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Perspectives on supervised injection facilities among service industry employees in New York City: A qualitative exploration

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Abstract

Background: Approximately 100 supervised injection facilities (SIFs) operate in 66 cities around the world to reduce overdose deaths, the spread of disease and public disorder, though none legally exist in the United States. Public bathrooms are among the most common public places for injection reported by people who inject drugs in New York City (NYC) and service industry employees (SIEs) inadvertently become first-responders when overdoses occur in business bathrooms. The goal of this study was to assess SIE acceptability of SIFs and the perceived effects that SIFs would have on them, their colleagues, their businesses and communities.

Methods: Semi-structured qualitative interviews were conducted with 15 SIEs recruited through convenience sampling throughout NYC. Participants were provided with peer-reviewed scientific evidence prior to discussing SIFs. Data were analysed using a hybrid deductive and inductive approach.

Results: Most SIEs had encountered drug use (93%, $n = 14/15$) and syringes (73%, $n = 11/15$) in their business bathrooms and three had encountered unresponsive individuals. Nearly all workers (93%, $n = 14/15$) were supportive of SIFs and believed SIFs would reduce injection drug use in

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Author contributions

BWS designed and conceptualized most of the project, led recruitment, conducted the interviews, analysed the qualitative data and took the lead in writing the manuscript. LE assisted in project conceptualization, interview guide development, qualitative data analysis and manuscript preparation. ASB assisted in project conceptualization, interview guide development, qualitative data analysis and manuscript preparation. RC assisted in participant recruitment, project conceptualization and manuscript preparation. MVG assisted in manuscript preparation and project conceptualization.

Conflict of interest

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their business bathrooms. Participants also believed that ‘not in my backyard’ arguments from community boards may impede SIF operation.

Conclusions: Service industry employees are critical stakeholders due to their exposure to occupational health hazards related to public injection. Those interviewed were amenable to SIF operation as a form of occupational harm reduction and their experiences provide an important dimension to the political debate surrounding SIFs.

Keywords

Supervised injection facilities; Public injection; People who inject drugs; Overdose; Risk environment; Harm reduction

Introduction

Drug overdose mortality rates per year in the United States (US) have nearly tripled between 1999–2014, rising to 64,070 deaths in 2016 with opioids involved in over 75% (Centers for Disease Control & Prevention, 2017; National Institute on Drug Abuse, 2017; Rudd, Seth, David, & Scholl, 2016). New York City (NYC) is home to some of the most robust harm reduction and outreach programs in the US but continues to see escalating rates of unintentional drug overdose deaths in part due to the increasing presence of fentanyl in street heroin (New York City Department of Health & Mental Hygiene, 2017).

When people who inject drugs (PWID) do not have a private place to prepare and inject drugs, they actively search for public spaces that reduce their exposure to non-injectors and law enforcement (Fitzgerald, 2005; Parkin & Coomber, 2011; Parkin, 2013; Rhodes, 2002). Reports suggest that public bathrooms¹ are among the most commonly used public injecting locations among PWID in NYC (Injection Drug Users Health Alliance, 2015; New York City Department of Health & Mental Hygiene, 2010, 2013). Some of the motivating factors for the use of this type of location are immediacy and privacy (Crabtree et al., 2013; Parkin & Coomber, 2010; Parkin, 2013) in addition to their cleanliness compared to other alternatives such as parks and alleyways. The privacy afforded by public bathrooms can minimize physical harms to PWID by providing them with adequate time for drug preparation and injection, which can in turn reduce the risk of abscesses and vein damage associated with rushed or interrupted injections (Bourgois, 1998; Cooper, Moore, Gruskin, & Krieger, 2005; DeBeck et al., 2009; Gibson et al., 2011; Marshall, Kerr, Qi, Montaner, & Wood, 2010; Parkin & Coomber, 2011; Salmon et al., 2009; Small, Rhodes, Wood, & Kerr, 2007).

People who inject drugs in public bathrooms typically attempt to be discreet, but establishments may be alerted to their presence in the event of an overdose or when someone finds an improperly disposed syringe. The use of public bathrooms for injection drug use has become so common in some parts of the US and Europe that hospitals (Ramsay, 2002) and businesses (BBC News, 2003; Rubinkam, 2018; Steves, 2010; Watts, 2018) have responded

¹The term ‘public bathroom’ is used to define a room that contains a toilet, access to a sink, is available for public use, and managed by either a local government or by the business in which it is located. The term is synonymous with ‘public toilet’, ‘public restroom’, ‘public washroom’, and ‘public water closet’.

by installing blue lights in an attempt to deter drug use though research suggests that this intervention is not effective in deterring PWID (Crabtree et al., 2013; Parkin & Coomber, 2010; Parkin, 2013). Other businesses have installed locks on bathroom doors that workers can unlock at their discretion, potentially exposing themselves and their business to discriminatory lawsuits. Discriminatory bathroom policies also create a false sense of control as bathroom users can hold the door for one another which leaves workers unaware of who is in the bathroom and for how long. The use of techniques that have questionable effectiveness suggests that those who manage these public bathrooms have few options when trying to curb injection drug use.

In response to public injection and increasing overdose mortality, communities throughout the US are considering implementing supervised injection facilities (SIFs) though none legally operate within the country as of August 2018 (Foderaro, 2016; Goldberg, 2016; Gutman, 2016; Sabatini, 2016). Supervised injection facilities are legally-operated venues where people can consume pre-obtained drugs in a hygienic environment under the supervision of medical staff and harm reduction workers who can manage overdoses and educate PWID on safer injection techniques. The conventional setting for SIFs are low-threshold, non-judgemental and assist in linking PWID to a variety of health and social services (Potier, Laprévotte, Dubois-Arber, Cottencin, & Rolland, 2014). Though none currently operate in the US, approximately 100 SIFs operate in 66 cities throughout the world (Drug Policy Alliance, 2016). Research suggests that SIFs are capable of successfully managing overdoses, reducing overdose deaths, reducing HIV/HCV risk behaviour, increasing uptake of addiction treatment, as well as reducing public injection and public disorder (Kerr, Tyndall, Li, Montaner, & Wood, 2005; Marshall, Milloy, Wood, Montaner, & Kerr, 2011; Petrar et al., 2007; Salmon, Thein, Kimber, Kaldor, & Maher, 2007; Small, Van Borek, Fairbairn, Wood, & Kerr, 2009; Stoltz et al., 2007; Wood et al., 2004; Wood, Tyndall, Zhang, Montaner, & Kerr, 2007; Wood, Tyndall, Zhang et al., 2006). Furthermore, SIFs are cost-effective and have not been found to increase drug injecting or drug-related crime in the neighbourhoods in which they operate (Andresen & Boyd, 2010; Freeman et al., 2005; Irwin, Jozaghi, Bluthenthal, & Kral, 2017; Irwin, Jozaghi, Weir et al., 2017; Jozaghi, Reid, Andresen, & Juneau, 2014; Kerr et al., 2006, 2007; Wood, Tyndall, Lai, Montaner, & Kerr, 2006).

Despite the impact that SIFs may have on public bathroom drug use, little is known about the experiences of workers who regularly encounter PWID in their business bathrooms. A better understanding of worker experiences may help guide public policies directed at alleviating the community harms associated with injection drug use and improve worker and customer safety. A previous study of business managers in NYC revealed that 58% of the managers interviewed had encountered drug use in their business bathroom within the past six months and that more than one-third had also encountered improperly discarded syringes (Wolfson-Stofko, Bennett, Elliott, & Curtis, 2017). Additionally, 90% had no training in overdose response & naloxone administration though 14% had encountered someone who was unresponsive, presumably due to drug use, within the past six months (Wolfson-Stofko et al., 2017). More information about these workers' experiences may be valuable for the SIF feasibility studies that have been requested by policymakers (Goldberg, 2016; Larson, Padron, Mason, & Bogaczyk, 2017; Wilkinson & Fan, 2016) and community groups.

Previous research focused on community stakeholder perspectives of SIFs (Strike, Watson, Kolla, Penn, & Bayoumi, 2015; Wenger, Arreola, & Kral, 2011) have included business owners but not business managers and staff that directly interact with PWID and are, by default, first-responders to overdoses and improperly disposed syringes. Here we explore business manager and staff (collectively referred to as service industry employees (SIEs) herein) perspectives on SIFs in relation to their experiences with injection drug use occurring in their business bathrooms.

Methods

Study design & population

This exploratory qualitative study was based on 15 interviews conducted between September 2016 and May 2017 with 15 SIEs (10 managers and 5 staff), from 13 different businesses (each from a different business location) in NYC. Participants provided written informed consent and were compensated \$40 for their time. All study procedures were approved by National Development & Research Institutes' Institutional Review Board and all names reported in this study are pseudonyms.

The eligibility criteria for participation included: 1) have a bathroom available for customer use, 2) have worked at the business at least six months, 3) the business is located within NYC, 4) that the business not have a liquor license and 5) that the participant was 18 years old or older. We excluded businesses with liquor licenses (i.e. bars and clubs) because we wanted to distinguish the experiences of SIEs who worked at establishments that did not restrict access on the basis of age or dress, operated without security guards and conducted business during normal daytime operating hours with some extended evening hours (e.g. laundromat). Service industry employees that work in establishments with liquor licenses also have different experiences as the aim of their clientele is often alcohol intoxication. Notwithstanding, the experiences and perspectives of SIEs working at establishments that have liquor licenses are equally warranted but outside the scope of this study.

Convenience sampling was utilized to recruit participants (Givens, 2008). Efforts were made to recruit from a variety of neighbourhoods throughout NYC. The research project staff worked, resided and congregated socially in various neighbourhoods throughout Manhattan, Brooklyn and the Bronx and recruited participants seven days a week during the day and into the evening. Participants were recruited at their place of business, through referrals from other participants and via email through a service workers listserv. Those who were interested in the study and had time to participate were screened for the eligibility criteria noted above and interviewed at either their place of business, nearby coffee shop or at research staff's offices.

Seven of the businesses were located in Manhattan, seven in Brooklyn and one in the Bronx. We used a tier system to classify and describe neighbourhoods according to overdose death rates as previously reported (Wolfson-Stofko et al., 2017). In brief, Tier I consists of the 5 neighbourhoods experiencing the highest overdose death rates in the city (30–22.2 overdose deaths per 100,000 residents), Tier II ranging from 22.1–15.9 per 100,000, Tier III ranging

from 15.8–10.9 per 100,000, Tier IV ranging from 10.8–7.2 per 100,000 and Tier V ranging from 7.1–3.7 per 100,000 (New York City Department of Health & Mental Hygiene, 2016).

Data collection

Semi-structured interviews (lasting an average of 30 min) were conducted by the lead author (BWS) focusing on participant encounters with drug use in their business bathroom, improperly discarded syringes, and unresponsive individuals. The interview guide covered a variety of potential public health interventions such as overdose response & naloxone administration, safe sharps disposal training and sharps container installations in business bathrooms. It also provided workers an opportunity to suggest additional trainings or interventions that would be useful at helping them manage injection drug use, its associated community risks, as well as potential ways of reducing drug use in their place of business.

The interviews concluded with questions about SIFs. Participants were first asked whether they could explain what SIFs were. Regardless of their depth of knowledge, the interviewer provided SIEs with information on SIF operating protocols² and a summary of the peer-reviewed scientific evidence on SIFs derived from a systematic review (Potier et al., 2014) which discussed the topics of overdose, syringe sharing, crime and public order, effects on community drug use, uptake of addiction services and cost-effectiveness. The SIF operating protocol and summary of the scientific literature was explained in approximately 5 min. Only stand-alone and integrated (into syringe exchange programs) SIF models were discussed in order to gauge the level of SIE support for permanent fixtures within their business's neighbourhood. This scientific evidence was provided prior to the discussion about SIFs because participants in previous community stakeholder studies (Strike et al., 2015; Wenger et al., 2011) requested more information on the scientific evidence of SIFs so they could "make a sound recommendation" (Strike et al., 2015). After providing the information, SIEs were allotted time to process the information and ask any questions. Participants were then asked about their perspectives on SIFs, the effect it would have in the business's community and how a SIF near their business would affect injection drug use occurring in their business bathroom.

Data analysis

Interviews were digitally recorded, professionally transcribed verbatim and cleaned to remove vocalized pauses and filler utterances, and then entered into a software analysis program (MAXQDA, <https://maxqda.com>) for coding and analysis. The transcripts were analysed using a hybrid deductive and inductive approach informed by the tenets of grounded theory (Charmaz, 2000; Glaser & Strauss, 1967; Strauss & Corbin, 1990) that aimed to develop a typology of perspectives described by SIEs experiences with drug use occurring in their business. Three authors with qualitative expertise (BWS, LE & ASB) separately coded an initial subset of transcripts, using a preliminary list of *a priori* codes based on topical domains addressed in the interview protocol (e.g. encounters with

²The SIF operating protocols described in this study were derived from personal communications with the Insite program manager (Vancouver, BC, Canada). The description provided to participants included the check-in procedure, waiting room, injection room, post-injection room ('chill room') and the services provided. It was also clearly stated that some SIFs, such as Insite, offer on-site detoxification and transitional housing services, but that not all SIFs provide these services.

unresponsive individuals, encounters with improperly discarded syringes, perspectives on SIFs, etc.). The three coders met regularly during this process to discuss emergent themes and the addition of new code categories (e.g. additional trainings, concerns about loitering after SIF use, etc.). *A priori* codes were augmented with *a posteriori* codes by consensus until a final code list was established. The final code list guided the coding and analysis of the remaining transcripts and the recoding of the initial transcripts, a task conducted by the lead (BWS) and second author (LE).

Results

Participant & business characteristics

Participants' mean age was 35 years (range = 27–53 years); 67% identified as female; and 60% ($n = 9/15$) identified as White while the remaining six participants identified as Asian, Biracial, Black, Latino and Guyanese. They had worked at their place of business an average of 4.8 years (range = 1–9 years) and 10 were employed at coffee shops, two at cafés, one at a music store, one at a laundromat and one at a physician's office.

The businesses in this study were located in four different Tiers. One business was located in a Tier I neighbourhood, seven were in Tier III neighbourhoods, six were in Tier IV neighbourhoods and one was in a Tier V neighbourhood.

Bathroom characteristics

All businesses provided bathrooms that were easily accessible for customers. Eighty-seven percent ($n = 13/15$) of the businesses had single-stall bathrooms and the remaining two had multi-stall bathrooms. Most bathrooms were unlocked and readily accessible to the public, though a few businesses restricted access in various ways. For example, one café had a coin-operated lock on the bathroom and two coffee shops had locked bathrooms that required key codes that were provided to customers at SIE discretion.

Participant encounters with drug use, unresponsive individuals, improperly discarded syringes and needlestick injuries

Encounters with drug use—Prior to discussing SIFs, SIEs were asked about their encounters with drug use, unresponsive individuals, improperly discarded syringes and needlestick injuries that had occurred in their businesses. Nearly all (93%, $n = 14/15$) SIEs had encountered drug use in their business bathrooms and three had encountered people who were unresponsive, presumably due to drug overdose and only two of the SIEs in this study had previously been trained in overdose response & naloxone administration (one at behest of their business after an unresponsive encounter and the other because she was a volunteer at a local harm reduction agency). Others reported being totally unprepared when they encountered unresponsive individuals in their business bathrooms. Nikki, a staff member at a coffee shop, was alerted to an overdose by a customer who was in queue:

She had been in the bathroom 20 minutes...[I went in and] she was sitting kind of slumped on the toilet so I told my manager that we had an overdose in the bathroom. We called the police. We called EMS [emergency medical services] and

they came and got her and took her out on the stretcher. I don't know what happened to her.

In addition to the woman being in the bathrooms for approximately 20 min before being found, Nikki further noted that it took EMS and law enforcement another 20 min to arrive on the scene after calling 911.³ Cheryl, a coffee shop manager, also received a delayed notification about an unresponsive person in her businesses bathroom:

[A staff member] had come to me and said this person has been in the bathroom for 2 or 3 hours...I have them check the bathroom throughout the day...but sometimes it's just that we lock [the bathroom]...I used the master key to open it [the door]...and saw a man laying down on the ground. I told one of my managers to call 911 so I could stay with him...the next day...[A family member] said he had overdosed in the bathroom...they didn't know if he was going to pull through.

The overdose came to Cheryl's attention after it was confirmed that the bathroom was not locked by fellow SIEs for cleaning or maintenance. And since there was no queue for the bathroom, there were no customer complaints and the individual in the bathroom went unnoticed. Thus, the delay in SIEs being notified in both of these scenarios prevented a timely medical response, potentially endangering lives.

Improperly disposed syringes and needlesticks—Another issue that many of the SIEs (73%, $n = 11/15$) encountered was improperly disposed syringes in their business bathroom. Most had found syringes either on the floor or in garbage cans but Rob, a staff member at a coffee shop, found them in an unsuspecting place:

We did have people hiding syringes and their gear right up in our ceiling tiles for a while so we had to glue all of our tiles down last year.

Improperly disposed syringes, whether in a conspicuous or inconspicuous place, have the potential to cause needlesticks to customers and SIEs. Sarah, a staff member at a physician's office, described the repercussions after a customer found a syringe on the bathroom floor:

[A patient] went to the bathroom with her daughter and found [a syringe]...and her daughter touched it. Her daughter was like five years old. She made a whole complaint to the management and everything. This patient used to be one that we used to see every six months and then all of a sudden, after that encounter, she stopped coming to our office because I mean it's dangerous when you see a little kid grab a syringe that's already been used.

Though bathrooms may be regularly inspected and cleaned, concealed items can be overlooked and syringes can be improperly discarded between cleanings and place SIEs and customers at risk of contact. Frank, a manager at a café, reported a needlestick injury that occurred to a staff member when collecting the trash from the bathroom:

We have had a needlestick. It happened to a staff person who was taking out the trash. A needle was thrown in the trash rather than in the [sharps container]...If that

³911 is the emergency number used in the United States to contact police, emergency medical services and fire department.

had been a random customer, it could have played out much, much differently and fortunately there were no long-term effects [to the staff person] from that incident.

This was the only business in this study whose bathrooms were equipped with sharps containers. The sharps containers were regularly utilized, but not in this case. After the needlestick injury, Frank contacted a local syringe exchange for support and was provided with a counsellor who escorted the SIE to a hospital emergency department. The SIE was later informed that no blood-borne pathogens were contracted from the needlestick injury. Frank also believed that if the needlestick had injured a customer there would have been a high potential for personal injury litigation and the business receiving negative press.

Participant encounters with drug use, unresponsive individuals, improperly discarded syringes and needlestick injuries exemplify some of the challenges experienced by SIEs that put them and their customers at risk of injury. Following these discussions, SIEs were asked to reflect upon these experiences and asked what effect SIFs would have on injection drug use occurring in business bathrooms and their workplace safety.

Perceived effects of SIFs on business bathroom drug use

Familiarity with SIFs—More than half (60%, $n = 9/15$) of the SIEs interviewed were familiar with SIFs prior to the study. Nikki, who was the most knowledgeable of SIFs, elaborated:

Basically, it's a place where people [who] use needle drugs can go and...inject with clean needles and allow them to inject in a place that is not a coffee shop bathroom...I think it's a good idea because if you don't, people are going to do what they're going to do.

Jane, a coffee shop manager, was also familiar with how SIFs operated as well as some of the controversy surrounding them stating that opponents believed that SIFs “are encouraging addiction rather than trying to fight it.”

Effect on injection drug use in business bathrooms—After familiarizing SIEs with SIFs, the scientific evidence and the interviewer responding to any questions, nearly all workers (93%, $n = 14/15$) stated that they were supportive of SIFs and believed that they would be effective at reducing injection drug use occurring in their business bathrooms. The response provided by Rachel, a coffee shop manager, summarizes the perspectives of the supportive participants:

There obviously would be less of it [use of drugs in business bathrooms]. People use drugs in bathrooms since they don't have access to other dry, warm, safe places to use drugs.

Many of the SIEs interviewed (73%, $n = 11/15$) felt that the lack of ‘safe’, sanctioned spaces to inject contributed to the use of business bathrooms for injection among PWID. As stated previously, the privacy and security provided by a bathroom (particularly a single-stall bathroom) protects PWID from arrest and street violence while also allowing more time to complete injections as safely as possible. These SIEs believed that if a SIF was available in

their business's neighbour-hood, it would provide adequate incentives for PWID and reduce the amount of injections occurring in their business bathrooms.

We also found that SIEs have minimal means of getting PWID out of their business bathroom. During the interview with Danielle, a coffee shop manager, the interviewer witnessed a SIE interacting with a man who regularly used drugs in the business's sole, single-stall bathroom and had occupied it for 40 min. This individual's lengthy amount of time in the bathroom was brought to the SIE's attention by customers who had been waiting to use the bathroom. The interviewer followed Danielle to the bathroom to document the encounter. She first knocked on the door and politely asked the individual to leave the bathroom so others could use it, but she received no response. Danielle then threatened to notify law enforcement if he did not come out. After that threat, the individual came out of the bathroom and hastily walked toward the exit without saying a word and disappeared onto the street. Danielle then described the frustration of having to make threats as a means to resolve these situations:

I hate to threaten with authority and cops but...I didn't think he would get out. Of course, he doesn't want me to call 911. That will not go well for him, but after like 40 minutes [in the bathroom]?!

Danielle indicated that she had no other leverage in this situation aside than to threaten to call law enforcement when a person will not come out of the bathroom, a sentiment shared by the majority of SIEs interviewed (73%, $n = 11/15$) and a tactic used by Frank as well because he believed that the threat of law enforcement involvement "may help move things along" and get people out of the bathroom.

After Danielle's encounter with the individual who would not leave the bathroom, she was asked what effect a SIF might have on these types of situations:

I think it [a SIF] would eliminate most of it [drug use in business bathrooms], you'd probably still get some, but I think the vast majority of people who are using needle drugs don't want to be a problem to anyone...So yeah, I think it [a SIF] would cure a lot of the problems and keep people safe and be a good thing.

Danielle believed that a SIF would provide a discreet location for injections and prevent confrontations, similar to the one described above, between PWID and SIEs. Though SIFs would provide a variety of benefits and services, Frank, who was supportive of SIFs, felt that some PWID would still use business bathrooms regardless of their availability:

Yeah, I think I am a little sceptical...if someone's in a pattern, even if there is this really nice place you could go, it's just a couple of blocks over there. If this is where they are used to coming, some of that might come into play with some people.

Frank's scepticism about PWID routine is not unfounded being that some PWID prefer injecting alone compared to the more communal setting of a SIF. People who inject drugs may also find some SIF regulations unfavourable, such as the operating hours and not being allowed to share drugs in a SIF (Kral et al., 2010). Mary, a restaurant manager, however, was much more sceptical about SIFs for other reasons:

I think it [SIF] is just a waste of taxpayer money. I do. There are other things that we can do to help people...such as feeding people who are hungry, who can't find jobs, not these people who are abusing the system and taxpayers' money because they have an addiction. It upsets me that they're doing so much for these people who are just a waste of life, that they're trying to kill themselves and they're not going to stop. Why help these people?

Mary did not see any benefits to SIFs and stated that she was “against drugs 100%” and does not “feel sorry for anyone on [drugs]” and views those who use them as “weak.” This disdain for PWID by SIEs was not uncommon given that some SIEs believed that part of their job was to stop people from using drugs in their business (Parkin & Coomber, 2009). Mary also echoed concerns from previous stakeholder studies in regards to the allocation of public funds towards harm reduction programs and scepticism towards the harm reduction model as a whole (Strike et al., 2015; Wenger et al., 2011).

Perceived effect of SIFs on public drug use and loitering inside and outside of businesses

Aside from SIEs believing that SIFs would reduce injection drug use in their business bathrooms, the majority (73%, $n = 11/15$) also believed that public drug use within the community would decrease if a SIF was operational, as stated by John, a laundromat manager:

I think it's a great idea because I see so many [PWID] on the streets every day. So rather than hanging out there and doing what they're doing, I mean, let them go somewhere where it's much safer and supervised. And it would be safer for them and the community. They're not on the streets.

Though many SIEs believed that public drug use would be reduced by a SIF, a main concern for SIEs was that a SIF within walking distance of their business could potentially lead to loitering inside and outside of their business. Most SIEs (67%, $n = 10/15$) were sympathetic to PWID and would allow them to sit in their business even if they had not made a purchase as long as the individual did not sleep and was not disruptive. However, SIEs did frequently encounter people who were disruptive (though it is unclear if these were PWID). Peter, a café manager, expressed his concern:

That's the thing, the idea of it is really good, but let's say the facilities are like down the street, mathematically they [the amount of PWID] will increase. It will increase and a lot of drug users will come in [to the business].

Peter's trepidation pertained to the fear of a mass exodus of PWID to a SIF and by proximity, to his business. He also stated that PWID “swarm” his business in the winter and that he's worried that a SIF may exacerbate this issue.

Perceptions of community support for SIFs

Though SIEs believed that SIFs would reduce injection drug use in their business bathrooms, they were concerned about the feasibility of operating a SIF in their business's neighbourhood as stated by Frank and Jane, respectively:

They would just worry about what that's [SIF] going to bring in or what's already here is going to stay here and it's not going to go away...If you pay three million dollars for a loft it just may not be what you want in your neighbourhood.

A ton of older people have lived in the neighborhood a long time. I bet there would be pushback to it, 'not in my backyard' you know.

Most SIEs (80%, $n = 12/15$) believed that community boards and residents in their business's neighbourhood would have similar attitudes towards SIFs. Jane believed that most of the people living in her business's neighbourhood would understand that SIFs benefit PWID but that they wouldn't want them in their neighbourhood because, "it's where their [the residents] kids are." These concerns are not uncommon for a variety of social service facilities (homeless shelters, in-patient mental health facilities, etc.) and would need to be addressed through community consultations and education sessions.

Discussion

According to participants in this study, the operation of a SIF in a community will yield a variety of advantages and some concerns. The SIEs interviewed in this study overwhelmingly believed that the operation of SIFs near their businesses would reduce the amount of drug use occurring in their business bathrooms as well as their encounters with improperly discarded syringes and unresponsive individuals. This strong support from SIEs working in neighbourhoods with varying levels of overdose mortality suggests that public injection, overdose and syringe encounters in business bathrooms are widespread concerns throughout NYC.

Previous community stakeholder studies that focused on SIF acceptability presented participants with basic information on SIF operations in order to obtain a baseline for public opinion. As mentioned above, these studies found that many community stakeholders were ambivalent towards SIFs and that some even refused to offer opinions in these studies in part due to their "lack of knowledge about such outcomes and evidence" related to SIFs (Strike et al., 2015). For instance, a religious leader in another study stated that their initial negative opinion of SIFs was shifted when they gained access to the scientific literature surrounding SIFs and now recognized the benefits of SIF operation (Wenger et al., 2011). In this study, we sought to obtain informed opinions from participants and decided that these could be best acquired by presenting and discussing the scientific literature with participants prior to questions about SIF acceptability and potential community effects. This approach ensured that all participants had the same baseline knowledge prior to our inquiring about SIF perceptions. This study also solely discussed stand-alone and integrated SIF models and did not examine the possibility of operating mobile SIFs or un-sanctioned overdose prevention sites (Lupick, 2016; Mullin, 2017) though these movable and highly adaptable models can be useful in communities with high levels of opposition to permanent sites.

The ample support for SIFs from participants in this study suggests that presenting scientific evidence on SIFs to community stakeholders prior to consultations may alleviate some concerns about SIF efficacy and promote more productive discussions. However, the presentation of scientific evidence does not eradicate all concerns.

Participants in this study expressed ongoing concerns about the potential for loitering before and after PWIDs use of SIFs. These concerns are reasonable, though the literature suggests that loitering and public disorder would remain unchanged in the context of a local SIF (Freeman et al., 2005; Wood et al., 2004). An expansion of ‘chill rooms’, where PWID congregate post-injection and are connected to medical and social services, could further address loitering concerns by providing social activities and programs for PWID as well as outdoor smoking areas (possibly on rooftops) as an alternative to congregating on the streets and in local businesses.

Further concerns about the impact of SIFs on local communities can be addressed by inviting delegations of concerned community members to visit communities (outside of the US) that have opened SIFs as numerous elected officials, healthcare providers, business leaders and law enforcement officers have previously done (Goodman, 2018; O’Connor, 2018; Shaban, Campos, Rutanooshedech, & Horn, 2018). The delegation’s discussions with local stakeholders combined with opportunities to tour SIFs and the surrounding community may assist in quelling community opposition and lead to more fruitful discussions.

This study advances previous SIF stakeholder research by providing participants with peer-reviewed scientific evidence, as requested by stakeholders in previous studies (Strike et al., 2015; Wenger et al., 2011). Though this information may have introduced a bias, it is necessary for participants to understand the extent of the scientific literature so that they can make an informed decision as with any other public health initiative. The results from this study suggest that SIEs are a group of critical stakeholders who should be included in future policy discussions, given that their workplace safety and that of their customers can be improved through the implementation of SIFs.

Limitations

The results from this study cannot be generalized to all of NYC, given that this study utilized convenience sampling and consisted of a small sample size. Recruitment from neighbourhoods with historically high drug overdose death rates proved to be challenging because many of these SIEs were sceptical of the anonymity and confidentiality guaranteed by the study and were concerned that participation might jeopardize their employment. However, the goal of this study was to generate preliminary indications of SIEs’ perspectives towards drug use and their acceptability of some public health solutions such as SIFs. The results of this study may be biased toward the SIEs willing to participate, the possibility that SIEs provided socially desirable answers and that the scientific evidence presented on SIFs may have influenced SIEs’ responses.

Conclusion

This study found that SIEs in NYC inadvertently become first-responders in the event of an overdose and incur considerable risks through their exposure to improperly discarded syringes. Nearly all SIEs were supportive of SIFs and believed that SIF operation would reduce drug use, overdose and syringe encounters in their places of business. Providing SIEs and other stakeholders with peer-reviewed scientific evidence prior to inquiring about the

potential effects of a public health initiative may result in more informed opinions. As such, this study further indicates that SIEs should be considered critical stakeholders in future dialogue with regard to SIFs being that them, their colleagues and customer's safety stand to benefit from the operation of SIFs.

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