess impacts of COVID-19 in real-time and did not include a diverse representative sample. The majority of survey respondents were White (88%), non-Hispanic (88%) women (66%) over the age of 26 (95%). Survey results showed that 58% of respondents currently using substances (n=117) reported polysubstance use during the pandemic.[58] The most prevalent substances reported used included alcohol (64%), marijuana (39%), stimulants (33%), opioids (26%) and sedatives (17%). Twenty percent of respondents reported that their family member's substance use increased due to the COVID-19 pandemic. Three percent of respondents reported a non-fatal overdose and 1% reported a fatal overdose occurring since the onset of the pandemic.[59]

Pollard and colleagues conducted a study comparing alcohol use and drinking behaviors before and during the COVID-19 pandemic among a sample of 1,540 adults.[60] Survey respondents were majority White (71.4%), women (57.3%) and younger than the age of 60 (53.6%). From 2019 to 2020, average frequency of alcohol use over the past 30 days increased overall by 14%, among women by 17%, among adults ages 30 to 59 by 19% and among non-Hispanic White individuals by 10%. Days of alcohol consumption increased on average by one day more per month among 75% of adults.[61] Another study of a convenience sample of 1,928 mostly White (89%), high income people conducted by researchers at the University of Texas compared rates of drinking alcohol and associated stressors among three groups: "never drinkers," "non-binge drinkers" and "binge drinkers." The researchers found 60% of "binge drinkers" and 28% of "non-binge drinkers" reported increasing their alcohol consumption following the onset of the pandemic.[62] The average number of drinks consumed on any occasion increased among "binge drinkers" from 3.6 to 6.5 after the onset of the pandemic and from 1.5 to 2.1 drinks among "non-binge drinkers." Stressors related to increased alcohol consumption among "binge drinkers" included the length of time under a SIP order and a previous diagnosis of depression and current symptoms of depression.[63]

## Substance Use-related Health Harms

Reports of increased substance use-related harms, including increased risk of overdose, HIV and skin and soft tissue infections, were also reported in the literature and by key informants. As discussed earlier, increased rates of overdose death have been documented nationwide through provisional data showing overdose deaths increased in July 2020 compared to July 2019 in all but three states (exceptions include Alaska, North Carolina and North Dakota).[64] Increased rates of overdose have also been documented by state and local health agencies.[65] Additionally, an analysis of Kentucky emergency medical services (EMS) runs for opioid overdose between January 14 and April 26, 2020, showed that daily EMS runs for opioid overdose increased following the declaration of a state of emergency, while EMS runs for other conditions leveled or declined during the same time period.[66] In Philadelphia, the number of weekly average EMS calls for overdose events increased from 263 to 275 after a stay-at-home order was enacted and the average number of weekly naloxone administrations by EMS increased from 59 to 65.[67]

Supporting the provisional overdose data, almost all interviewees reported they are experiencing an increase in overdose in their service areas. In addition to opioid-involved overdose, some key informants reported increases in other types of overdose and increased rates of use, including alcohol and methamphetamines.

> *It's typically heroin, opioids, but in the top three was alcohol. A huge increase in alcohol overdoses, which we have never seen and it has never been brought to our attention. But there's a lot more drinking during COVID than there had been."*

> *" We have seen so many people resuming use after periods of sobriety. Our numbers aren't really showing a stark increase in overdoses, but I don't necessarily trust that based on – I mean I called the medical examiner for four clients this month. I confirmed death on four people I know this month."*

Racial disparities in overdose rates since the onset of the pandemic have been demonstrated in public health data in at least one city. In May and June 2020, the Philadelphia Department of Public Health reported higher numbers of non-fatal overdoses among Black, non-Hispanic people compared to White, non-Hispanic people.[68] Additionally, between March 23 and June 30, 2020, the highest number of overdose deaths was among Black non-Hispanic people in Philadelphia, where, prior to the pandemic, the highest number of overdose deaths was among White non-Hispanic people.[69]

While available data are limited, preliminary reports also show increased rates of HIV infection among people who inject drugs during the pandemic.[70,71,72,73] Testing for HIV, hepatitis C and other infectious diseases among PWUD has decreased substantially during the pandemic, increasing the risk of infection.[74,75,76] A study by Taylor and colleagues found HIV testing between March 16 and April 30, 2020, was 86% lower compared to the prior 45-day period at Boston Medical Center (BMC). Among the health system's ambulatory clinics, the drop in testing rates was more pronounced at 92%. As testing has decreased, rates of HIV among BMC patients who inject drugs have significantly increased. Between January and June 2020, the proportion of new injection-associated HIV cases increased to 48% from a baseline of 15%.[77]

Increased risks of skin and soft tissue infections have been discussed in the literature;[78] however, existing epidemiological data is limited. Several key informants reported that rates of skin and soft tissue infection have risen and that the severity of these issues has worsened since the onset of the pandemic. Key informants cited several reasons for the increase in and worsening of skin and soft tissue infections, including reduced access to syringe and safe use supplies, a lack of availability of wound care supplies, a lack of access to clean water for hygiene and sterilizing syringes and other supplies, changes to the drug supply, an inability to safely receive wound care services during the pandemic and a reluctance among PWUD to seek medical care in EDs and hospitals. Key informants ascribed PWUD's reluctance to seek care to several factors, including fear of contracting COVID-19 in medical settings, facing long wait times for care due to the pandemic and discrimination by medical providers because of their drug use.

> *I used to treat abscesses. In my van, I would do I and Ds [incision and drainage] and antibiotics. They don't get that service. They have to go to an emergency room and there they're treated, most of them say, they're really treated like bad and dirty people. They don't really like going. So, it's been very difficult in that way."*

> *" Because we have had a few new analogs pop up that I've never seen before. They're being tested right now to see what's in there. But we had people that were using once or twice and were getting these necrotic, like horrible wounds."*

Related to the increase in skin and soft tissue infections and other substance use-related harms, interviewees across a variety of geographic contexts frequently mentioned the role of the change in drug supply, particularly in the early months of the pandemic. Some informants' communities reported that drugs were increasingly cut with fentanyl, which resulted in rashes of overdose deaths. Others experienced a break in supply and inconsistent access, with participants sometimes turning to drugs they do not usually use.

> *There just wasn't really any [heroin] to find. And when it was, it was not the normal stuff that folks were used to. And so they were going to methamphetamines and then that kind of ended up drying up."*

Disruptions in the drug supply have also been noted in the literature and news media.[79,80,81,82,83] The United Nations Office on Drugs and Crime noted several observed disruptions in the drug supply chain due to the COVID-19 pandemic, including a shortage of poppy lancers (opium harvesters) in Afghanistan, a shortage of buyers in Myanmar following the opium harvest and a shortage of heroin in North America.[84] In Puerto Rico, Abadie and colleagues reported drug selling spots, known as puntos, in rural areas experienced disrupted operations and the availability of drugs had become erratic during the pandemic.[85] Additionally, in the rural Mountain South region (Central Arkansas, East Tennessee and Western North Carolina), drug prices have risen and the amount of fentanyl in methamphetamines seems to be increasing since the onset of the pandemic.[86]

## Impact on Mental Health

In addition to harm to physical health, PWUD and PWSUD face challenges to maintaining mental health during the pandemic. In the aforementioned survey conducted by the Addiction Policy Forum, respondents were asked whether their emotions changed during the pandemic and to identify their top emotions in response to the COVID-19 pandemic. Seventy-four percent of respondents reported that their emotions changed since the onset of pandemic. The top emotions reported by respondents were worry (62%), sadness (51%), fear (51%) and loneliness (42%).[87] Additionally, respondents identified concerns related to the COVID-19 pandemic; the top concerns included becoming infected (48%), spreading the virus (46%), social isolation (40%), loss of job or income (37%) and hospitalization (37%).[88]

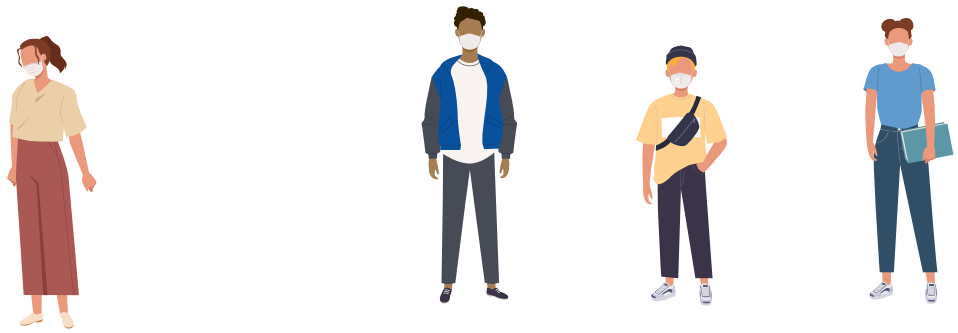
Challenges related to mental health among PWUD were also discussed by key informants. Interviewees nearly universally discussed the isolation that participants experienced and its devastating sequalae, including increased substance use and increases in severity of mental illnesses. Tragically, one interviewee reported that three suicides occurred in their community during the pandemic.

> *Social isolation, using alone, being stuck in the house. Being scared. It's exacerbated any co-occurring mental health disorders people already have. So, it's just, all this is just fueling use and acute flareups of mental health conditions. This is, it's worse."*

> *" Our folks that were housed but dealing with chronic health conditions or mental health conditions, and we went really into that whole isolation of people really struggling. In fact, we had three suicides unfortunately during this time, of people that were housed. And even though we had done, like one of them we were doing daily connections with, had just – because of all of the services being challenged and being able to get one person their MAT [medication-assisted treatment]. … Because the systems were really fractured and getting people their ongoing mental health support, particularly those that struggled with the isolation being a big piece of that."*

Some interviewees also identified mental health services as a highly needed resource for PWUD during the pandemic.

> *Mental health is not being provided as abundantly as before…. [We're seeing] a lot more voluntary admissions to psychiatric facilities and just triage and escort to outpatient mental health. All of that has changed during COVID. You know, so it's a huge need for mental health for people, for everyone, but certainly for people who use drugs and are unsheltered."*



## Social and Economic Harms

The social and economic harms of the COVID-19 pandemic among PWUD put people at higher risk for substance use-related and other health harms and have long-lasting consequences. Perhaps as impactful as the COVID-19 pandemic itself were the ways in which the economic shut-down changed the lives of harm reduction participants. Participants lost jobs, both formal and informal, including income made from the underground economy, which also largely shut down. For example, one interviewee discussed how participants who previously swept the sidewalk outside small businesses for cash lost their means of making money when the businesses closed in the spring.

> *People were losing their jobs, so they didn't have money to purchase the syringes online. Or people who got them through other means such as, veterinary supply stores."*

Additionally, Olding and colleagues commented on how the precarious working conditions of PWUD are exacerbated during the COVID-19 pandemic, including among PWUD who serve as peer workers within harm reduction organizations. During the pandemic, PWUD may be compelled to take on additional shifts and unpaid work to fill staffing shortages, leading to increased stress, burnout and risks of COVID-19 transmission.[89]

> *Within the context of these structural constraints, harm reduction programs' reliance on unpaid, low-wage and precarious labour is likely hindering their ability to deliver services during the pandemic. The COVID-19 pandemic has produced another layer of responsibilities (e.g., sanitation and social distancing measures) on a workforce already struggling to contend with limited resources and worsening housing and overdose crises."*[90]

## Criminal Legal System Impacts

The criminalization of substance use has long impacted the health, social and economic outcomes of PWUD, resulting in disproportionate harms to BIPOC due to systemically racist policies and practices.[91,92,93] In certain jurisdictions during the COVID-19 pandemic, efforts were made to relax enforcement of some substance use-related crimes,[94] such as halting arrests for low-level marijuana and narcotics possession. This may have alleviated some harms to PWUD; however, increases in policing in response to the pandemic were also noted by key informants.

The harms of existing substance use-related laws, including paraphernalia laws, which often deem fentanyl testing strips, pipes and other harm reduction supplies as illegal, were also brought into clearer focus as significant barriers to preventing harms related to both substance use and COVID-19.[95,96,97]

Additionally, following the killing of George Floyd by police in Minneapolis in May 2020, communities across the nation experienced large protests against police violence.[98] Protests and uprisings in many cities led to further disruptions to accessing essential services and health care. In some cities, policing and enforcement were increased in response to the protests, including the implementation of nightly curfews that led to increased harms among PWUD, especially those experiencing homelessness.[99,100]

BIPOC have been significantly harmed and disproportionately impacted by substance use-related policing, including the War on Drugs.[101] While there is a lack of current data available, several reports demonstrate that BIPOC continue to be unjustly targeted through public safety efforts to enforce COVID-19-related laws. Hawai'i Public Radio reported that Micronesian, Samoan and Black people in Honolulu were arrested at higher rates for violating pandemic-related stay-at-home orders than the general population.[102] Additionally, citing data from the New York Police Department, New York Public Radio found that among 1,250 criminal summonses for drinking alcohol in public since January 2020, 48% were given to Black people and 43% to Hispanic people, compared to only 7% given to White people.[103]

Some jurisdictions temporarily suspended or relaxed arrest and booking procedures for specific substance use and other related crimes in an attempt to reduce risk of COVID-19 transmission.[104,105,106] For example, the Philadelphia Police Commissioner issued a memo on March 17, 2020, revising arrest protocol for crimes, including all narcotics offenses, vandalism and prostitution, among others.[107,108] In addition to reducing arrests and detention, some local jurisdictions released people from jails to reduce disease transmission; however, fewer efforts were made at the state level to release people from prisons.[109,110,111] Despite these changes, COVID-19 rates continue to quickly rise in carceral settings.[112] As of December 2020, the University of California, Los Angeles Prison Law and Policy Program tracked 301,309 COVID-19 cases and 1,935 COVID-19-related deaths among people incarcerated in jails and prisons in the U.S.[113] While the prevalence of COVID-19 among incarcerated PWUD is unknown, approximately 63% of people in jail have an SUD and nonviolent drug offenses account for approximately 20% of people who are incarcerated.[114,115] Risk of death from overdose has been shown to be 129 times greater in the first two weeks following release from prison.[116] People released from correctional settings benefit from linkages to evidence-based treatment and supports for OUD and other SUDs, safe housing, social support and PPE, to decrease risks for COVID-19-related and substance use-related harms.[117,118]

The criminal legal system was a recurring topic of conversations with key informants. Interviewees reported that PWUD experiencing homelessness, in particular, confronted increased upheaval and displacement, as well as increased policing in the name of COVID-19 control.

*With nobody on the streets, that leads to hyper-criminalization of the people who are on the streets."*

*" We have kind of a tenuous relationship with law enforcement, which is not uncommon for syringe exchange.... A lot of the boots-on-the-ground officers have a hard time with our program. And so, with the statewide shut-down order we didn't want our participants to be out driving to the syringe exchange, get pulled over. Here in [state] it's a level six felony to possess a syringe for illicit drug use, in spite of syringe exchange legalization. So, we didn't really want to exacerbate the issues with law enforcement by encouraging our participants to be out, even it was just to go directly to and from the syringe exchange."*

Several key informants also discussed the importance of decriminalizing drugs and paraphernalia, especially during the pandemic.

*Right now we're working locally on decriminalizing smoking kits and paraphernalia, because particularly with a virus spread the way it is going around, the ability to hand out smoking kits and snorting kits would be a big help as far as not allowing further spread that way."*

*" ... Drug decriminalization laws, like what we have in [city and state], ... that the State's Attorney is not prosecuting low level drug offenses, didn't push things through court at the time of COVID, has not let more lower level drug offenses, has not clogged the detention center. So I hope there's some good drug policy that sticks hat makes sense...."*

Increased police presence also impacted businesses frequented by participants experiencing homelessness that, in some cases, were shut down, contributing to their reduced access to harm reduction services, shelter and basic hygiene.

*We had problems with some of the larger hotels ending their contracts in the first month because they didn't want unhoused folks there anymore. There was state police ... who would be stationed outside of the hotels that would impact the way folks could come and go, as well as folks who were using substances being able to access them and getting access to harm reduction supplies."*

## Barriers to Essential Services

The impact of the COVID-19 pandemic on PWUD's access to essential services and supports is far-reaching, including the ability to meet basic needs and receive health care.

### Impact on Meeting Basic Needs

Harm reduction participants quickly felt the impact of the shut-down, as many local organizations offering support services to meet their basic needs were forced to reduce their operations. Participants were unable to access drop-in centers, soup kitchens, public libraries and restaurants: places where they could go to eat, shower, wash their clothes, charge their phones, access free Wi-Fi and connect with others. These closures were particularly harmful to people experiencing homelessness or housing instability. For services that remained open or re-opened, transportation was frequently cited as a barrier, as it was either shut down completely or operating on a limited schedule.

> *I've never seen people so dirty in the United States in my life than that first month of stay-at-home orders. I mean I've been working with folks who live outside for decades now, and I've never seen anything like how … all of the bathrooms are closed everywhere, right. You can't wash up in the Starbucks if you can't go into the Starbucks. People were just filthy. There was a shortage of sanitation supplies. We couldn't order alcohol wipes, and skin infections were going up."*

> *" We saw a lot of folks not being around where they usually were. Just because a lot of our folks are vulnerable or they're houseless.... And then everything public was shut down for about a month, month-and-a-half. They couldn't even go to the restroom at [local establishment], for example, because the restrooms were closed. Or they weren't able to go sit inside McDonald's because McDonald's dine-in was closed. There was a lot, a lot of barriers. And so people were hard to find. Especially those folks that don't have technology or a way to get a hold of us."*

As previously mentioned, this context of multiple and overlapping barriers forced PWUD to make complex risk calculations. When interviewees were asked which populations they believed were hardest hit by the COVID-19 pandemic, most responded that individuals who were unstably housed, living on the streets or without an address, were most impacted. Informants reiterated that it was not necessarily the risk of COVID-19 impacting participants, but rather the associated socioeconomic risks that emerged as a result. For example, those without a stable working phone or internet connection were unable to maintain connections to support services and health care.

### Access to Health Care Services

Significant disruptions to health care services among PWUD, including access to medications for opioid use disorder (MOUD), were documented in the literature and by key informants. As discussed earlier, factors identified by key informants that impacted access to health care included a fear of contracting COVID-19, changes or suspensions to services and a reluctance to seek medical care due to previous bad experiences, among others. For example, some informants spoke of participants who chose to forgo daily methadone dosing because they feared exposure to COVID-19 while waiting in line for dosing for long periods of time in close contact with other patients. Meanwhile, unstably housed participants could not get services and supplies delivered to them, including methadone treatment in some places, and service providers were often unable to find them to bring services to them.

Existing data also support that at certain points during the pandemic, an increased number of people refused emergency medical transportation or ED services for overdose-related incidents, despite increasing rates of overdose. Kentucky EMS data analyzed the 52 days before and after the declaration of an emergency on March

6, 2020, showed a 71% increase in refusals of transportation for opioid-related runs and a 50% increase in runs for suspected opioid overdose with deaths at the scene.[119] A retrospective study conducted by Rosenbaum and colleagues analyzed data from an ED in Philadelphia, Pennsylvania 100 days prior to and after a SIP order was enacted. During the SIP order, there was a 22% decrease in total number of patients seen in the ED and a 6.8% decrease in patients who experienced an opioid overdose.[120] The researchers concluded that "although the absolute number of opioid overdoses declined during the SIP period, there were proportionally more opioid overdoses during that period, compared to overall ED volume. This suggests that opioid overdoses continued at a large rate despite the SIP order."[121] While the Rosenbaum study was limited to one ED, the Philadelphia Department of Public Health reported that citywide weekly average ED visits for opioid-related overdose decreased from 123 to 118 when the SIP was enacted. Once the SIP order was lifted, the number of ED visits for overdose increased.[122]

Studies also showed significant impacts on SUD treatment utilization, including MOUD, during the pandemic, even when treatment operations were not reduced or suspended. The Addiction Policy Forum survey discussed earlier found that 10% of people using single substances and 17% using multiple substances reported they were unable to access needed services.[123] Additionally, 26% of people using a single substance and 39% using multiple substances reported changes in their treatment or recovery support services following the onset of the pandemic.[124]

Data from four large hospitals in New York City showed that addiction consults decreased by half between March and May 2020 compared to previous months.[125] Furthermore, new referrals for treatment decreased significantly to an average of 17.3 new referrals per month from 41.8 new referrals in the prior time period. During this time period, no changes were made to the staffing or operations of the addiction services within the hospitals.[126]

Similarly, a study conducted of the California Bridge Program (CA Bridge), a statewide initiative to increase access to buprenorphine for OUD in 52 hospital settings, found rapid and significant reductions in ED-initiated buprenorphine in the state following the onset of the pandemic.[127] In April 2020, following a statewide SIP order executed March 19, the CA Bridge program experienced a 37% decrease in the number of patients identified with OUD, 34% decrease in the number of patients who accepted a referral for MOUD, 48% decrease in number of patients prescribed buprenorphine and 53% decrease in number of patients administered buprenorphine.[128] In response to these findings, the CA Bridge program is calling for reduced regulations to increase ED-based OUD treatment in-person and virtually and to develop low-barrier, 24-7 alternate care sites for MOUD.[129]

Researchers in Puerto Rico noted that disparities related to MOUD access were exacerbated by the pandemic. Prior to the pandemic, MOUD was only available to 7% of people who needed it, and despite being deemed an "essential service," access to MOUD was significantly disrupted by social distancing measures, especially in rural areas.[130]

# 2. IMPACTS OF THE COVID-19 PANDEMIC ON HARM REDUCTION ORGANIZATIONS

There are numerous ways the COVID-19 pandemic disrupted and destabilized harm reduction organizations, including suspended operations, increased demand for services and increased staff stress and burnout, among others. Faced with these challenges, many harm reduction organizations adapted and innovated, balancing the needs of participants with staff safety.

## Increased Need for Harm Reduction Services

An increased need for harm reduction services and supplies was documented in the literature and among key informants. Through key informant interviews with staff from five SSPs in large cities, Glick and colleagues found that while the number of persons seeking services from SSPs declined when social distancing measures were put in place, the number of syringes distributed remained the same or increased as a result of SSPs distributing a greater number of supplies to participants.[131]

All key informants interviewed described a large increase in the demand for harm reduction services and supplies, albeit for different reasons. Some attributed the increase in demand to new participants accessing syringe services who lost their jobs and had previously been purchasing supplies at pharmacies. Others attributed the increase in demand to an increase in use, as a response to isolation, increased anxiety and the myriad ways the COVID-19 pandemic impacted people's mental health. Others attributed an increase in street drug use as a result of a decrease in access to MOUD.

> *We actually exchanged more syringes during COVID-19 than we did beforehand."*

> *" The naloxone program also doubled between February and April."*

> *" We had a lot of folks that said, 'I was able to go to Walgreens and buy my own supplies and I can't do that anymore,' and [they] had never accessed syringe services from a harm reduction agency before."*

Despite some new COVID-specific funding made available from the federal government and private foundations, the increase in resources has not been proportional to the demand for harm reduction services and supplies that key informants have experienced. Organizations have been forced to lay off and furlough staff, shift resources to reprioritize which supplies to purchase and which to forgo and limit operational hours. Because of federal restrictions on funding, many harm reduction organizations existed in fairly precarious financial states even before the onset of the pandemic. The increase in demand without a concomitant increase in funding has been detrimental.

> *We have definitely faced a government funding cut, and we have also not been able to do a lot of the things we did to raise money.... We did a lot of just like community things, nightclub things, that would raise money that are not there anymore. And at the same time they're saying that because of all the closures, there just isn't the same tax money this year, so large cuts there.... Everybody's been in some kind of proposal hell, trying to get every little grant they can right now to fill in the blanks."*

## Operational Disruptions

Harm reduction organizations experienced significant disruptions to services and operations, including temporarily and indefinitely suspending certain services. Among a survey of 173 SSPs, 43% reported a decrease in the availability of services and 25% reported that one or more of their sites had closed due to the pandemic.[132] Respondents cited staff safety, staff shortages and instructions from administrative sponsors as the reasons for the closures.[133] Similarly, a study of 65 SSPs in 33 states conducted in March 2020 found 15.4% of SSP respondents (10 programs) discontinued all SSP operations during the pandemic and 72% reduced their hours of operation.[134] Twenty-five percent (16 programs) transitioned to mobile delivery of supplies and the majority of programs discontinued on-site HIV and hepatitis C testing (73.9%).[135]

The majority of key informants reported that at least one service was temporarily suspended because of the pandemic. Hepatitis C and HIV testing were the most common types of services suspended, due to risks of COVID-19 transmission. Many key informants also noted that on-site or office-based services had been suspended; however, most organizations were able to adapt to mobile or outdoor service delivery models. Other types of services that were commonly noted as being suspended by key informants included mutual aid and recovery groups, drop-in centers, trainings on how to use naloxone, transportation, acupuncture and case management.

> *So, before, our outreach workers would do peer support, HIV and hep C testing, as well as outreach. And when all of this happened, we made some rules that they can't be in vehicles with anybody else and that was a big part of their peer support, was transporting people. And so, we're still, unfortunately, at that place where we haven't yet figured out a way to do that safely where everybody's comfortable."*

Additionally, several key informants reported that they had challenges obtaining supplies due to issues with the supply chain.

> *What happened with COVID is that the supply chains broke down. We used to get a lot of supplies from other programs. And that all shut down. And also, our supplies of expired Narcan and naloxone also shut down, because people ship expired Narcan back to [organization] where the office was, but the office shut down. So it was just months where we weren't getting anything."*

## Impact on Workforce

Most of the key informants described impacts on staffing structures and their workforce's emotional wellbeing. Many key informants described staffing reductions due to social distancing measures and to protect staff health, including offering staff opportunities to work from home. Nearly all key informants' organizations had to suspend volunteer programs, usually because it was deemed an unnecessary risk for staff, participants and the volunteers themselves. For smaller organizations with limited staffing, this often severely curtailed their capacity to provide services.

> *Not having volunteers is one of the hardest parts of all of it.... Each of our shifts have two staff and so one's running the exchange, that means HIV testing is limited. Naloxone training and naloxone distribution is limited. Somebody wants to take a lunch break then we can't offer services like that ... it's like logistically just a nightmare without volunteers. I'm still going to figure it out."*

Almost all key informants also described the emotional impact the COVID-19 pandemic had on the harm reduction workforce. Interviewees described sadness, fear, burnout and profound loss of connection among the range of emotions experienced by staff.

> *Our staff are really struggling to not be able to do their job the way they want to do their job. I think it's really hard, along with just being humans in a pandemic with families and all those other things."*

> *" I mean the impact varies because we've had the physical strain, we've had the emotional strain, we've had the mental strain. We work in a really intense taboo area of the health care spectrum. So overdose rates spiking, people losing loved ones, just whether it's overdose … [or] from COVID. It's been very heavy."*

> *It's terrifying. I spend so much time thinking about how to keep myself safe, how to keep my staff safe, how to keep my community safe. How not providing services endangers … it's all constantly on my mind."*

> *There's a very good chance that if I got it I'm going to be fine. But these people, they are not. If I cause an outbreak in there, I wouldn't know how to deal with that even emotionally myself."*

> *" My staff are really burned out. And I'm sure that's true across all harm reduction organizations. Because not only did we never shut down, we actually amped up and did more work in the past seven, eight months than I can ever remember. And so I'm really struggling with compassion fatigue and vicarious trauma amongst my staff."*

Additionally, nearly all interviewees described a devastating loss of connection among staff and between staff and participants due to the restrictions that COVID-19 protections require.

> *It's just the face-to-face time that we really miss. And we do text with people a lot. And sometimes participants will reach out on social media, and we talk to them through there. But it's not the same. I mean, we would love to have a drop-in center so people could just come to us, or maybe at least to the door. And we could, you know, pass things through . . . a window, anything. Just so they can, we can see them and they can see us for a minute."*

> *" That's been the hardest part of dealing with this is, like, I think because our philosophy and strategy of an agency here is really to build community and make people feel welcome and close-knit. And that's really difficult to do when we're saying, 'Don't come in. Don't come close to each other. Stay away; stay safe.' So strategizing how to keep the feeling of that going while keeping people really isolated, which is also so hard for people. It's been really difficult."*

The importance of connection and the challenges with maintaining it during the pandemic were also discussed by Schlosser and Harris, "Social solidarity among PWUD has long been central to harm reduction practice."[136] Social relationships, both among PWUD and between PWUD and harm reductionists, are critical to the efficacy of harm reduction practices, including providing injection assistance, using naloxone to reverse an overdose, sharing drug supplies to avoid withdrawal symptoms and accessing critical resources, such as food and shelter.[137]

Despite these hardships, COVID-19 has forced harm reduction organizations to nimbly adapt to continue to serve the needs of their participants despite novel circumstances. As several interviewees noted, this is not new for harm reduction.

> *Knowing harm reduction and the history of [organization], we're always in a reactive stage, right. [We were] formed due to the reaction to the HIV epidemic in the early 90s with injection drug users. And so, when COVID came it was like another reactive state."*

# 3. ADAPTATIONS AND INNOVATIONS MADE BY HARM REDUCTION ORGANIZATIONS

Faced with tremendous challenges, harm reduction organizations have quickly adapted and innovated to meet the needs of PWUD during the pandemic by altering delivery models, establishing new protocols, integrating technology-based supports and services, creating COVID-19 specific education and outreach materials for PWUD and adopting and expanding mail-based services, among other responses. Harm reduction adaptations and innovations are also described in Appendix A.

## Operational Changes

Nearly all the key informants closed their offices to participants at least temporarily to keep staff, volunteers and participants safe, particularly at the beginning of the COVID-19 pandemic when information about transmission prevention was less understood. When organizations did re-open, often only to minimal, reduced staff, infection control protocols including masking, distancing and disinfecting were commonplace. Some programs installed plexiglass barriers and arrows to denote one-way walking traffic.

> *One of the main things that's been felt, there's been an adaptation to the way we operate and our relationship with the folks that we work with. A lot of times when we're doing especially community-based outreach, when we're on the street, a lot of the folks that we work with are very – we're social people. Here, we want to talk, we want to hug. And a lot of folks we work with, some of that contact is some of the only contact that they have. And so, the pandemic really cut that off in having to really work with folks to explain clearly why, for their safety, we wanted to keep that distance and not reinforce any of the stigmatization that's already happening around them."*

One key informant explained that their organization's 40-foot mobile medical van that provided syringe exchange and other harm reduction services had been temporarily recommissioned to provide mobile maternal and child health services during the pandemic. While some harm reduction services continued to be provided through the van, the organization had to identify other ways to serve harm reduction participants.

> *The 40-foot mobile van has been recommissioned to do newborns and mothers who do not want to go back to clinics for fear of COVID with a new baby. If we do see [harm reduction] patients, we see a few of them out of a front-door window. We ask them what they want or they call us ahead and we basically drop it out of a window to them."*

Another key informant explained that their organization developed a comprehensive operations manual to establish protocols during the pandemic. Additionally, this organization created several new staff positions related to their COVID-19 response efforts.

> *We actually developed a roughly 120-page COVID operations manual for the entire organization, describing in detail re-organization of staff roles, creation of new roles, implementation of infection control guidelines, infection control practices, purchase, inventory and distribution of PPE, and COVID-related warm handoff to testing, quarantine site and hospitalization."*

Some of these changes may leave harm reduction organizations better prepared to serve their participants and fulfill their missions than they were prior to the pandemic. For example, many organizations have invested significant staffing and resources into increased community outreach, including the purchasing of vehicles and mobile outreach equipment. These adaptations and these in-roads into communities of unhoused and unstably housed individuals will presumably extend after the pandemic and benefit those who are unable or unwilling to enter brick-and-mortar harm reduction programs.

At the start of the COVID-19 pandemic, a small number of interviewees described deliberately "slowing down" in order to thoughtfully ensure that staff and participants were kept safe while still prioritizing essential services. This type of planful leadership around difficult decision-making ensures stronger, more stable organizations in the long run.

> *We've had to really slow down and realize it's okay to slow down. Even though the demand is not slowing down and our participants need more and more and more, we have to slow down so that we are keeping ourselves safe and we are keeping the participants safe. We are having to model what safety looks like, because they're looking at us as the example, as well as other harm reduction and similar agencies."*

## Staffing

In addition to other operational changes, many programs very quickly adjusted their staffing models, figuring out creative ways for staff to work from home and/or provide harm reduction services outside the office. Several key informants described designating teams or "pods" of staff to certain days of the week to limit interactions among staff members.

> *Immediately we need to break off into teams. We cannot have all of our staff in the office at one time. As much as we love each other, it's like now we have to be away from each other. So, immediately we went into split schedules.... We had to break staff up into threes or fours, so we broke up into like three or four different groups and just alternated out. So, you come in, get your stuff, get your supplies and then head out, and then another group will come in, get their stuff, get their supplies and they'll head out. So, they never really cross paths."*

> *" What we did is we got into pods that were going to be for a couple of weeks and are now going on seven, eight months of just no interaction with the other pods. I have four people who are part of my team on outreach, and there is another outreach that does other areas and days and they have four people. And we line up events amongst these two groups. Then there's another group of like four people who staff outside in the front of the drop-in center."*

## Supply Distribution

One major adaptation among harm reduction organizations has been transitioning the ways supplies are packaged and delivered, including increasing the number of supplies distributed. Results from national survey data collected by Glick and colleagues identified transitioning to mail-based services, prepacking all supplies for participants and providing delivery or delivery-only services as adaptations implemented by SSPs.[138] Similarly, key informants reported the most common ways organizations were able to get harm reduction supplies to their participants was via home delivery, direct mail and community outreach. While numerous changes to the ways services were delivered were identified, many interviewees emphasized that they continued to provide all of the necessary services to their participants, but that the services sometimes "looked different."

> *In March we shut down the site and switched to all deliveries."*

Several key informants explained they transitioned activities that would generally take place in their offices to outdoor areas.

> *We moved them to the street. And we conducted them from both doors of the building. So we did biohazard collection on the street. We did the syringe service program from open doors, so that there was ventilation and people could be on the street. We had staff out there social distancing. The overdose prevention program, same thing. We moved supply making outside of the building. We had a lot of volunteers and staff that agreed to make supplies, but would not do so in our physical space because of ventilation and other issues and crowding."*

Instead of participants choosing their own supplies a la carte, many programs began prepackaging harm reduction kits as an innovative way to reduce contact.

> *It just makes more sense for us to pack it. And most of our participants, they're not offended that we did it this way. If somebody wants something else, I'll go get it. Like, no big deal at all. But yeah, I think prepackaging it just made a lot more sense than folks having to dig through a cooker's container to grab handfuls."*

> *" In the beginning when COVID-19 hit we started pre-packing up supplies. So we bagged up supplies beforehand, put a table out in front of the van, and put the bags out on the table and we were having people just grab the bag that they needed with the supplies they needed."*

Several organizations also increased the amount of supplies they provided to each participant, so they would need to come back to the program less frequently. For most organizations, this was an informal change, but for a few, it entailed a distinct policy shift, disbanding a one-to-one syringe distribution policy and adopting a needs-based distribution policy. Research supports that needs-based distribution models are more effective at increasing access to sterile syringe supplies and decreasing HIV incidence, compared to stricter one-to-one exchange policies.[139,140,141,142]

Organizations also sometimes coupled increasing supplies with a greater reliance on secondary syringe exchange as another means of getting supplies out to their participants while minimizing in-person contacts. Secondary exchange was a formalized paid program in some organizations and an informal method of distribution for others.

*We really ramped up our naloxone distribution during that time. We actually quadrupled it to make sure that our participants would be covered. And actually in the weeks leading up the state shut-down knowing that that was coming, we had increased our syringe distribution as well, knowing that there might come a time where we're just completely cut off. So, we wanted to make sure people were a little bit prepared for that."*

*" We've seen an increase in the number of people who are exchanging for other people since the pandemic started, so I really think folks are doing a good job of one person coming in for their entire camp kind of situation, things like that. Moving to distribution has really helped people be able to do that, so people do not have to come in."*

*What I've been actually doing is getting the staff to empower the clients more. To have them be more assertive and helping more with secondary exchange and things of that nature because I think they are already out there. So, really, getting clients with lived experiences to be more involved."*

A few of the informants' organizations also began providing harm reduction services at hotels established for the isolation and quarantine of COVID-19 patients and their close contacts, or for people experiencing homelessness with underlying conditions who would be at increased risk of COVID-19.

Nearly all the informants' organizations began distributing PPE as well. Masks, gloves and hand sanitizer were the most common types of PPE dispensed. Additionally, at least two key informants worked with local officials to have hand washing stations installed in areas accessible to PWUD.

*We were stocking folks for the month, rather than before we had been giving folks weekly supplies. We wanted to minimize contact but make sure folks were set for their needs."*

*" We also have to provide masks for folks because they don't have them, obviously. We also do hand sanitation, sanitizer outside before they enter. And the city did give us a handwashing station with soap and water that we've had since April, which has been 24 hours a day, seven days a week outside, which has been really great."*

While many harm reduction organizations had provided snacks, meals or referrals to food pantries and soup kitchens prior to COVID-19, these activities took on primary importance after the COVID-19 pandemic began as participants' basic needs for food and nutrition were not being met.

*At first, the food banks were running out of food. So we started purchasing things that we hadn't purchased before, like food. Right now our entire conference room is just full of food. Things are a little bit better now, where food banks are stocked up, but since there are more people accessing those food banks, since we know that access is already difficult for people who use drugs, that's become a new staple for us."*

*" We now give out more meals than ever before because we're seeing more people who are homeless, who are substance users. We see an increase in populations we're serving, but that has to do with economic inactivity and security in the city."*

> *We connected with an agency through the city, and [foundation] that provides support for hot and ready-to-go meals, and they get delivered to [us]. So, I orchestrated that with them, so we get about two to three hundred meals that are prepared, ready to eat right then and there, that can go out during mobile outreach and fixed outreach sites as well as the drop-in center."*

In many key informants' communities, mutual aid has arisen to fill gaps related to food access, employing creative solutions to meet the nutritional and other needs of communities. In some places, restaurants provide food for people experiencing housing instability. In others, community refrigerators have been installed and local residents and volunteers keep them stocked. Mutual aid has also provided housing support and is meeting other needs of harm reduction participants. Interviewees were often incredibly moved to see community support for a group of people they were used to seeing stigmatized.

> *We ended up doing a lot of mutual aid now with the Black liberation movement in [city]…. And they offer clothes and food and rent and utility help and all sorts of things. We were able to partner with another place that does substance abuse [treatment] for people of color, and then they also do free food constantly every day throughout the week. And then, yeah, then there's another place, they are like LGBTQ, doing PEP [post-exposure prophylaxis] and PrEP [pre-exposure prophylaxis] and HIV and STI [sexually transmitted infections] and all of that. So, yeah. Our mutual aid in [city] has been through the roof and absolutely amazing. And so, they send people to me. I send people to them. It's a really great thing to have friends."*

## Messaging

Prior to the pandemic, "never use alone" was a predominant message from harm reduction organizations to decrease risk of overdose among PWUD. The adoption of social isolation policies by local and state governments greatly disrupted the promotion of social logic practices by harm reduction organizations and forced organizations to identify alternative safe use practices.[143] Safer drug use messaging and information has been tailored in response to social isolation policies to include "minimize contact" and "minimize the need to share your supplies."[144,145] A few key informants described the challenge of weighing risks of COVID-19 with overdose and other substance use-related harms to tailor their messaging.

> *We don't tell anyone not to use with someone else, because we still prefer it even though it's COVID. I'd rather you take the chance and not die, even though COVID could kill you. I don't know, so that's a hard call."*

## Technology-based Adaptations and Innovations

In an effort to maintain social connections, increase access to health care services and provide peer and recovery supports, harm reduction organizations quickly adopted or expanded technology-based services. Some examples of technology-based adaptations and innovations include the adoption and expansion of telehealth for prescribing buprenorphine; hotlines, texting and mobile apps; virtual injection supervision; virtual peer support; and virtual mutual aid meetings, among others.[146]

### Telehealth

To limit risk of COVID-19 transmission through face-to-face treatment visits, while simultaneously increasing access to telehealth treatment services, federal regulations related to telehealth were relaxed. On March 16, 2020, SAMHSA and the U.S. Drug Enforcement Administration (DEA) waived requirements for in-person medical evaluations for schedule II-V controlled substances, including buprenorphine for OUD.[147] Furthermore, on March 31, 2020, the DEA issued guidance allowing prescribing buprenorphine for OUD by telephone only.[148] While methadone inductions for new patients still require an in-person medical evaluation, practitioners can continue prescribing methadone for existing patients via telehealth, including by telephone only, in accordance with guidance issued by SAMHSA on March 16.[149] In addition to regulatory changes, insurers, including Medicare, Medicaid and commercial plans, updated reimbursement policies to include payment for expanded telehealth services, including telephone-only services.[150,151] As telehealth regulatory and insurance policy changes were implemented, community providers began expanding access to screening and MOUD inductions via telehealth for participants.

The Infectious Disease Elimination Act (IDEA) SSP at the University of Miami partnered with the Mitchell Wolfson Sr. Department of Community Services to develop a free medical student-run clinic, TeleMOUD, to meet the needs of PWUD and educate students about harm reduction principles.[152] The clinic was housed within the IDEA SSP, which had intermittently suspended on-site services during the pandemic. Participants enrolled online and were seen virtually by teams of students and attending providers. Prescriptions were sent to pharmacies electronically or by phone. Students provided support to participants throughout their treatment.[153]

Between March 30 and June 8, 2020, the clinic received 31 referrals, scheduled 22 appointments and prescribed MOUD to 15 participants. Of the 15 participants, 12 picked up their prescriptions at the pharmacy and 10 of those participants completed the first follow-up appointment.[154] The creators of the TeleMOUD clinic credit the relaxation of several federal regulations and insurance policies related to telehealth for the project's success, including: 1) waiving face-to-face visit requirements and allowing telephone-only visits for prescribing controlled substances by DEA and SAMHSA, 2) waiving urine drug screens under SAMHSA guidelines for initiation of care and 3) eliminating prior authorization requirements for MOUD.[155] The ability to initiate treatment via telephone only was especially important as many participants lacked the technology necessary to engage in videoconferencing. The TeleMOUD program urges for these policy changes to become permanent, joining harm reduction and addiction medicine advocates across the country calling for permanent changes to telehealth prescribing policies.[156,157,158]

Many key informants also emphasized the importance of being able to prescribe buprenorphine via telehealth and telephone-only and advocated that the temporary regulatory changes become permanent. Some key informants noted that since the pandemic, they have seen an increase in the number of individuals being prescribed buprenorphine. To successfully expand their buprenorphine access, one informant explained that their organization partnered with a community pharmacy that delivered medication to participants. The organization also uses a mobile van with waivered prescribers to meet people in the community five days a week and has distributed mobile phones to participants to keep them connected to providers and the pharmacy.

> *If somebody calls me up on insulin with their glucose, I can treat it. I can up it or lower it. Why do I have to come in and say, 'Give me your glucometer. I want to check and make sure you're right?' The person's not going to die of insulin overdose or hyperglycemia. So, I think trusting patients with their information that they're telling you is really important. These people can be trusted too because it's a disease. When my patient tells me their blood pressure monitor at home is 180 over 70. I go, 'Well, we're not doing a good job, are we? Let me adjust your meds. What are you on? What are you eating?' I can do that over the phone, but why can't I do that with substance use disorder? If you think of it that way, it's so much less judgmental of me as a provider."*

Another key informant offering telehealth for MOUD described their attempt to consolidate assessment, prescribing and picking up medication at a "one-stop shop." Participants use iPads by appointment at the fixed-site syringe exchange to undergo an initial telehealth assessment with a provider who can prescribe medication or refer to a treatment clinic. The organization has identified a number of providers from local clinics and facilities who serve as champions in the community. Participants pick up their medication at a local pharmacy near the exchange after their appointment, or at the treatment clinic to which they are referred. Rather than require participants to visit to a secondary location, the organization is working to streamline the process by bringing MOUD directly to the program.

> *[Participants] can get treatment of hep C and HIV currently at the exchanges, but as far as MAT – and that's why I'm, like, if you could do that, then you should be able to do MAT."*

## Other Technologies

In addition to telehealth, other types of technologies have been adopted or expanded upon during the pandemic, including virtual mutual aid meetings, virtual recovery supports and mobile apps, among others. Most key informants' organizations transitioned to virtual platforms, such as Zoom, to facilitate in-person groups, mutual aid meetings and staff meetings.

> *We created an entire educational series on Crowdcast, just because we couldn't do the community outreach conversations anymore. So, we've adapted online as successfully as one can adapt online when you serve a population that isn't necessarily sitting on their laptop all day like I am."*

One key informant reported that their organization set up a 24-hour text line to assist PWUD in need of supplies or services.

> *Since we initially closed our offices in the very beginning of the pandemic, we set up a text line. We put flyers throughout the community to let folks know it's a 24-hour line. I'm still the one answering it and people still use it in a 24-hour capacity."*

Additionally, several tools have been created for PWUD to minimize risks related to using alone, including Never Use Alone's hotline and the mobile app BeSafe (also known as Brave App). While the specific logistics of each differ, generally, these services connect PWUD to volunteers or "supporters" who can monitor a person's activities and notify EMS if the volunteer or supporter suspects a person is experiencing an overdose. The Never Use Alone hotline asks users to provide their first name, exact location, county and phone number to a volunteer operator. The operator stays on the line while the person engages in drug use. If the person is unresponsive or the operator suspects an overdose or other emergency has occurred, the operator contacts EMS.[159] Similarly, BeSafe app users consent to share their address in the case of an emergency, but they can also set preferences related to privacy and autonomy. For example, users of the BeSafe app can select whether they want their supporter to call EMS or a friend or family member during an overdose.[160]

## Barriers and Challenges to Technology-based Adaptations

Limitations to telehealth and technology-based services and supports were also noted by several interviewees, particularly related to non-MOUD services, such as mental health therapy and group sessions. Challenges largely centered on PWUD's lack of access to technology or ability to engage with technology, as well as the impersonal nature of connecting virtually versus in-person. Despite increased reimbursement by payers, at least one key informant also noted challenges related to getting telehealth reimbursement.

> *A lot of the providers are still not up to full capacity. We also have, you know, they're doing mental health therapy by telemed, right? But again, when you're working with unsheltered people or housing unstable people who are low income, whose phones are turned off regularly, how can you really do telemedicine for therapy?"*

> *" We'd have a Buddhist recovery group. We would have a strictly trans recovery group. We can't do those things anymore. Which I know people needed those accesses, especially the trans community, who is very scared. There's a lot of trauma. And it accompanies being trans. And we provided a safe place for them for their recovery. And we can't give that anymore. It's not the same over Zoom. It's impersonal. It just, it falls flat compared to actually being in a room with people. So, yeah, that really impacted our ability to provide adequate, in my opinion, adequate support groups."*

> *The technology is hard, a lot of people don't have access to it, and internet here in general's not great."*

> *We did have quite a few people engaging with … telehealth, but the way the insurance is set up here, they nixed that back in late June. Medicaid just didn't want to pay for it. They didn't see a reason to pay for a full visit when people were just calling in. So a lot of the providers went to, well, you have to come back in."*

> *" A lot of the folks we work with are just experiencing so much precarity that they don't have access to that technology. If we gave them [phones], it would be stolen or broken or, you know."*

Additionally, some key informants were asked whether they were aware of their participants' use of mobile apps or hotlines like BeSafe or Never Use Alone. A few key informants answered that they were aware of the existence of these tools, but felt they were not being used by their participants. Key informants cited privacy concerns and the related mobile phone costs as reasons their participants are not using these tools.

> *I know what you're talking about [mobile apps/hotlines]. But only from, like, meetings with other people in agencies. I don't know of anybody using it."*

> *" I've had so many conversations with clients about it [mobile apps/hotline], and they're just not interested. They don't want a stranger to call 911 on them. I do worry about folks who are housed. Like un-housed folks aren't alone in the same way. And I do think there are people – there are people who would use those apps and do use those apps, but the majority of my clients when I'm, like, 'Hey, you know this is an option,' they're, like, 'Yeah, I would never do that.' If for no other reason, like, if you're paying by the minute for your phone."*

## Partnerships and Collaborations

Both within harm reduction communities and within broader communities of non-profit organizations that provide social services, interviewees described new channels of communication opening and creative partnerships developed to meet the various needs of their communities.

> *The partnership that we're working on with [organization] is, I think, probably something that wouldn't have come to our minds without [COVID-19]. So, yeah, really making sure that we have these novel ideas of getting supplies into communities so that everyone has access."*

> *" Because of COVID and people having to depend on other agencies for things more, I think it's kind of brought – there's only a few syringe programs and harm reduction programs in [state]. It's brought us kind of closer and working as more as a team, which we didn't really do before."*

Collaborative efforts to address the impacts of the pandemic among PWUD are also documented in the literature. In New Haven, Connecticut, an ad hoc group of academics, activists, advocates, health care providers and other services providers formed the New Haven Harm Reduction Working Group (NHHRWG). Facilitated by faculty from Yale's Addiction Medicine and Global Health Justice programs, the NHHRWG focused on the following activities: estimating the size of at-risk populations; developing educational materials for PWUD; disseminating information and guidance to community members in multiple languages and through social media, webinars and a podcast; changing methadone administration protocols to increase take home supplies; and changing policies related to substance use within a local homeless shelter from a no tolerance rule to a "don't ask, don't tell" approach.[161]

Similarly, the Oregon Health and Science University Addiction Consult Service formed the Oregon SUD resource collaborative (ORSUD), led by four medical students. The ORSUD worked with local providers, safety-net organizations and other organizations that serve PWUD to develop a real-time capacity and needs assessment and disseminate operational and capacity changes in local SUD treatment and services to the community. The ORSUD developed an electronic survey that was initially administered to more than 100 providers and programs daily, then on a less frequent basis to assess changes in capacity. The information collected from the survey was shared via a public document that was updated every day. The ORSUD also crowdsourced monetary donations and

supplies to support safety-net organizations and their participants; efforts were also taken to connect community partners with PPE. The ORSUD also created a community pharmacy mapping project to identify potential barriers to buprenorphine and naloxone access. Additionally, the ORSUD partnered with local harm reduction organizations and a walk-in buprenorphine clinic and developed a low-threshold, low-barrier buprenorphine provider list.[162]

## Resources and Tools

Soon after the onset of the pandemic in March 2020, numerous harm reduction organizations, PWUD, coalitions and allies began developing educational materials and guidance documents for PWUD and for other harm reduction organizations. Resources and tools were disseminated through webinars, shared Google documents that were updated in real time, handouts, email listservs and other means. National organizations and agencies, including the CDC and SAMHSA, also quickly published guidance documents.[163,164] When asked about which resources and tools were most helpful, key informants often cited these materials and opportunities to learn from other organizations in real-time through webinars and other types of peer-to-peer meetings. Examples of COVID-19 tools and resources related to PWUD are in Appendix B.

Generally, interviewees found the transition to virtual educational opportunities beneficial. In particular, those in more rural areas and who work for organizations serving a large geographic area noted that with the rise of virtual conferences, trainings and meetings, their staff has had increased access to education, resources and support. Whereas cost had previously prohibited organizations from sending staff to events that required long-distance travel, now staff can attend, learn new skills and meet and learn from other colleagues in the field.

However, despite the rapid distribution of educational material and information, informants often felt like they were wading through uncharted territory.

> *There was no blueprint. There's no blueprint for any of this, there's no blueprint for anything going on right now."*

The willingness of the harm reduction community to share information, support and lessons learned, even during incredibly challenging times, was evidenced by the generous amount of time key informants took to speak with interviewers for this project.

> *I love the work we do. I'm proud of the work we do. I want to help everyone do the work and so, yeah, anything I can do to be helpful or supportive, please let me know."*

# LIMITATIONS

There are several important limitations to note. It is well-documented that certain populations, including BIPOC communities, are facing disproportionate impacts during the COVID-19 pandemic. It is likely that the extent of the harms faced by marginalized and historically oppressed people is not yet known. The findings presented in this report do not include a thorough discussion of the disparate impacts of the COVID-19 pandemic on specific communities of PWUD. Additionally, due to the fact that the COVID-19 pandemic continues to impact communities across the country, new information and data relating to the pandemic and its impact on PWUD and harm reduction organizations is regularly being released and published. This report included information available as of February 2021. Similarly, the experiences related to the COVID-19 pandemic among harm reduction organizations are constantly evolving. It is likely that changes have occurred within key informants' organizations since qualitative data was collected in November 2020. One important development since data was collected from key informants was the approval and early distribution of COVID-19 vaccines.

# CONCLUSION

Despite facing considerable challenges during the COVID-19 pandemic, harm reduction organizations have remained resilient and have adapted and innovated to continue meeting participants' needs. The pandemic and related impacts, such as economic shut-downs, have exacerbated the myriad inequities that PWUD face in their lives, including the most basic of human needs. Harm reduction organizations have developed creative strategies to meet the increased demand for services, despite contending with reduced funding and resources, difficulty maintaining contact with participants and high stress and burnout among staff.

Examples of promising adaptations and innovations implemented by harm reduction organizations during the pandemic that should be considered for replication include:

- Transitioning one-for-one syringe exchange models to needs-based models.
- Increasing the amount of supplies distributed per encounter to reduce the need for frequent in-person interactions.
- Expanding peer-based models and secondary exchange.
- Increasing access to harm reduction supplies via mail-based distribution and home delivery.
- Increasing access to mobile harm reduction services.
- Providing participants mobile phones and tablets to increase access to telehealth services.
- Implementing virtual recovery support services, including peer support.
- Increasing access to food, PPE and basic needs supplies through partnerships with mutual aid and other community-based organizations.

Additional harm reduction adaptations and innovations are also described in Appendix A.

As the COVID-19 pandemic persists, and in many communities worsens, so will the health and social inequities that PWUD experience. While organizations continue to do their best with the resources available to them, there is a clear need for increased support, including funding and resource allocation and policy changes, for them to maintain and enhance their service delivery. Despite the tremendous challenges faced by harm reduction organizations during the pandemic, they have shown incredible commitment to serving PWUD and contributing to collective efforts to improve the lives of PWUD, including by participating in this project.

# APPENDIX A. Examples of Harm Reduction Adaptations and Innovations in Response to the COVID-19 Pandemic

| TYPE OF ADAPTATION | DESCRIPTION |
|---|---|
| **Education and messaging** | "Never use alone" messaging adapted to "minimize close contact with others."[165,166] |
| | Deliver education through nontraditional channels of communication (e.g., mobile apps, peer networks, social media) and in different languages and formats.[167] |
| **Technology** | Virtual peer support services.[168,169] |
| | "Never use alone" hotlines and mobile applications.[170] |
| | Virtual injection supervision.[171] |
| | Donated mobile phones and tablets to facilitate low-barrier telemedicine connections with participants receiving community-based services.[172] |
| | Creation of a medical student-run TeleMOUD clinic.[173] |
| | Established 24-hour text line to assist participants in need of supplies or services.[174] |
| | Implemented "telephone booth" model to provide participants access to telehealth on-site at syringe exchange.[175] |
| | Piloted three-part mobile health intervention, including a wearable device to detect substance craving and stress biomarkers, a mobile app offering dialectical behavior therapy (DBT) interventions and a clinician-facing portal to support the treatment team.[176] |
| | Developed one-on-one phone-in service to provide participants SMART Recovery remotely, including social support, cognitive behavioral techniques and referrals to resources.[177] |
| | Established 24-hour hotline to serve as a "tele-bridge" clinic and connect individuals with moderate to severe OUD with a provider to conduct an assessment and prescribe buprenorphine as needed.[178] |
| **Policy change** | Relaxed drug screening requirements for buprenorphine treatment for OUD.[179,180,181] |
| | Relaxed drug prescribing requirements for methadone treatment for OUD for existing patients.[182] |
| | Expanded insurance reimbursement policies to include payment for telehealth services, including telephone-only services.[183,184] |
| | Applied for essential service designation to obtain more PPE and supplies.[185] |
| | Advocated for changes in enforcement of nonviolent crimes, including those related to substance use, and early release of people with serious health conditions who are incarcerated.[186] |

| TYPE OF ADAPTATION | DESCRIPTION |
|---|---|
| **Operational change** | Transitioned indoor services to outdoor locations.[187,188] |
| | Closed or reduced office space to participants and implemented infection control protocols (e.g., masking, distancing, disinfecting, installing plexiglass barriers, setting social distancing markers).[189] |
| | Established "food truck" model to provide mobile services from separate windows of the mobile vehicle.[190] |
| | Developed a COVID-19 operations manual to establish protocols around infection control, staff roles, provision of harm reduction services and linkage to care.[191] |
| | Installed handwashing stations and portable lavatories.[192,193] |
| | Transitioned from on-site buprenorphine dispensing to "coordinated pharmacy" model to provide buprenorphine at local pharmacies for participants referred by the program who lacked identification or insurance.[194] |
| **Staffing** | Established designated teams or "pods" to limit interactions between staff.[195] |
| | Incorporated harm reduction workers into hospitals' COVID-19 recuperation unit staff to provide supplies and services, promote harm reduction policies and principles, provide de-escalation training and refer to services upon discharge.[196] |
| **Supply distribution** | Transitioned from distributing supplies freely to prepacking all supplies for participants and distributing supplies via mail, mobile and contactless delivery.[197,198,199] |
| | Transitioned from one-to-one syringe exchange to a needs-based distribution model.[200,201] |
| | Enhanced secondary syringe exchange through formalized paid program or informal increases in distribution.[202] |
| | Installed flags on mobile vehicles to be easily identifiable for participants to flag down staff to receive supplies and services.[203] |
| | Piloted a managed alcohol program to dispense controlled amounts of alcohol to individuals residing in designated quarantine hotels and connect them to treatment and care after discharge.[204] |
| | Piloted mobile van delivery of extended-release naltrexone and buprenorphine and counseling as needed for young adult patients.[205] |
| | Hosted "drive-thru" events to provide naloxone training and distribute take-home naloxone kits.[206] |
| **Partnerships and collaborations** | Established cross-sector collaboratives and working groups to share real-time data, develop and disseminate educational materials, provide policy updates, advocate for relaxed policies related to substance use with community partners (e.g., homeless shelters) and crowdsourcing to provide harm reduction supplies and PPE to community partners.[207,208] |
| | Engaged with mutual aid groups and community partners to meet participants' basic food and housing needs.[209] |
| | Development of list of low-barrier/low-threshold buprenorphine providers agencies and organizations.[210] |
| | Development of "one-stop shop" to consolidate MOUD assessment, prescribing and picking up medication at syringe exchange (in progress).[211] |
| | Established partnership between low-barrier addiction medicine bridge clinic and harm reduction organization conducting street outreach to facilitate tele-buprenorphine inductions.[212] |
| **Data collection** | Development of a pharmacy mapping project that identified potential barriers to buprenorphine and naloxone dispensing at local retail pharmacies.[213] |

# APPENDIX B. Resources and Tools

| TYPE OF RESOURCE | TITLE | SOURCE | DATE | DESCRIPTION |
|---|---|---|---|---|
| **Resources and information** | COVID-19 Q&A for People Who Use Drugs or Have Substance Use Disorder | CDC | 2020, December | Provides answers to a series of questions related to COVID-19 risks among PWUD and PWSUD. |
| **Guidelines** | Interim Guidance for Syringe Services Programs | CDC | 2020, May | Provides guidance to SSPs on education, prevention and screening of COVID-19. |
| **Resources and information** | Coronavirus (COVID-19) SAMHSA Resources and Information | SAMHSA | 2020, December | Provides a list of COVID-19-related resources for people with behavioral health conditions, including PWSUD and PWUD. |
| **Resources and information** | COVID-19 Updates and Resources | NASTAD | 2020, December | Provides a list of resources and information relevant to people at risk for HIV and hepatitis, including PWUD and sex workers. |
| **Respite facility procedure manual** | COVID19 Respite Facility for People Experiencing Homelessness: Procedure Manual | City of New Haven, Connecticut | 2020, April | Procedure manual for City of New Haven respite facilities, which includes guidance related to substance use based on harm reduction principles and practices. |
| **Assessment and resource manual for organizations serving PWUD and PWSUD in Oregon** | Oregon Substance Use Disorder Resource Document | Oregon Substance Use Disorder Resources Collaborative (ORSUD) | 2020, December | A real-time capacity needs assessment for local safety net programs and organizations for PWSUD during COVID-19 |
| **Policy brief** | Policy Brief: Disasters and Substance, Implications for the Response to COVID-19 | National Association of State and Drug Abuse Directors | 2020, December | Provides policy recommendations related to protecting the health of PWSUD and PWUD during disasters. |
| **Guidelines** | Interim Guidance for Syringe Services Programs | CDC | 2020, May | Provides guidance to SSPs on education, prevention and screening of COVID-19. |
| **Brief** | Syringe Services Programs & Harm Reduction Programs as Essential Services | AIDS United | 2020, December | Describes the impact of COVID-19 on drug user health, the main services of SSPs and importance of SSPs during the COVID-19 pandemic. |
| **Resource compilation** | Harm Reduction Amidst the COVID-19 Pandemic | National Harm Reduction Coalition | 2020, December | Compilation of resources related to protecting the health of PWUD during the COVID-19 pandemic. |

| TYPE OF RESOURCE | TITLE | SOURCE | DATE | DESCRIPTION |
|---|---|---|---|---|
| **Provider fact sheet** | COVID-19, Surface and Disinfection for Syringe Service Providers and Other Harm Reduction Providers | Vital Strategies and National Harm Reduction Coalition | 2020 | Provides guidance to SSPs and other harm reduction providers on effective cleaning and disinfection practices during the COVID-19 pandemic. |
| **Resource compilation** | COVID-19 Resources: For people who use drugs, people who engage in sex work and people vulnerable to structural violence | National Harm Reduction Coalition | 2020, September | Compilation of resources related to protecting the health of PWUD during the COVID-19 pandemic. |
| **Client education handout** | Safer Drug Use During the COVID-19 Outbreak | Vital Strategies and National Harm Reduction Coalition | 2020, March | Two-page guide for PWUD on safer drug use during the COVID-19 pandemic. |
| **Client tip sheet** | COVID-19 Stimulant Use, and Harm Reduction | Vital Strategies and National Harm Reduction Coalition | 2020, May | Tip sheet for safer stimulant use during the COVID-19 pandemic. |
| **Fact sheet** | Administering Naloxone During the COVID-19 Pandemic | Vital Strategies and National Harm Reduction Coalition | 2020 | Guidance and frequently asked questions related to administering naloxone during the COVID-19 pandemic. |
| **Client fact sheet** | COVID-19 Symptoms: What People Who Use Drugs Need to Know | Vital Strategies and National Harm Reduction Coalition | 2020 | One-page fact sheet for PWUD describing the symptoms of COVID-19. |
| **Fact sheet** | Sex Work, COVID-19 and Harm Reduction | Vital Strategies and National Harm Reduction Coalition | 2020 | Provides tips for sex workers, sex worker clients and allies related to protecting the health of sex workers during the COVID-19 pandemic. Also provides links to additional guides and resources. |
| **Provider education handout** | Syringe Services and Harm Reduction Provider Operations During the COVID-19 Outbreak | Vital Strategies and National Harm Reduction Coalition | 2020, March | Two-page guide for SSPs on how to prevent COVID-19 and safely provide services to PWUD during the pandemic. |
| **Webinar** | Effective Harm Reduction Responses to the Worsening Overdose Crisis Caused by COVID-19 | Drug Policy Alliance | 2020, October | One-hour webinar featuring several experts discussing harm reduction responses during COVID-19. |
| **Webinar** | New Frontiers: Drug Use, Harm Reduction, and Essential Services in the Time of COVID-19 | Drug Policy Alliance | 2020, June | Two-hour webinar featuring harm reduction providers from the field discussing the impacts and responses to the COVID-19 pandemic. |

| TYPE OF RESOURCE | TITLE | SOURCE | DATE | DESCRIPTION |
|---|---|---|---|---|
| **Webinar** | Syringe Services Programs Are Essential Public Health Infrastructure: Providing Services During the COVID-19 Pandemic | CDC, NASTAD and National Harm Reduction Coalition | 2020, July | One-hour webinar featuring CDC, the Harm Reduction Coalition and harm reduction services providers discussing the roles and responses of SSPs during the COVID-19 pandemic. |
| **Webinar** | Increased Access to Medications for Opioid Use Disorder during the COVID-19 Epidemic and Beyond | Network for Public Health Law | 2020, July | Ninety minute webinar describing COVID-19-related legal and regulatory modifications and how they are being used to increase access to OUD treatment, and opportunities to permanently increase access to MOUD. |
| **Video** | Harm Reduction Services During COVID-19 | Maryland Department of Health | 2020, December | Eleven-minute video showing how various organizations provided harm reduction services in Maryland during the COVID-19 pandemic. |
| **Policy guidance** | How to Prescribe Controlled Substances to Patients During the COVID-19 Public Health Emergency | Drug Enforcement Administration | 2020, March | Decision tree that guides providers through the steps to prescribing buprenorphine and other controlled substances during the COVID-19 pandemic. |
| **Policy guidance** | Supporting Access to Telehealth for Addiction Services: Regulatory Overview and General Practice Considerations | American Society of Addiction Medicine | 2020, September | Guidance on regulatory and practice issues related to the use of telehealth during the COVID-19 pandemic. |
| **Checklist** | Ongoing Management of the Continuum of Addiction Care During COVID-19 | American Society of Addiction Medicine | 2020, September | A checklist of considerations for substance use treatment clinicians and programs during the COVID-19 pandemic. |
| **Guidance** | Adjusting Drug Testing Protocols | American Society of Addiction Medicine | 2020, September | Guidance and recommendations related to adjusting drug testing protocols during the COVID-19 pandemic. |
| **Guidance** | Promoting Support Group Attendance | American Society of Addiction Medicine | 2020, November | Recommendations for conducting virtual support groups during the COVID-19 pandemic. |
| **Guidance** | Treating Unhoused People with Addiction During COVID-19 | American Society of Addiction Medicine | 2020, September | Guidance and recommendations for providing services to people experiencing housing instability with SUD during the COVID-19 pandemic. |

# APPENDIX C. Key Informant Interview Guide

Thank you for agreeing to participate in this interview. The National Council for Behavioral Health, with support from the Centers for Disease Control and Prevention (CDC), is collecting information to better understand factors that have impacted harm reduction services during the COVID-19 pandemic and identify innovative strategies that have been implemented in response to the pandemic. Understanding your experience, innovative practices, resources used and lessons learned is valuable information. Your input will help inform the development of educational resources and technical assistance tools to help other harm reduction providers provide better and more comprehensive services during the pandemic and in the future.

This interview is completely voluntary and will take no more than 60 minutes to complete. Please feel free to stop the interview at any time. To facilitate information gathering, we would like to record this interview. The interview recording, transcript and notes will not be shared with anyone outside of the project team. We will seek your permission to use any direct quotes in any materials that are developed. For your time, you will receive a $75 electronic gift card via email in approximately two weeks.

## INTERVIEW QUESTIONS

### COVID-19 Impacts

1. How has the COVID-19 pandemic impacted your organization?
2. How has the COVID-19 pandemic impacted your organization's ability to provide harm reduction services in the same way or same capacity as before the pandemic?
3. What impact has the pandemic had on staffing?
4. What services or supports have been reduced or suspended, if any?
5. What have been the biggest service delivery challenges or stressors during the pandemic for your organization?
6. Has the pandemic affected people's ability to access your services and, if so, how?
7. Have you found that people need your services more than before the pandemic and, if so, why?
8. Which services have been in highest demand during the pandemic?
9. Which populations are successfully being reached during the pandemic and which populations are being missed?
10. Why are certain populations being missed during the pandemic?
11. How have referrals and linkages to other services and treatment provided by your organization been affected by the pandemic?
12. How has your organizational funding for harm reduction services been impacted by the pandemic, if at all?
13. How have pandemic-related state and federal policies impacted access to harm reduction services in your organization?
14. How have quantities and the availability of harm reduction supplies been affected during the pandemic?
15. Have some harm reduction supplies been in higher or lower demand since the pandemic?

## COVID-19 Adaptations

1. Has your organization adapted services or supports in response to the COVID-19 pandemic? If so, how?
2. Have you introduced new services or strategies during the pandemic? If so, which ones?
3. Have you expanded existing services or supports during the pandemic? If so, which ones?
4. How has your organization modified harm reduction messaging in light of the pandemic, if at all?
5. Does your organization do street or residence-based outreach and if so, how has that changed during the pandemic?
6. Did you use telehealth pre-COVID-19? If so, how has telehealth had an impact on your ability to provide harm reduction services during the pandemic? If not, have you started to make use of this technology and, if so, how?
7. What types of tools and resources has your organization found helpful to adapt during the pandemic?

## Evaluation and Sustainability

1. What types of evaluation data related to harm reduction services is your organization collecting during the pandemic, if any?
2. Is your organization tracking outcomes related to newly introduced or expanded strategies or adaptation in response to the pandemic?
3. To what extent have new strategies been effective in meeting the needs of people who use drugs during the pandemic?
4. Which strategies are likely to become part of future service delivery? Why?
5. What types of resources will be necessary to continue to provide newly introduced or expanded services in the future?

## Organizational Overview

1. What is your role within your organization?
2. Approximately how many staff are employed by your organization?
3. Approximately how many individuals are served annually?
4. What types of populations are primarily served? For example:
    - People experiencing homelessness and housing instability
    - Black, Indigenous and people of color (BIPOC) communities
    - Rural communities
    - People transitioning from correctional settings to the community
    - LGBTQ+ communities
    - People transitioning from hospitals/ emergency departments back to the community
    - Jurisdictions with a lack of MOUD treatment providers
    - PWUD over the age of 55
    - People with co-occurring disorders
    - Pregnant women
    - Young adults
5. What types of services does your organization provide? For example:
    - Syringe services
    - Naloxone distribution
    - Overdose prevention and reversal training
    - Medications for opioid use disorder (MOUD) (e.g., buprenorphine, methadone, naltrexone)
    - Linkage to SUD treatment
    - Education and outreach
    - Fentanyl testing strips distribution
    - HIV/HCV testing
    - Wound care
    - Mobile services
    - Technology-assisted services (e.g., mobile apps, telehealth, texting)
    - Overdose response
    - Peer recovery support services
    - Case management
    - Housing assistance
    - Employment assistance
    - Food assistance
    - Legal assistance
    - Medical care
    - Dental care
    - Mail services

## Additional Comments

1. Is there anything else you would like to share with us today?

# APPENDIX D. Key Informant Information

| HHS Region | County/ Parish | State | High need for OUD treatment providers?[214] | Did state rates of opioid OD increase since the onset of COVID-19? | COVID-19 county cases per 100,000[215] | COVID-19 county fatality rate[216] |
|---|---|---|---|---|---|---|
| 1 | New Haven | CT | No | Yes | 1,623 | 7.98% |
| 2 | Bronx | NY | No | Yes | 3,640 | 7.67% |
| 2 | New York | NY | N/A | N/A | N/A | N/A |
| 3 | Washington | DC | No | Yes | 2,052 | 4.27% |
| 3 | Baltimore City | MD | Yes | Yes | 2,505 | 3.12% |
| 3 | Philadelphia | PA | Yes | Yes | 2,202 | 5.05% |
| 4 | Mecklenburg | NC | No | Yes | 2,428 | 1.23% |
| 5 | Marion | IN | Yes | Yes | 2,040 | 3.87% |
| 5 | Hennepin | MN | No | Yes | 1,937 | 3.67% |
| 6 | Travis | TX | No | Yes | 2,897 | 1.32% |
| 6 | Orleans | LA | Yes | Yes | 3,085 | 4.84% |
| 6 | Tulsa | OK | Yes | Yes | 2,970 | 0.92% |
| 7 | Linn | IA | No | Yes | 1,207 | 1.64% |
| 7 | St. Louis | MO | No | Yes | 2,169 | 2.92% |
| 8 | Denver | CO | Yes | Yes | 1,843 | 3.29% |
| 9 | Maricopa | AZ | No | Yes | 3,096 | 2.29% |
| 9 | Los Angeles | CA | No | Yes | 2,484 | 2.44% |
| 9 | Honolulu | HI | No | Yes | 949 | 0.87% |
| 9 | Alameda | CA | No | Yes | 1,190 | 1.61% |
| 10 | Anchorage | AK | No | Yes | 1,170 | 0.73% |
| 10 | Multnomah | OR | No | Yes | 788 | 1.95% |

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