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Were Needles Everywhere?: Differing Views on Syringe Waste and Disposal Associated With Needs-Based Syringe Services Programs Among Community Partners and Persons Who Inject Drugs

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Abstract

Background: Community concerns surrounding syringe waste are a common barrier to syringe services program (SSP) implementation. In Kanawha County, West Virginia, community opposition to SSPs resulted in the closure of needs-based SSPs prior to and during an HIV outbreak among persons who inject drugs (PWID). This qualitative analysis examines views of PWID and community partners on syringe waste and disposal associated with needs-based SSPs.

Methods: Qualitative interviews with 26 PWID and 45 community partners (medical and social service providers, law enforcement personnel, policymakers, and religious leaders) were conducted. Interviews were recorded, transcribed, and coded. Code summaries described participants' views on syringe waste and disposal and needs-based SSPs.

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Results: Community partners and PWID who favored needs-based SSPs reported that needs-based SSPs had not affected or reduced syringe waste. Conversely, community partners who favored one-to-one exchange models and/or barcoded syringes described needs-based SSPs increasing syringe waste. Community partners often cited pervasive community beliefs that SSPs increased syringe waste, risk of needlesticks, drug use, and crime. Community partners were unsure how to address syringe waste concerns and emphasized that contradictory views on syringe waste posed barriers to discussing and implementing SSPs.

Conclusions: Participants' views on whether syringe waste was associated with needs-based SSPs often aligned with their support or opposition for needs-based SSPs. These differing views resulted in challenges finding common ground to discuss SSP operations amid an HIV outbreak among PWID. SSPs might consider addressing syringe waste concerns by expanding syringe disposal efforts and implementing community engagement and stigma reduction activities.

Keywords

Persons who inject drugs; syringe waste; syringe disposal; syringe services programs; harm reduction; qualitative research

Introduction

Syringe services programs (SSPs) provide free sterile syringes and safe injection resources that are crucial for preventing transmission of bloodborne pathogens such as HIV and viral hepatitis (Adams et al., 2019; Broz et al., 2021; CDC, 2019). Persons who inject drugs (PWID) who obtain syringes from SSPs are less likely to report high-risk injection practices and syringe sharing than those who do not primarily obtain syringes from SSPs (Adams et al., 2019; Board et al., 2021). Additionally, SSPs are associated with a 50% decline in HIV and viral hepatitis transmission (CDC, 2019). CDC recommends implementing needs-based syringe distribution at SSPs (needs-based SSPs), which means that sterile syringes are offered to clients without restrictions, such as a requirement to return used syringes (Bluthenthal et al., 2007; CDC, 2020; Hyshka et al., 2012; Kerr et al., 2010). Alternatives to needs-based SSPs are one-to-one syringe exchange distribution models where clients are only given the number of syringes they dispose of at a SSP visit. SSPs with one-to-one syringe exchange have demonstrated reduced effectiveness in decreasing risk for HIV and hepatitis C virus infection (Bartholomew et al., 2020; Bluthenthal et al., 2007).

SSPs also provide access to comprehensive harm reduction services, including harm reduction education, naloxone for overdose prevention, referrals for substance use disorder (SUD) treatment, safe disposal for used syringes, and primary care (CDC, 2019; Schulkind et al., 2019; Strathdee et al., 2006). Evidence shows SSPs increase safe disposal of used syringes among PWID (Coffin et al., 2007; Levine et al., 2019; Quinn et al., 2014; Tookes et al., 2012).

Despite strong evidence that SSPs effectively reduce new HIV infections and distribute needed harm reduction education and supplies, SSPs remain a politicized, controversial approach to HIV prevention (Allen et al., 2019; 2022; Wenger et al., 2011). Community members and organizations opposed to SSPs may cite anecdotes, make false claims about

PWID and SSP operations, and disregard research evidence to support their position (Allen et al., 2022). Community opposition to SSPs may ultimately result in closures or legal restrictions on SSP operations that limit access to sterile injection equipment and increase risk of HIV transmission among PWID (Allen et al., 2019). More research is needed to understand how to address community concerns related to SSPs to ensure there is high SSP coverage in areas that are at risk of or experiencing increased HIV transmission among PWID.

One such example of community opposition to SSPs impacting SSP coverage is in Kanawha County, West Virginia (Jones, 2018; Kersey & Beck, 2018; Taylor & Rubin, 2018). Opponents to needs-based SSPs in Kanawha County argued that these harm reduction services promote drug use, increase crime, and contribute to used syringes ending up on the street (Hodousek, 2018; Jones, 2018; Katz, 2018). The community opposition to SSPs ultimately contributed to the closure of the Kanawha-Charleston Health Department (KCHD) needs-based SSP in March 2018 (Hodousek, 2018; Jones, 2018; Katz, 2018). Following the KCHD SSP closure, a study found that PWID in Kanawha County reported difficulty procuring sterile syringes and engaging in safer injection practices (Allen et al., 2019). In April 2021, another needs-based SSP run by a community group in Kanawha County was also suspended due to concerns about program administration and community opposition (“SOAR to Halt Needle Exchange Services,” 2021; Lurie, 2021; Peace, 2020). Additionally, in April 2021, a state law and a Charleston City Council ordinance deemed needs-based SSPs illegal and enacted stricter SSP requirements, such as requiring West Virginia identification to access services, dissemination of individually identifiable syringes that could be traced if publicly discarded, and adhering to a goal of a one-to-one syringe exchange model (“Bill No. 7893,” 2021; “Senate Bill 334,” 2021). After the closure of both needs-based SSPs, Kanawha County harm reduction services were limited to one SSP operating in a health clinic that adhered to the programming requirements in the new SSP legislation (Dindak, 2021; Katz, 2018; Peace, 2020) and served a small number of SSP clients (Bonacci et al., 2022). Syringes were also available for purchase at pharmacies, although research has shown that there are numerous access barriers to obtaining syringes at pharmacies, such as stigma (Gionfriddo et al., 2023; Zlotorzynska et al., 2018).

In October 2019, after the closure of the KCHD SSP, the West Virginia Bureau for Public Health (WVBPH) detected an increase in HIV diagnoses among PWID in Kanawha County (*HEALTH ADVISORY #162: Human Immunodeficiency Virus (HIV) infections among people who inject drugs –additional area seeing increase & others vulnerable*, 2019). WVBPH coordinated HIV outbreak response activities and requested CDC support for an HIV outbreak investigation. In June 2021, as part of the investigation, WVBPH, KCHD, and CDC conducted a qualitative assessment among PWID and community partners in Kanawha County to understand barriers to HIV services and inform HIV outbreak response efforts (Hershow et al., 2024).

Historically, qualitative methods have been used in the context of rapid assessments and have been an effective approach for understanding gaps in services and needs of communities with active HIV transmission or increased risk of HIV outbreaks (Allen et al., 2019; Board et al., 2021; Hassan et al., 2022). At the time of data collection for the

qualitative assessment, no needs-based SSPs were operational in Kanawha County and the legislation restricting SSPs had just passed. As a result, when asked about barriers to harm reduction services during interviews, participants often discussed community concerns and personal views on syringe waste and disposal when the needs-based SSPs were operational and the recent SSP legislation. This qualitative analysis aims to explore views on syringe waste and disposal associated with needs-based SSPs among PWID and community partners during an HIV outbreak. These findings may help inform best practices for addressing community concerns regarding syringe waste and disposal to help maintain and increase access to needs-based SSPs.

Materials and methods

Study setting and recruitment

For this qualitative assessment, 26 interviews with PWID and 45 interviews with community partners were conducted. PWID were purposively sampled to include people currently using drugs and those who had used drugs in the last 12 months, people with and without HIV, and people engaged and not engaged in HIV prevention and treatment. Community partners were purposively sampled to include medical and SUD treatment providers, law enforcement, social service providers, and other community leaders such as policymakers, religious leaders, and researchers.

Most PWID were recruited for interviews through provider referral; a couple of PWID were recruited at HIV testing outreach events. Eligibility criteria included: aged 18 years or older; reported injecting drugs in the last 12 months; and currently living or accessing services in Kanawha County, WV. After confirming eligibility, the interviewer described the project and obtained oral informed consent for conducting and audio recording the interview.

WVBPH and KCHD identified a list of key partners to engage for community partner interviews. Additionally, community partners were asked at the end of their interviews for referrals to other important community partners. Prior to the interview, interviewers obtained oral informed consent for conducting and audio recording the interview from community partners.

Data collection

Prior to data collection, five interviewers with previous qualitative research experience completed training on the qualitative assessment design and data collection tools. Pairs of interviewers conducted the initial six interviews together and then participated in debriefing sessions to ensure they understood how to use the data collection tools. Semi-structured interview guides were used for interviews with PWID and community partners. For PWID, interview topics included: substance use and sexual behavior, experiences accessing medical and social services, barriers and facilitators to accessing HIV prevention and treatment services, and views on the HIV outbreak. PWID interviews were conducted privately in various areas, including social service centers, public parks, and HIV testing events. PWID received a $20 gift card for their time.

For community partners, interview topics included: unmet service needs, barriers and facilitators to accessing HIV prevention and treatment services among PWID, and views on the HIV outbreak. Community partner interviews were conducted in virtual and in-person settings, depending on the participant's preference and feasibility of in-person interviews. In-person interviews were completed in participants' offices or conference rooms. For nine community partner interviews, small groups from the same organization were interviewed.

PWID and community partner interviews lasted 60 minutes on average and were audio recorded and transcribed. Both an interviewer and notetaker were present at most interviews; the notetaker focused on documenting interview responses, nonverbal expressions, and contextual insight.

This activity was reviewed by CDC, deemed not research, and was conducted consistent with applicable federal law and CDC policy.[1]

Data analysis

Immediately following each interview, the interviewer and notetaker completed an interview debrief form to document key findings. Additionally, during data collection, daily group debrief meetings were held with all interviewers to capture key themes across interviews.

After data collection was completed, codebooks for PWID interviews and for community partner interviews were developed. The codebooks included a combination of topical codes based on the interview guides and interpretive codes based on the interviews and debrief sessions (Gibbs, 2018). For three PWID and three community partner transcripts, four analysts coded the same transcript individually and then discussed similarities and differences in how codes were applied. To ensure diverse transcripts were selected for team coding, PWID transcripts were selected based on the participant's age, housing status, and access to HIV prevention services and community partner transcripts were selected based on the provider type. As a result of these discussions, the codebooks were revised to ensure codes were applied similarly across analysts. Once the final codebooks were developed, the four analysts independently coded the remaining transcripts using MAXQDA 2020 software. After coding was completed, summaries of relevant codes for PWID and community partner transcripts were created to explore the emerging theme of views on syringe waste and disposal associated with needs-based SSPs (Sandelowski, 1995). This emerging theme was more prominent in community partner interviews than in PWID interviews. Findings related to public safety and barriers to harm reduction services from each community partner interview were entered into a matrix, allowing for easy comparison of findings across interviews (Miles et al., 1994).

Results

Participant characteristics

Twenty-six PWID were interviewed, eight of whom reported previously receiving an HIV-positive test result (31%). Of the 26 participants, 11 were 35 years old or younger (42%),

[1]·45 C.F.R. part 46, 21 C.F.R. part 56; 42 U.S.C. Sect. 241(d); 5 U.S.C. Sect. 552a; 44 U.S.C. Sect. 3501 et seq.

15 were male (58%), and 22 identified as White (85%). Nearly three-quarters reported polysubstance use, defined as using two or more types of injection or non-injection drugs in the past 12 months; and half reported injecting drugs more than once a day.

Of the 45 interviews with community partners, 29 (64%) were with medical and SUD treatment providers, 6 (13%) were with policymakers, 3 (7%) were with law enforcement personnel, 3 (7%) were with social service providers, and 4 (9%) were with other community leaders (public health practitioners, religious leaders, researchers). Medical and SUD treatment providers included HIV and opioid treatment providers, primary care, emergency department, and infectious disease clinicians, emergency medical services (EMS) staff or paramedics, and addiction and harm reduction specialists.

Views that needs-based SSPs increased syringe waste

Community partners and a few PWID agreed that limited support for SSPs from politicians, public safety groups, and community members was a key barrier to implementing SSPs, especially needs-based SSPs, in Kanawha County. These community partners explained that there were pervasive community beliefs that SSPs posed a public safety issue as they led to increased syringe waste, drug use, and crime. One clinician said: “It’s like, well, why should we subsidize [intravenous] drug use and give people a needle? I mean this is the thinking, and give needles when needles are putting the rest of us at risk?” These community partners and PWID noted that a key community concern regarding syringe waste was the risk of contracting blood-based infections *via* needlestick among first responders and community members, especially children.

Some community partners who were interviewed, such as first responders, and a few PWID agreed with the community concerns around syringe waste and needs-based SSPs. These participants tended to favor one-to-one exchange models and/or barcoded syringes and often described increases in syringe waste when the needs-based SSPs were operational. As one first responder explained, “…It was so bad back then [when the needs-based SSP was operational] that the citizens started raising Cain [causing a commotion] because there was needles laying on sidewalks. You go to McDonald’s bathrooms, there was needles laying in the stalls. I mean, there was just needles everywhere.” Some first responders also recalled increases in calls requesting needle pick-ups when the needs-based SSPs were operational. Some community partners expressed support for the one existing SSP operating out of a clinic because they felt it did not contribute to syringe waste due to their exchange requirements and/or barcoded syringes.

Some community partners explained that stigmatizing views toward PWID informed community members’ negative views on syringe waste and SSPs. One policymaker said, “…I think the perception is, well they [PWID] shouldn’t have done drugs. They shouldn’t have done drugs and that’s on them. My family’s over here and we’re good, so if you could just not have syringe services so when I take my kid to the park, maybe they don’t come in contact with a needle then I’m cool. It’s the ability to put up that wall and operate as though it doesn’t impact all of us.” A few community partners added that some community members were also concerned that the needs-based SSPs led to an influx of

PWID and people experiencing homelessness into Charleston, negatively affecting economic investments and businesses.

Views that needs-based SSPs decreased or did not affect syringe waste

While participants agreed that there were prevailing community beliefs that syringe waste increased when needs-based SSPs were operational, many community partners and PWID expressed opposing views. These participants, such as SUD treatment providers and harm reduction specialists, tended to favor needs-based SSP models and recalled that the needs-based SSPs did not affect or reduced syringe waste. One PWID said that there has always been a syringe waste problem in the community: "People will drop their needles wherever and they [community members] worry about kids picking them up. That's always happened. Because I can remember when I was a kid. I mean, I remember. I think they just see it now because [of] the needle exchange and they see it as them. But I've seen it happen since I was a kid…Even before they had a needle exchange." Additionally, a social service provider who does outreach work for PWID said: "I didn't see an increase [in syringe waste] with the needle exchange. I didn't see a decrease when it stopped. I've had people, when I've been out in public and this comes up and I'll say, 'I haven't found needles,' they'll be like, 'Well, obviously, you're not out and about in the city.' And it's like, 'Yeah, I am every day. That's what I do. That's what we do.'"

Challenges addressing syringe waste concerns associated with needs-based SSPs

Limited time to address community concerns—Some community partners felt the KCHD SSP could have better addressed initial community concerns about syringe waste to try to prevent the loss of community support and SSP closure. At the same time, these community partners felt it was wrong to close the SSP instead of take steps to fix its problems. One policymaker said: "Do I think that the syringe exchange service worked beautifully as it was? Nope, I sure didn't. It probably needed to be fixed, but instead of fixing it…They threw out the baby, the bathwater, the faucet, the soap, the washrag, the everything, went out the door." These community partners felt the KCHD SSP should have been given more time to improve their operations before being closed.

Distorted perceptions of syringe waste—Some community partners felt the amount of syringe waste while the needs-based SSPs were operational was exaggerated and that a disseminated photo of one discarded syringe was used as evidence of widespread syringe waste. A policymaker said, "Are they [used syringes] at the playgrounds? No. Maybe one or two, but needles are so big, right? You see one, and it's like, 'Oh my God, there's needles everywhere.' It's that, and the narrative plays out so fast and so quickly and with social media…One photo can be shared instantly. 'Look at this, look at what the city is now…'" Some community partners also spoke about some politicians and reporters fueling syringe waste fears by focusing news stories and election campaigns on widespread syringe waste.

Fear of needlesticks among first responders—Community partners described challenges addressing concerns about needlesticks among first responders. Some community partners explained that the fear of needlesticks was overwhelming and education on the low risk of contracting infectious diseases *via* needlestick was not well-received by first

responders. One clinician said, "…It's hard to take away that fear [of needlesticks]. And we offered the educational things to all the first responders…that was rejected." Another clinician, however, felt that the concerns of first responders were ignored: "If there's concern about needlesticks and needles in abandoned buildings, they don't want to hear you just need to be taught that's not a concern. You don't need to worry about that. They want to hear that their concerns are valid." Additionally, one policymaker felt they could better prepare first responders to mitigate the risk of needlesticks by providing them with better equipment, such as well-fitting gloves.

Limited syringe disposal sites—At the time of the interviews, a few community partners noted that there was only one syringe disposal site in the city and a police vehicle was parked near it, deterring people from using it. Only one PWID mentioned the public syringe disposal box, noting that the police will "harass" you sometimes if they see you use it. Instead, some PWID said they disposed of used syringes in personal sharps containers, soda cans, or soda bottles. Some community partners also spoke about difficulties increasing the number of public syringe disposal boxes or sharps containers due to limited community and political support for harm reduction services.

Difficulties changing negative views on SSPs—Most community partners did not lay out clear solutions to address the concerns of public safety groups, politicians, and community members, as they felt that implementing or expanding SSPs would result in the same syringe waste concerns and that the prevailing negative views on SSPs could not be changed. A harm reduction specialist said, "If we look at addiction, the opposite of addiction isn't sobriety. It's community. That's a great thought. But if the community is unwilling to be there, then what's their buy-in worth? Community buy-in is critical because we have to have a community to receive folks, but I don't know how buy-in occurs at this point…" Additionally, many community partners emphasized that the new legislation restricting SSPs posed barriers to implementing or expanding SSPs as it required approval from local policymakers to operate, clients to show identification to receive services, individually identifiable syringes, and a goal of a one-to-one syringe exchange. Many community partners felt that city politicians and other leaders had framed SSPs as a public safety and political issue instead of as a public health response, and that it would be difficult to shift that framing and implement strategies that didn't involve criminalizing drug use or banning needs-based SSPs. One clinician reflected on whether local politicians were open to harm reduction education and potentially shifting their stances on SSPs: "We cannot, I don't believe that the city council people are open to education, which are the ones who voted this thing to be illegal, providing needles to be illegal, and also made it a crime. I don't have any faith that that will happen."

Suggested interventions to address syringe waste concerns associated with needs-based SSPs

Although most community partners were unsure how to address community concerns regarding syringe waste, some felt that newly implemented SSPs could better address syringe waste by being more publicly transparent and organized with their operations and taking more accountability by tracking syringes, enforcing syringe exchange

requirements (e.g., one-to-one syringe exchange), and proactively doing community clean-ups. Additionally, a few community partners called for stronger leadership from the medical community and politicians to support SSPs to try to shift public opinion.

Discussion

To our knowledge, this is the first qualitative analysis to assess views on syringe waste associated with needs-based SSPs among community partners and PWID. Findings suggest that participants' personal views on needs-based SSPs were often aligned with their perceptions of syringe waste; those who supported needs-based SSPs tended to recall that needs-based SSPs did not affect or reduced syringe waste and those that opposed needs-based SSPs tended to recall that needs-based SSPs increased syringe waste in the community. The differing views on syringe waste resulted in challenges finding common ground to discuss SSP operations amid an HIV outbreak among PWID. These challenges were further exacerbated by recent legislation restricting SSPs ("Bill No. 7893," 2021; "Senate Bill 334," 2021). As needs-based SSPs are recommended by CDC due to their known effectiveness at reducing transmission of HIV and other blood-based infections among PWID (Bluthenthal et al., 2007; Broz et al., 2021; CDC, 2020; Hyshka et al., 2012; Kerr et al., 2010), findings highlight the urgent need to anticipate and address community-level syringe waste concerns associated with needs-based SSPs.

Participants noted that syringe waste became a highly politicized issue in Kanawha County and needs-based SSPs were framed as a public safety threat to first responders and community members instead of as a public health intervention that greatly benefits PWID. Findings suggest that there was limited support for needs-based SSPs among community members due to prevailing beliefs that needs-based SSPs increased syringe waste, drug use, and crime. Numerous studies have countered these misconceptions; in fact, studies have shown that implementing SSPs decrease syringe waste in the community (Bluthenthal et al., 2007; Galea et al., 2001; Levine et al., 2019; Marx et al., 2000; Quinn et al., 2014; Tookes et al., 2012; Wenger et al., 2011). However, our findings suggest that community perceptions of syringe waste associated with SSPs, fear of needlesticks, and stigmatizing views toward PWID can overwhelm public health evidence and drastically impact access to SSPs and harm reduction services (Tsai et al., 2019). Notably, even expanding access to public syringe disposal sites was perceived to be an unpopular intervention among community members.

Few participants offered clear solutions to address community-level syringe waste concerns that might help expand access to SSPs, highlighting the difficulties in addressing structural and social stigma toward PWID, including stigma enacted through policies and legislation (Cheetham et al., 2022). SSPs might consider prioritizing syringe disposal efforts to address syringe waste concerns, including expanding syringe disposal sites, distributing sharps containers and syringe disposal education to SSP clients, running a hotline led by SSP staff to receive requests and respond to community concerns, conducting regular and by-request community pick-ups, and participating in community forums (CDC, 2019, 2020; Cleland et al., 2007; Kinnard et al., 2014). Conducting baseline and follow-up assessments of syringe waste may also be valuable to help demonstrate whether syringe waste changed after launching an SSP (Levine et al., 2019). Additionally, community-based stigma reduction

activities might raise awareness on SUD and the public health impact of SSPs (Childs et al., 2021; Perlman & Jordan, 2018). For example, interventions that involve direct interaction between PWID and the broader community may reduce public stigma (Cheetham et al., 2022; Livingston et al., 2012). Community-based educational and advocacy efforts led by local, trusted champions may be particularly effective (Childs et al., 2021). However, more evidence is needed to identify effective interventions to reduce stigma and increase community support for harm reduction services (Cheetham et al., 2022; Livingston et al., 2012; McGinty et al., 2018).

There are a few limitations to this analysis. First, PWID and community partners were recruited using purposive sampling; thus, the samples may not be representative of all community partners or PWID affected by the HIV outbreak. Second, there may have been recall bias among participants when reporting views on SSPs and syringe waste, as no needs-based SSPs were operational in the county during data collection. Finally, questions about syringe waste associated with SSPs were not systematically asked in each interview; instead, it was an emerging theme discussed often by participants, especially community partners.

SSP access in many areas is often influenced by community support and local legislation, underscoring the importance of conducting community engagement activities prior to and during SSP implementation (Broz et al., 2021; CDC, 2019; Strathdee et al., 2020; Tsai et al., 2019). It is important that community members view SSPs as a life-saving public health intervention rather than as a public safety issue. Further, more research on effective community engagement interventions that address structural and social stigma toward PWID is urgently needed (Cheetham et al., 2022; Livingston et al., 2012; McGinty et al., 2018).

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Data availability statement

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