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Safer smoking supply distribution as a harm reduction strategy for people who smoke drugs in New York State: A qualitative analysis of availability, utilization, and public health impact

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Research Article

Keywords: Safer smoking supply, harm reduction, public health impact, availability, utilization, NYS

Posted Date: September 20th, 2026

DOI: https://doi.org/10.21203/rs.3.rs-10670575/v1

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Additional Declarations: No competing interests reported.

Abstract

Background

The U.S. overdose crisis and communicable diseases such as hepatitis C virus continue to disproportionately affect people who use drugs (PWUD), amid a shift from injection to smoking fentanyl and other unregulated substances. Syringe exchange programs (SEPs) have expanded to include safer smoking supply distribution as a harm reduction strategy to reduce equipment sharing, prevent injury and infectious disease transmission, and strengthen engagement among people who smoke drugs. The NYS Department of Health (NYSDOH) Office of Drug User Health (ODUH) oversees 41 Syringe Exchange Programs (SEPs) and 12 Drug User Health Hubs within them, delivering safer use supplies and other comprehensive services for underserved populations. Despite expanding implementation, evidence on availability, utilization, and public health impact in NYS remains limited.

Objectives

To examine the availability and utilization of safer smoking supplies in NYS and their public health benefits for PWUD.

Methods

We conducted semi-structured interviews with 30 conveniently sampled PWUD from 10 harm reduction organizations across NYS. Sites were selected based on supply distribution, geographic diversity, and for one site, age. Applied thematic analysis and consensus coding were conducted using Dedoose, guided by the RE-AIM framework to assess program reach and effectiveness. Participants received a $35 Visa gift card upon completion.

Results

Participants expressed how safer smoking supply distribution facilitated engagement with public health services including wound care, mental health support, and substance use treatment. Access to supplies was consistently linked to increased harm reduction services utilization. While participants identified ongoing funding gaps, most reported regular access to supplies such as pipes, mouthpieces, screens, foil and hygiene materials. Programs also extended critical supports including housing assistance, food access and navigation of complex healthcare systems.

Conclusion

Harm reduction minimizes the adverse health, social, and legal consequences of drug use without requiring abstinence. Safer smoking supply distribution enhances engagement by creating consistent, low-barrier points of contact and often serves as a critical entryway to care. In NYS, these programs function as essential infrastructure, connecting underserved populations to health services and advancing more equitable public health outcomes.

Introduction

The United States continues to experience a severe overdose crisis, with more than 100,000 drug-related deaths annually, alongside persistent transmission of HIV and hepatitis C virus (HCV) among people who use drugs (PWUD) [1, 2]. In recent years, NYS has experienced a significant rise in overdose mortality, with 5,985 deaths attributed to acute polydrug intoxication, most commonly involving fentanyl, stimulants and xylazine [3]. Although opioid deaths remain substantial, stimulant involvement is increasing. In 2023, 439 deaths (7.3%) involved stimulants as a sole cause [3]. National trends similarly show declining opioid fatalities alongside rising deaths involving cocaine and methamphetamine [CDC, 2024]. Stimulants are frequently used with opioids and other substances, complicating treatment and increasing toxicity risk [4, 5, 6]. Unlike opioid

overdoses characterized primarily by respiratory depression, stimulant related deaths are often associated with cardiac arrhythmias, myocardial infarction, stroke and exacerbation of underlying conditions such as hypertension or cardiovascular disease [7]. These conditions require cardiac care which is the comprehensive management of complex cardiovascular conditions encompassing prevention, diagnosis, treatment, and rehabilitation of these conditions [8]. Many individuals consume stimulants through smoking or inhalation, reflecting shifting drug use patterns that emphasize rapid onset and repeated dosing.

In recent years, there has been a marked shift in routes of drug administration away from injection and toward smoking, driven largely by the dominance of illicitly manufactured fentanyl and the concurrent rise in stimulant use [9, 10, 11]. Smoking fentanyl and methamphetamine have become common among both new and experienced users, often due to perceived lower health risks, vein damage from prior injection, drug market dynamics, cost, and social or environmental influences [10]. While smoking may reduce certain risks associated with injection, particularly bloodborne infection transmission, it is not without harm. Sharing or using damaged smoking equipment has been associated with burns, cuts, oral injuries, and the potential transmission of infectious diseases, including HCV, COVID-19, and tuberculosis [12, 13, 14, 15, 16]. As drug markets and routes of administration evolve, harm reduction responses must adapt. Safer smoking supply distribution provides an engagement strategy aligned with smoking-based use, supporting risk reduction, education and linkage to care among populations experiencing disproportionate overdose burden [3, 17, 18].

Syringe services programs (SSPs) have long served as a cornerstone of harm reduction, demonstrating substantial effectiveness in reducing injection-related HIV and HCV transmission and connecting marginalized populations to health and social services [19, 20, 21]. Harm reduction is the framework for reducing the negative consequences of drug use and other criminalized behaviors through employing syringe service programs and other strategies that “meet people where they are,” as opposed to making judgments about where they “should” be, related to their health and lifestyle [22, 23]. As drug markets and patterns of use evolve, SSPs have increasingly adapted their service models, expanding naloxone distribution, vaccination delivery, and other public health interventions to meet the changing needs of PWUD [17, 18]. Subsequently, many SSPs have begun distributing safer smoking supplies, including sterile glass pipes or foil, mouthpieces, screens, push sticks, alcohol wipes, and lip balm [11, 25, 26, 27, 28]. By 2021, approximately half of SSPs nationwide offered safer smoking equipment, reflecting growing recognition of its role in harm reduction [29, 30]. Evidence suggests that safer smoking supply distribution can reduce equipment sharing, discourage transitions to injection, lower overdose risk for some substances, and expand SSP engagement among people who smoke drugs (PWSD), a population historically less reached by syringe focused services [10, 31, 32, 33]. However, implementation remains uneven, constrained in part by federal funding restrictions and limited empirical research on programmatic outcomes [10, 29, 34].

Despite emerging evidence and growing adoption, significant gaps remain in understanding PWSD’s risk perceptions, knowledge of HCV transmission through smoking equipment, and patterns of safer smoking supply utilization [24]. Prior qualitative work indicates that while many PWSD recognize the dangers of sharing or using broken equipment, awareness of HCV transmission risks associated with smoking remains limited, and access to harm reduction resources varies by environment, cost, and SSP availability [16]. Addressing these gaps is critical as SSPs increasingly serve PWSD amid shifting drug use practices. Therefore, the aim of this qualitative case study is to examine the availability and utilization of safer smoking supplies in NYS and assess their public health benefits, especially for PWSD. This information can assist policy makers in enacting relevant policies that support SSPs as a harm reduction strategy with implications for infectious disease prevention, overdose risk reduction, and equitable engagement of PWUD in evolving public health responses. SSPs can also utilize this data to back their priorities for PWUD, especially PWSD. In addition, access to this information by public health specialists and health departments can inform development and enhancement of harm reduction interventions.

Methods

The study employed a cross-sectional qualitative design to answer the research question, “To what extent are safer smoking supplies offered and utilized by people who smoke drugs in New York State and what public health benefits are associated with their provision and use?” by gaining the perspectives of people who use drugs to examine the availability and utilization of

safer smoking supplies in New York State (NYS) and assess their public health benefits especially for people who smoke drugs. In March 2025, three researchers (1 female Registered Nurse and Opioid Program Manager, 1 non-binary MS and MCHES Health Program Coordinator, and 1 female MPH Research Scientist and DrPH Candidate) from the Office of Drug User Health conducted semi structured online interviews with 30 people who smoke drugs and actively receive harm reduction services at 10 syringe exchange program sites across NYS which were selected based on their extensive distribution of safer smoking supplies. Applied thematic analysis of the transcript in Dedoose through blinded coding was conducted by two evaluators (1 male MPH Evaluation Specialist 3 and 1 female MPH Graduate Research Assistant and DrPH Candidate) from the Office of Program Evaluation and Research (OPER). The RE-AIM (Reach, Effectiveness, Adoption, Implementation and Maintenance) framework was employed to evaluate the effectiveness of distributing safer smoking supplies in NYS. A $35 Visa gift card was provided to participants at the end of each interview.

Data Setting and Participants

Thirty conveniently sampled PWUD from 10 program sites across NYS were interviewed online (Zoom) for the study. Prior to the interview, participants were provided with a consent form which outlined the goal of the research, how the data would be used and managed, confidentiality clause, and freedom to participate or refuse to. The interview questionnaire was distributed to program staff prior to initiating interviews and staff were encouraged to familiarize interviewees with the questions prior to their conversation with the researcher. (Note, not every program had the capacity to prep their selected interviewees prior to their scheduled conversations.) At the beginning of the interview, consent to record was obtained. Participants had no relationship with researchers and were randomly recruited for the interviews by the harm reduction organization staff using their databases. Participants traveled to the harm reduction site to take the interviews and scheduled dates aligned with when participants received their services. The harm reduction staff did the setup, logging-in and prepping to make sure everything was working before leaving the room to give the participant privacy. One researcher was present for each interview. Only NYS participants who were active safer smoking supply program recipients and showed willingness to be interviewed were included. The participants included were diverse, as indicated in Table 2 (demographics of participants). Participants from agencies who were not distributing or engaging in extensive safer smoking supply distribution were excluded from the study as shown in Fig. 1.

Research Tools/Data Collection Tools

Semi-structured key informant interviews (KIIs) were used to gain the perspectives of people who use drugs on the availability, utilization, and public health impact of safer smoking supply distribution in NYS. The interview protocol provided participants with a section on informed consent which outlined the purpose of the study, confidentiality, voluntary participation, data management, request to record and time allocated for the interview. Afterwards followed a series of open-ended interview questions designed to achieve the goal and answer the research question. The first section probed for the background and/or engagement with harm reduction services. While the second part tried to understand stimulant use and cardiac care and the impact of the programs on this. In addition, questions about interactions with law enforcement, Emergency Medical Services and emergency departments were asked. Questions were also asked on the overall experience of participants with the program as well as recommendations on program improvement. Table 1, below, is a snapshot of some of the interview questions.

Table 1
Example Interview Questions and Domains/Themes

Domain/Theme	Interview Questions
Participant Motivation	What are the things that brought you to the program?
Supportive Environment	How long have you been coming for harm reduction services or safe smoking supplies at [Agency]?
Provision of Harm Reduction Supplies and Extra Needs	When you get your supplies, do you receive other supplies from the program? If yes, what are they?
Linkage to Care for Co-located Programs	Describe other services you are interested in receiving other than safer smoking supplies
Knowledge and Awareness of Heart Risks	Would you explain if anyone is talking to you about cardiac/heart care?
Drug checking	Have you ever had your substances checked?
Drug Use Experience/Patterns	Would you share with us how best you make sure your substances are not contaminated?
Engagement with LEs and EDs	Describe any encounters you might have had with law enforcement, Emergency Medical Services, or the emergency departments.
Program Improvement	What do you suggest your Agency do differently from what it is already doing to improve harm reduction services?
Mitigating Social Determinants of Health (SDOH)	Is there anything else you would like to tell us about your experience with harm reduction services, especially receiving safer smoking supplies at [Agency]?

Procedure

The KIIs were approximately 20–30 minutes long and conducted virtually via Zoom by the ODUH research team. A $35 Visa gift card was provided as an incentive at the completion of each interview. No repeat interviews were conducted. Each interview session was recorded. Recordings of the interviews were transcribed verbatim and securely stored and managed in a private AIDS Institute Teams Channel by the research team. Transcripts were checked by two evaluation staff from the Office of Program Evaluation and Research (OPER) to ensure accurate transcription. Upon completion of transcription, recordings were deleted and only deidentified transcripts were kept by the evaluation team for analysis. Identification numbers were assigned to participants and applied on quotes to keep responses confidential. The interviews were deemed quality/program improvement and not human subject research by the NYSDOH IRB and, as a result, IRB oversight was unnecessary.

Data Analysis

Verbatim transcripts were uploaded to Dedoose (a cloud-based collaborative software application designed for qualitative and mixed-methods data analysis) for applied thematic analysis by the evaluation team, and unanimous consensus coding was conducted for all 30 transcripts. Evaluators blindly coded each transcript then convened to discuss the individually applied codes. Codes were only applied if unanimously agreed upon by the evaluators. The evaluation team had prior knowledge of qualitative analysis and Dedoose's functionality through a multi-part training series by the AIDS Institute's Center for Program Development, Implementation, Research and Evaluation. Evolving themes highlighted program impacts and harm reduction education, reasons for participation motivation, drug use experience, factors impacting substance use, engagement with law enforcement, emergency medical services and emergency departments, knowledge/awareness of heart risks and program improvement. Program impact emerged as a central theme, especially the positive impacts or benefits of the program. Additional themes not captured by the codebook were catalogued using memos within Dedoose, not added to the codebook and instead discussed among the members of the evaluation team.

Results

Findings from this study reveal a representation of the demographics of PWUD in NYS including the primary drug of choice for the individuals. In addition, the results help readers to have knowledge and understanding of the access of safer smoking supplies and other services by PWUD, the utilization of those supplies and services and the impact these services have on public health.

Table 2
Demographics of Participants

Demographics (N = 30)	
Gender	**16 (53.3%) Men**
	13 (43.3%) Women
	1 (3.3%) Chose not to disclose
Race/Ethnicity	**18 (60.0%) White, Non-Hispanic**
	4 (13.3%) Hispanic or Latino
	8 (30.7%) Black or African American
Age Group (n = 29)	3 (10.3%) 20–29
	5 (17.2%) 30–39
	6 (20.6%) 40–49
	4 (13.7%) 50–59
	2 (6.8%) 60–69
	9 (31.0%) Chose not to disclose
Participant Engagement Length in Harm Reduction	**13 (43.3%) 5 months – 2 years**
	6 (20.0%) 3 years – 6 years
	6 (20.0%) 7 years – 10 years
	2 (6.6%) More than 10 years
	3 (10.0%) Not specified
Stimulant Use	**26 (83.9%) Stimulant users**
	4 (16.1%) Non-stimulant users
Heard about Cardiac Care (n = 26)	10 (38.5%) Yes
	14 (53.8%) No
	2 (7.7%) N/A
Drugs of Choice *	**15 (50.0%) Crack**
	9 (30.0%) Cocaine
	8 (26.6%) Heroin
	8 (26.6%) Meth
	6 (20.0%) Weed/Marijuana
	3 (10.0%) Fentanyl
	2 (6.6%) Ketamine
	1 (3.3%) Methadone
	8 (26.6%) No Secondary Drug of Choice

The highest number of participants self-identified as male (53.3%) and White non-Hispanic (60%). Most participants fell in the 40–49 age group (20.6%). Almost half of participants stated they had been involved with harm reduction services between 5 months – 2 years (43.3%) Eighty four percent (83.9%) of participants indicated they use stimulants although slightly over half

(53.8%) had not heard about cardiac care despite stimulant use being a risk factor of cardiovascular diseases among PWUD. *Participants were encouraged to provide up to two drugs of choice, if they had more than one.

Access to Safer Smoking Supplies and Other Services

All participants reported utilizing harm reduction services, including but not limited to, obtaining safer smoking supplies, receiving other services like food in the form of snacks and water, showers to bathe, as well as social care and safety programs. Participants reported being inclined to pick up harm reduction supplies including safer sex supplies, for peers in their network who did not have means to access the services. Participants expressed accessing supplies through their local harm reduction program sites and added that the services were beneficial. Additionally, participants indicated that the supplies were easily accessed on a weekly basis and are sometimes delivered to their homes by program staff.

“Yeah. Sometimes they give us pizza, a whole plate of pizza” **ACR 1**

“So, I get the 3, the 2 different kinds of pipes, the small and the bigger ones. The Pyrex glass ones are the best, and then I get screens and Chore boy, and I get Chapstick and MiraLAX. The Gatorade is great.” **CASJ 3**

“Syringes, alcohol wipes, water, Narcan, new pipes and the bins to keep the used syringes.” **CCCCS 4**

“I got to take a shower. Everything I need, you know, (I) come here for the morning coffee. Yeah, everything is good. It's good, I even recommend this place to people outside that I know clean up.” **HU 1**

“Sometimes I might get like a bowl or some syringes for some of my friends or people who can't reach the program, because I know a lot of people like to work during the day” **SW 1**

“A lot of times.....I bump into somebody that doesn't have a pipe, or, one of those [supplies] items, and so I'll help them out” **STAP 4**

Utilization of Services by People Who Smoke Drugs

Participants were happy and grateful when receiving sufficient supplies and even reported remaining content and optimistic during periods of limited supplies. Participants expressed a great appreciation of harm reduction services particularly the interaction they have with program staff and peers which motivates them to continue utilizing services, the confidentiality, provision of other necessary needs separate from harm reduction supplies and supportive environment.

“They are always there if you need to talk to somebody.” **HU3**

“Because you save a lot of money with syringes, which are very expensive. If you want to have clean ones and in case you don't have an ID, you can’t get them either. And I don't have an ID right now and [name redacted] is super easy to deal with, and it's delivered which is awesome too because I don't have a vehicle, that is amazing.” **CCCCS 4**

“And it's so confidential here. I have never heard from none of the staff or the clients or anybody that I knew say, “Okay, you know, Miss [name redacted], she's a drug addict, or [accesses] she serves housing works because she's addicted, or things like that,” because nobody knows what service I'm coming here for.” **HW 2**

“People are friendly, nice, like they go out of their way for you. It's actually amazing how they help people out around here.” **CCCCS 5**

“Yes! As far as sometime, like just now, I just grabbed a pair of socks. I had a pair, but they were bothering my feet because I have a problem with my feet. And I just grabbed a pair of socks, files, and toenail clippers, you know. They have that here, everything... so, that's what I just did.” **HU 2**

Program Impact on Public Health

Participants reported obtaining food and housing security from SSPs & Drug User Health Hubs (DUHHs). Participants expressed being assisted with a place to safely rest and shower, getting food, coffee, and water at SSPs and DUHHs. Additionally, participants reported being linked to other public health services, harm reduction education and treatment resources, facilitating earlier access to Medications for Opioid Use Disorder (MOUD), support groups and other necessary interventions. Participants expressed how engagement with programs opens the door for additional health interventions, including wound care, mental health support, drug checking, and access to treatment for substance use disorders.

“I remember when I had problems with the Department of Social services, I got sanctioned and it wasn't my fault. I was living in a Catholic Charities house, and they got me in touch with an attorney that did pro bono stuff, and I didn't have to pay for it. And he helped me like win my case.” **CCCCS 4**

“When I first started coming, I was like on the street, so I'd usually get laundry, donation lockers, helpful housing, to help me with food stamps, Medicaid. I had no birth certificate or social to help me get that. They also helped me get a job like internship. It helped me with a lot of things.” **SW 1**

"Oh my God, there’re times when I’m starving. Me and a couple of others in a group that I have we count on Harlem United to be open so that we can be fed. We can get groomed, we can get accessories for the bathroom, toiletries and if it wasn’t for Harlem United, we’ll be lost." **HU3**

Consequently, participants expressed being somewhat aware of the **e**rratic nature of the drug supply and drug contamination (impacts of certain adulterants and cuts that are commonly added to the illicit drug supply). It is evident that a higher percentage of participants have knowledge on harm reduction because of their indication of how they test their drugs, are skeptical about sharing equipment, want to use clean supplies and encourage peers to do so too and utilize sharps containers to dispose of used supplies.

“There have been times where I've used with other people, and noticed that I was beginning to fall asleep, and I shouldn't have that feeling, but I didn't test, you know. So, I think about that in hindsight. How stupid I was not to be prepared, you know.” **HW 4**

“Well, because I know exactly what I'm taking in like I know I'm not going to die. We just heard somebody pass away from fentanyl just 2 days ago. So, I test everything now ... like real because it's serious.” **SACHR 4**

“I also have the xylazine, and the fentanyl test strips, but I mean fentanyl is in like everything nowadays. And xylazine, I feel like it is more dangerous because you don't feel it coming, then suddenly, you know, you're out. So, I try to avoid the xylazine. So, whenever I do pick up, I do test to make sure it doesn't have it, or at least I know that it has a xylazine in it.” **CCCCS 4**

Most participants reported that they prefer smoking to injecting due to various public health reasons such as:

- Being able to control their drug consumption and be more discrete about their drug use.

A participant expressed how they plan the time they will be partaking in their drug consumption and does not let consumption interfere with their day-to-day life. They also reported vetting the individual they will be using with and normally picking ample supplies for everyone who will be partaking in the experience prior to the scheduled experience. The participant listed some of the benefits from service such as being able to get a break from the cold and getting coffee, acupuncture and therapy.

“Because I have control of my use. Nobody knows when I'm using, with the exception of who I'm using with and where we are and what we're doing.” **HW 2**

- Prevention of infectious diseases.

One participant (HW1) reported how being immune compromised/suppressed allowed them to perceive themselves as being more vulnerable to infections such as shingles and hepatitis B. That being the case, they expressed weariness regarding sharing harm reduction supplies/equipment or administering CPR (mouth to mouth) to someone in fear of being exposed to an infectious disease.

- Reduction of wounds and injuries to their skin.

“I don't inject. I don't use needles on me.” **HU 1**

Barriers to Access and Impacts of Stigma

Interactions with LE, EDs and EMS were indicated by participants as one of the major barriers in accessing harm reduction services. Although there were some mixed feelings about how participants perceived their communication with these entities, quite a number demonstrated that they faced a lot of stigma and harassment.

“They [Law enforcement] all treat, treat you like shit pretty much. Even till this day... like we got pulled over 2 weeks ago. 1st thing they said to my boyfriend, is ‘What is that chick hyped up on?’ and he was like, ‘Believe it or not, nothing. She's got ADHD and Tourette’s.’ ... People immediately judge me off the bat and ... I'm getting sick and tired of explaining to people that I have ADHD and Tourette. So, if they don't like what I'm doing, look the other effing way, because this is who I am, and I can't change it.” **ACR 2**

“I entered a probationary officer's probation period because he came in and pointed at my friend and called, and it was a black guy calling my black friend an N-word and I stepped in, and I said, no, no, number one, don't point at someone within 5 feet. You don't know the training they've had. I spent a 3rd of my childhood in Japan, Okinawa, learning mixed martial arts.” **HW 1**

Discussion

This qualitative study examined the extent to which safer smoking supplies are offered and utilized by PWUD in NYS, and the public health benefits associated with their provision and use. Overall, findings indicate that safer smoking supplies are both accessible and meaningfully utilized by participants, with SSPs functioning as critical entry points to broader harm reduction, healthcare, and social support services. These findings align with and extend existing literature on the evolving role of SSPs in response to shifts in drug use patterns and public health needs.

Participants consistently reported regular utilization of harm reduction services and expressed strong appreciation for the availability of safer smoking supplies, staff support, and peer engagement. This sense of gratitude and trust reflects prior evidence that SSPs promote sustained engagement through nonjudgmental, relationship-based service delivery [25, 33]. The quality of communication with staff and peers emerged as a key facilitator of ongoing program participation, supporting literature that emphasizes trust-building as foundational to effective harm reduction and service uptake among PWUD [20, 21].

Beyond smoking supplies, participants highlighted the comprehensive nature of services offered by SSPs, including housing assistance, food access, health insurance navigation, mental health counseling, wound care, and linkage to substance use disorder treatment. These findings are consistent with research documenting SSPs’ expansion from syringe distribution sites into multipurpose public health hubs that address the intersecting structural and health needs of PWUD [24, 25]. In 2022, approximately 10.2% of fatal overdoses were among people experiencing homelessness or housing instability [24]. Unhoused individuals often use emergency departments (ED) for healthcare needs as they face significant barriers to accessing primary care, including healthcare costs, ability to navigate healthcare services, and perceived stigma surrounding homelessness [35]. Such service integration is particularly important given the complex vulnerabilities faced by PWUD amid the ongoing polysubstance overdose crisis [2].

Access to safer smoking supplies in NYS was generally described as reliable, with participants reporting the ability to obtain supplies when needed. Although intermittent supply shortages were acknowledged, participants expressed patience and continued engagement, suggesting strong program acceptability and perceived value. This finding reflects national trends indicating growing demand for safer smoking equipment and highlights ongoing implementation challenges related to funding constraints and supply limitations, particularly given US federal restrictions on using federal funds for smoking supplies [10, 29]. Despite these barriers, participants’ continued utilization shows the importance of safer smoking supplies as a core harm reduction resource.

Participants also articulated clear public health benefits associated with engagement in SSPs and safer smoking supply distribution. Through program participation, individuals reported improved access to wound care, mental health services, and treatment for substance use disorders, strengthening evidence that SSP engagement facilitates linkage to preventive and therapeutic services that are otherwise difficult for PWUD to access [19, 33]. These linkages are especially relevant in the context of smoking drug use, as PWSD have historically been less likely to engage with syringe-focused services [11]. Harm reduction education delivered through SSPs played a central role in shaping safer drug use practices. Participants described increased awareness of the unpredictable and toxic nature of the unregulated drug supply, leading to reduced equipment sharing, more frequent drug checking, safer disposal of supplies, and the ability to use specialized situational management skills to navigate or defuse risky environments. Many studies demonstrated that education accompanying safer smoking supply distribution can reduce behaviors associated with infectious disease transmission, including HIV and hepatitis C virus (HCV) [12, 15, 16]. Importantly, participants strongly preferred smoking over injecting drugs, citing perceived reductions in overdose risk, greater control over drug consumption, fewer wounds and injection-related injuries, and increased discretion. This preference reflects broader shifts documented across the United States toward smoking fentanyl and stimulants, driven by both structural and health-related factors [9, 10, 11]. Emerging evidence suggests that smoking may carry lower risks for certain adverse outcomes compared to injecting, particularly bloodborne infection transmission, although overdose risk remains significant and context-dependent [31, 32]. The present findings support the notion that safer smoking supply provision may help prevent transitions to injection or reduce injection frequency, thereby contributing to reduced HIV and HCV transmission and injection-related morbidity [14, 29].

Taken together, these findings suggest that safer smoking supplies are both offered and actively utilized by PWUD in NYS, and that their provision yields multiple public health benefits. Safer smoking supply distribution enhances SSP engagement, supports safer drug use practices, facilitates access to healthcare and social services, and aligns harm reduction programming with contemporary drug use patterns. As smoking increasingly replaces injection as a primary route of administration, particularly in highly variable/erratic illicit markets, these results highlight the need for sustained funding, supportive policy environments, and continued research to optimize safer smoking interventions and maximize their public health impact within NYS and beyond.

Strengths

Many strengths can be attributed to this study. Firstly, the use of qualitative methodologies assisted in gaining fundamental perspectives (producing anecdotal information of uncertain relevance to ‘real’ science) on harm reduction in NYS from hidden populations. Additionally, the design is time efficient, cost effective and provides a population snapshot. Secondly, saturation of themes was achieved in the analysis despite a relatively small sample size. Lastly, the study is unique in that it covers a holistic area of harm reduction from access of harm services to provision of harm reduction education, and impact of the programs on public health. Previous studies have focused on explaining harm reduction or harm reduction programs and policies around them without getting deeper into the utilization, availability and program impact. [34, 36]

Limitations

Despite the numerous strengths, this study is not without limitations. Firstly, the cross-sectional study nature constrains internal validity which precludes causal and temporal inferences. Secondly, external validity is limited as findings are not generalizable to other populations outside NYS or different subgroups (non-binary gender diversity such as LGBTQ+, marginalized races/ethnicities, adolescents) among PWUD.

Conclusion

This study highlights safer smoking supply distribution as a critical and timely harm reduction strategy within NYS’s evolving drug use landscape. The findings demonstrate that when safer smoking supplies are made accessible through syringe services programs, they are fully utilized and deeply integrated into the daily risk management practices of PWUD. Participants’

sustained engagement, trust in program staff, and reliance on harm reduction education shows the effectiveness of people-centered, nonjudgmental service models in promoting safer consumption behaviors. Also, the results show that harm reduction extends beyond the provision of supplies. Safer smoking initiatives function as gateways to comprehensive public health engagement, linking individuals to wound care, mental health support, housing and food assistance, health insurance navigation, and substance use disorder treatment. These programs contribute to reduced injection-related injuries, lower risk of HIV and hepatitis C transmission, and greater perceived control over overdose risk in an increasingly unpredictable drug supply through supporting smoking as a preferred route of administration over injection. Collectively, the findings affirm that harm reduction strategies grounded in accessibility, education, and trust are profoundly effective in mitigating health risks while respecting autonomy and lived experience. Expanding safer smoking supply distribution and integrating it within holistic SSP models represent evidence-informed public health investments that can reduce preventable harm, enhance service reach, and improve population-level outcomes for PWUD in NYS.

Declarations

Ethical approval and consent to participate: The interviews were deemed quality/program improvement and not human subject research by the NYSDOH IRB and, as a result, IRB oversight was unnecessary. Participation in interviews was voluntary and consent to record was obtained at the beginning of the interview.

Consent for publication: All authors have contributed to the study ana approved of its publication in the Harm Reduction Journal.

Availability of data and materials: Generated transcripts from the participants interviews and code book used in the analysis of transcripts are securely managed through the department's secured SharePoint under the confidentiality clause and data management laws/protocols at the New York State Department of Health and are not available to the public. These, however, may be made available based on reasonable request for scholarly endeavors or to inform future practice.

Conflict of Interest: There are no conflicts of interest to report.

Funding: Opioid Stewardship contributed funding for incentives offered to participants for taking part in the interviews.

Author's contributions: Blender Muzvondiwa developed the data collection guide, collected the data, transcribed the interview recordings, conducted data analysis, developed the manuscript and worked on edits. Guy J. Thomas contributed to the data analysis, manuscript development, review and regulatory submission within the New York State Department of Health. Lisa Skill contributed to review of data collection guide, data collection and review of manuscript. Narelle Ellendon led the coordination of participant mobilization, review of data collection guide, data collection, obtaining funding and manuscript review. All authors contributed to the study concept and design and read and approved of the final manuscript.

Acknowledgements: Researchers would like to take this opportunity to thank all harm reduction sites in NYS who worked with the research team to coordinate interviews and conduct the sampling process and the participants for trusting us and sharing their experiences and insights. Gratitude is also extended to the AIDS Institute's Office of Drug User Health (ODUH), especially Shaymay Gonzalez for assisting with tracking incentives and data management and Office of Program Evaluation and Research (OPER) teams for their support.

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Figures

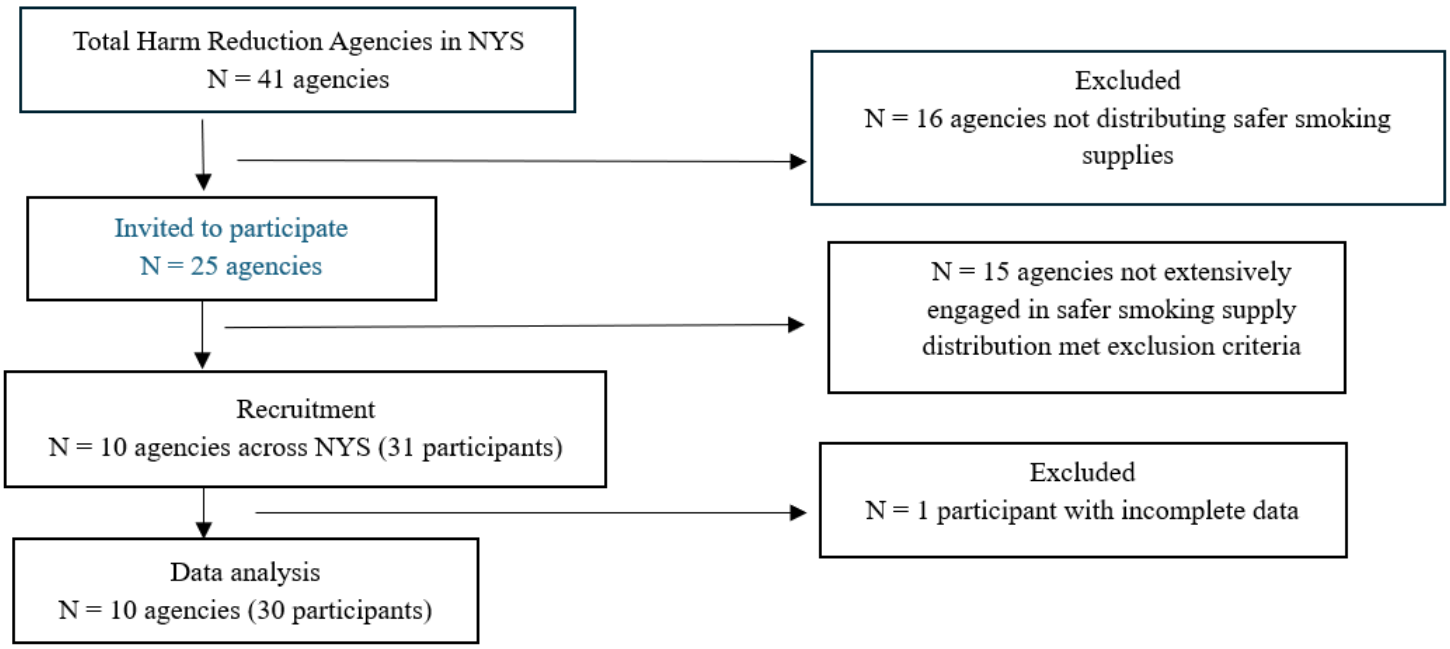


Figure 1

Custom Study Flow Chart Comprising of Inclusion and Exclusion Criteria of Participants