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Out of the Alley: Lessons from Safe Injecting Facilities (SIF)

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Abstract

Injecting drug use is a public health problem in need of novel intervention. Heroin and cocaine, two commonly injected drugs, highly contribute to overdose death. Overdose is now the number one cause of unintentional death in the United States. Those who inject drugs are also at risk of infectious diseases such as HIV and HCV. Current methods to reduce the harms associated with injecting drug use are not meeting the needs of injecting drug users (IDUs). In many parts of the world, injecting drug use is tolerated and permitted at supervised facilities where medical staff are available as needed.

To determine if such facilities are possible in the United States this literature review of research related to safe injecting facilities (SIF) was conducted. The databases PsychInfo and CINAHL Complete were utilized in this review. Thirty-two articles were considered, and five were excluded. Twenty-seven comprised the final literature review. It is clear that SIF will be utilized by IDUs. These facilities will serve to reduce risk of overdose, reduce disease transmission, increase treatment access, and provide a valuable service to the neighboring community. Further research and education are needed to gain public support for these lifesaving community interventions in the United States.

Introduction

Injection drug use is a public health problem that has been difficult to address, because of negative views on individuals who inject and limited treatment options. Individuals injecting drugs face high risk of contracting infectious diseases and premature death from overdose. The drug users are often forced to inject in unsanitary public settings, placing not only them at risk, but the general public (Green et al., 2003; Navarro & Leonard, 2004). Present interventions include arrest and dispersing injecting drug users (IDUs), forcing them away from proactive treatment services, further into the challenges and risks of injecting drug use. It has been shown that for every dollar spent on treatment, seven dollars are returned (Ettner et al., 2006). In order to experience these results, novel interventions allowing IDUs to access medical services must be made available.

Rates of overdose death related to drug use have been steadily climbing since 1970 (CDC, 2010). In 2008, cocaine was involved in almost 500,000 emergency department visits for overdose and heroin was involved in over 200,000 (CDC, 2010). Between 1999 and 2004, the rates of overdose deaths almost doubled from over 12,000 to over 20,000 (Paulozzi & Annet, 2007) and have now surpassed car accidents as the leading cause of accidental death in the United States, taking the lives of nearly 40,000 annually (CDC, 2013).

Nationally, injecting drug use is the third leading cause of HIV infection (Grigoryan et al., 2009). According to the Centers for Disease Control and Prevention (CDC), from 2004-2007, almost 20,000 new cases of HIV were identified in IDUs (Grigoryan et al., 2009). Those between the ages of 35-44 were the most likely age group diagnosed. The majority of these individuals (74%) lived in urban areas. Black or African American males were the most likely diagnosed, accounting for over 17% of new cases. Hepatitis C (HCV) is another common infection transmitted by injection drug use, affecting almost 45% of the IDUs between the ages of 18-29 (Koh & Valdiserri, 2013). IDUs face challenges obtaining sterile syringes, a key resource to engage in safe injecting practices to limit disease transmission (Heller, Paone, Siegler, & Karpati, 2008).

Connection to treatment services is vital to reducing overdose deaths and preventing disease transmission. Yet few willingly engage in treatment unless they consider their use to be a problem. They may also decide that the benefits of use - e.g., for dealing with trauma, grief or pain - outweigh the costs. Use can

also promote a sense of belonging and allow individuals to have positive experiences. Some are embarrassed to seek treatment due to stigma, and many are unprepared to follow the objectives of a traditional treatment program (Prochaska, DiClemente, & Norcross, 1992; Witkiewitz, 2005). Individuals frequently express a desire to seek treatment (Prochaska et al., 1992). However, most are only able to access programs that view substance use or users as immoral or diseased (Marlatt & Witkiewitz, 2002). By not adhering to an abstinence-only model, individuals are often blocked from treatment, labeled as noncompliant, and identified as abusers of the system. Help, according to the current model, is only available for those with the desire to abstain and who have hit their bottom (Mac Master, 2004). In practicing this type of exclusion, treatment programs are ignoring basic health and societal risks associated with injection drug use. Access to healthcare resources must be made available to the most marginalized populations of drug users.

In many parts of the world, injecting drug use is being tolerated at specific programs termed safe injecting facilities (SIF) or safe consumption facilities (SCF). For the purpose of this review, the focus will be on SIF because they are directed specifically at injecting drug users and provide a range of healthcare and ancillary services. SCF are more commonly associated with tolerant places to both smoke and inject drugs, often with minimal intervention (Wolf Linssen, & de Graff, 2003). As of 2003, there were 50 formal SIF in six countries, one of which is located in North America (Broadhead et al., 2003). These facilities differ to varying degrees on how they provide assistance to injecting drug users (Wolf et al., 2003). Historically, these programs faced many challenges initiating their services due to a lack of evidence supporting their implementation (Wodak, Symonds, & Richmond, 2003). In Australia, underground injecting rooms snowballed into public requests for a scientifically evaluated SIF (Wodak, et al., 2003). The present literature review aims at examining available literature about SIF to develop a clear picture of the benefits and challenges of opening a SIF in the United States and also identify areas for further research.

Search Strategy

Peer-reviewed journal articles were searched utilizing the databases PsychInfo and CINAHL Complete. Articles were obtained between 1980 and 2013 to include the years when harm reduction strategies began gaining momentum and include up-to-date publications. To examine publications specific to opinions of safe injection facilities (SIF) and the potential impact of SIF on injecting drug users (IDUs) and the community, criteria included articles which were peer reviewed, were samples of adults (age 18+), and published in English. Search terms included combinations of searches for safe/safer/supervised injecting/injection facility/facilities and qualifiers of opinion, public, perceptions, consideration, and perspective. These searches yielded between 2 and 19 results. To examine reasons for safe injection facilities, a search was conducted for safer injection and illicit drugs. This strategy returned 17 results.

Titles and abstracts were examined to determine if SIF were mentioned. A total of 32 articles which mentioned SIF were cataloged and each complete article was read to determine if the authors ad-

ressed opinions, benefits, or use of SIF. Five articles were excluded in the final literature review. One article was not included because it did not scientifically explore opinion, but provided a narrative of the progression from underground operation to legal entity in Australia (Wodak, Symonds, & Richmond, 2003). Another described facilities in the Netherlands through a literature review, observation, and interview process (Wolf et al., 2003). Three other excluded articles explored syringe access and use within the community (Heller, Paone, Siegler, & Karpati, 2009), provided demographic description of public injectors and factors related to public injection (Navarro & Leonard, 2004), and described patterns of injecting drug use as a basis for opening a facility (Green et al., 2003). Excluded articles were included in the introduction to this review. The remaining 27 articles comprise the present literature review. The articles were grouped to explore opinions of use and implementation of SIF, utilization of SIF, benefits of SIF, and considerations for further implementation and improvement of SIF.

Literature Review

Articles included in this review stemmed from pre- and post-implementation of North America's first SIF, Insite, in Vancouver, Canada. Despite the search criteria range of 1980-2013 the majority of articles were from the years 2003 and 2007. These years include the year prior to implementation and four years into assessment of Insite, respectively. Articles also addressed the nature of SIF in Australia and considerations of current injecting drug users in San Francisco and New York City. Readers will note that in North America, these three cities are also home to organized and public groups termed Drug Users Unions, which advocate for resources and interventions to reduce negative outcomes for current and former drug users. The following review is arranged into categories associated with opinions of opening and utilizing SIF, benefits and challenges of SIF, and additional considerations.

Of the 27 articles included in this review, 10 utilized data from the Scientific Evaluation of Supervised Injecting (SEOSI) cohort or interviews with participants. This is a formal evaluation of Vancouver's SIF. Random recruitment for the SEOSI took place at Insite. A computer alerted staff to recruit participants randomly on their second visit to the SIF. An interviewer-administered questionnaire was conducted. Blood samples to test for HIV and HCV were also taken. A total of 1065 participants were included over a two year period from 2003 to 2005.

Studies addressing implementation, desire to use and actual usage of SIF

Thirteen articles addressed the consideration of IDUs to utilize a SIF, potential considerations by the general community and key informants, or investigated the use of available SIF. These studies included qualitative interviews with current IDUs and reviews of registrations at the facilities. Risk factors leading to utilization, reasons for or against attending, and possible challenges were addressed.

Four articles surveyed current IDUs to determine if they would be willing to attend a SIF with estimates of considered use ranging

from 38% to 92% of IDUs. These studies took place in Vancouver, Canada (Kerr et al., 2003; Kerr, Wood, Small, & Palepo, 2003), New York City, New York (Broadhead et al., 2003), and San Francisco, California (Kral et al., 2010). The studies conducted by Kerr and colleagues identified that up to 92% of IDU would be willing to utilize a SIF (Kerr et al., 2003). These numbers were largely lower in cocaine-using populations where 38% reporting willingness and 62% said they would not use a SIF (Kerr, 2003). In New York City, 80% of current needle exchange participants were willing to utilize a SIF and this increased to 93% for those who regularly injected in public places (Broadhead et al., 2003). Finally, Kral et al. (2010) identified that 85% of IDU in San Francisco would be willing to attend a SIF.

Those who were more likely to use a SIF were also higher risk injectors, placing them at more risk for HIV and HCV (Broadhead et al., 2003; Wood et al., 2005). These individuals were more likely homeless, more likely to share needles and other injection equipment, and frequently injected with strangers (Anoro, Ilundain, & Santisteban, 2003; Broadhead et al., 2003; Wood et al., 2005). Participants also reported they were more likely to have difficulty obtaining clean syringes, require help injecting, report frequent heroin injecting, inject in public places, (Broadhead et al., 2003; Wood et al., 2005; Kerr, Small, Moore, & Wood, 2007) and be involved in the sex trade (Kerr et al., 2007). Individuals who would consider using a SIF frequently reported that they thought the facility would help improve their safety, not only from risk directly associated with injecting, but also from assaults, robbery, murder, and arrest (Kerr et al., 2003; Jozaghi & Andersen, 2013). It is important to note only those who reported injecting in the past six months were included in the studies. Only one study, Wood et al. (2005), identified that this could be a possible limitation, skewing results toward the higher risk individuals.

One study investigated the opinions of key stakeholders. This study took place in Tijuana, Mexico and included 40 key stakeholders from various sectors including religious groups, politicians, and medical personnel (Philbin et al., 2008). The authors' goals were to investigate the feasibility and acceptance of three harm reduction strategies, needle exchange, syringe vending machines, and SIF. The authors found that SIF were the least acceptable and least possible of the harm reduction strategies, with 58% considering SIF acceptable, but only 25% acknowledging that SIF were a possible intervention (Philbin et al., 2008). Those in the religious sectors were most opposed, considering SIF insufficient and likely to promote drug use. Philbin et al. (2008) received no consents for interviews from those in law enforcement.

These results were similar to a general community survey in Ontario, Canada in which 60% agreed SIF should be accessible for IDUs (Cruz, Patra, Fischer, Rehm, & Kalousek, 2007). Support for SIF in Australia was much higher than North America. In telephone interviews conducted prior to and following the implementation of Australia's first SIF, both residents and businesses reported nearly 80% support of SIF access (Thein, Kimber, Maher, MacDonald, & Kaldor, 2005). These interviews also identified that the community did not think SIF would increase the rate of injecting (Thein et al., 2005).

Four studies identified the use of current SIF through registrations and interviews. First, van Beek (2003) found that 4,719 individu-

als were registered in the first two years of Australia's Medically Supervised Injecting Centre (MSIC). In this time period over 88,000 injections took place at an average of 226 per day (van Beek, 2003). In Barcelona 1,677 people registered in the first year of EVA (Anoro et al., 2003). By 2006, 6,747 individuals had registered at Vancouver's Insite (DeBeck et al., 2011).

It was found that the majority of users utilized the SIF infrequently, with 57% reporting less than 25% of injections took place at the SIF, 25% used a SIF for 26% to 74% of injections, and 7% reported use for all injections (Wood et al., 2005). On weekends the SIF saw an increase in participants from areas outside the immediate neighborhood (Anoro et al., 2003). In only one report was a person's first injection completed at a SIF, despite the fact that over 100 individuals annually initiate injection each year in the area (Kerr et al., 2007).

Studies addressing overdose

Six journal articles included in this review addressed overdose. These articles highlight that SIF are saving lives (Kerr et al., 2007; Jozaghi & Andersen 2013). In cities surveyed without access to a SIF, overdose is regularly associated with death (Jozaghi & Andersen, 2013). IDUs present when someone overdoses often do not know what to do (Jozaghi & Andersen, 2013) and may abandon or steal from the individual overdosing (Kerr et al., 2007). By history, over 58% of the SEOSI cohort reported past non-fatal overdoses (Milloy et al., 2008). Since utilizing the SIF, less than 10% reported experiencing non-fatal overdoses (Milloy et al., 2008).

The reduction in non-fatal overdoses is important as it refutes opposition claims that SIF would increase the likelihood of overdoses (Milloy et al., 2008). Marshall, Milloy, Wood, Montaner, and Kerr (2011) examined coroner reports for accidental overdose in the city of Vancouver between 2001 and 2005. There were a total of 290, but the authors found a 35% reduction in the area surrounding the SIF and a 9% reduction in other areas after it opened. It should be noted that there was also a 15-day spike in overdose deaths after the SIF opened due to powdered methadone being added to heroin (Marshall et al., 2011). SIF participants report one important factor preventing overdose – their ability to take their time and sample drugs for purity and strength (Kerr et al., 2007).

SIF are able to prevent overdose deaths because of the rapid response by staff (Kerr et al., 2007) and the availability of life saving equipment and the medication Narcan (naloxone), an opioid antagonist that binds to opioid receptors flushing out and preventing further intake of opioids (Anoro et al., 2003; Kerr et al., 2003). Over a two-year period, there were 553 overdoses managed at MSIC in Australia (van Beek, 2003) and 377 at EVA in Spain, of which 52% involved respiratory arrest (Anoro et al., 2003). Most importantly, there were no overdose deaths at the facilities in this time period (Anoro et al., 2003; van Beek, 2003). One statement from the qualitative interview by Kerr et al. (2007) sums up the benefits of overdose protection at a SIF – “Dead people are found in their room. They are not found at Insite (Vancouver's SIF).” (pg 40).

Studies addressing safe injection practices

Eight articles explored concepts of safer injection among SIF participants. Kerr et al. (2007b) gathered data from the SEOSI cohort to identify the length of time individuals were injecting and the circumstances surrounding their first injections. Kerr et al. (2007) found that the majority of SIF participants were long-time IDUs and their median length of injecting was 15.9 years. Fast, Small, Wood, and Kerr (2008) conducted qualitative interviews with 50 SEOSI participants and found that a significant lack of knowledge existed about safe injection practices. This was common not only among new injectors, but also with IDUs with over 20 years of experience. As noted earlier, only one person reported their first injection took place at the SIF (Kerr et al., 2007). From the others surveyed, 20% reported that their first injection was with a used syringe and 75% reported that it was administered by someone else (Kerr et al., 2007).

At the SIF, participants could improve their safe injecting practices with increased access to sterile syringes and equipment (Anoro et al., 2003; Salmon et al., 2009; Small, Moore, Shoveller, Wood, & Kerr, 2012; Jozaghi & Andersen, 2013). An environment to improve injection practices was made available, exceeding the work of needle exchange programs and community outreach which often have intermittent points of contact (Fast et al., 2008). SIF are enhanced by staff nurses who reinforce safer practices over extended periods (Jozaghi & Andersen, 2013; Fast et al., 2008). Over 50% of participants report receiving direct support from nurses (Wood et al., 2008) who they viewed as experts who can be trusted to provide individually tailored educational messages (Kerr et al., 2007; Fast, 2008).

The efforts of nurses to educate SIF participants can be seen in the vast improvements among participants. Salmon et al. (2009) surveyed MISC participants in Australia to determine lifetime prevalence of injection-related problems, injuries, and diseases. Salmon et al. (2009) found that one third of MISC participants reported problems compared to 69% of needle exchange participants in the same area. Petrar et al. (2007) utilize the SEOSI cohort to examine perceptions of SIF impact on their injecting behavior in the community, finding 54% used clean water, 37% reused equipment less often, and 49% cleaned the injection site. Participants also reported less sharing of equipment (Fast et al., 2008; Jozaghi & Andersen, 2013). SIF participants became “safety and educational ambassadors” (Jozaghi & Anderson, 2013, pg 7), providing clean needles and encouraging the use of clean equipment and other practices to other IDUs in the community.

Studies investigating improvements in the community

Five studies identified the benefits to both the IDU and the non-IDU communities surrounding the SIF. The reduced risk of police involvement and arrest (Small, et al., 2012; Jozaghi & Andersen, 2013) decreased the need to rush use, a common factor in overdose (Kerr et al., 2007; Small, et al., 2012). Participants reported feeling safer at the SIF than they do on the streets. Participants attributed this to reduced risk of theft, assault, and death (Small, et al., 2012; Jozaghi & Andersen, 2013) often attributed to overdose (Kerr et al., 2007). Feelings of safety at SIF were enhanced for women who are at increased risk of violence or exploitation when seeking to inject in public (Fairbairn, Small, Shannon, Wood, & Kerr, 2008). Participants also reported less public use and reduced

public disposal of syringes (Jozaghi & Andersen, 2013; Petrar et al., 2007), reducing risk associated with HIV and HCV transmission. SIF provided environments to intervene in the case of a medical emergency, such as an overdose. This reduced the use of emergency medical services such as ambulance transport and emergency departments (Jozaghi & Andersen, 2013) freeing these services for community needs.

Studies addressing how SIF connect IDU to other services

Seven studies examined the potential enhancement of service utilization by SIF participants. In an evaluation of the SEOSI cohort and factors associated with injection cessation, Debeck et al. (2011) identified that in tolerating use of illicit drugs, SIF provide a space for a hidden population to enter a healthcare setting on their terms, positively impacting connections to services. SIF participants report the ability to connect with counselors and nurses for a variety of services. Jozaghi & Andersen (2013) contrasted this report with IDU in cities surrounding Vancouver without access to a SIF. These individuals were not interested in looking for service because their healthcare focus was finding a clean needle. However, regular use of a SIF and contact with counselors was positively associated with entering drug and alcohol treatment programs (Debeck et al., 2011).

Staff were seen as facilitators of treatment and ancillary services because they were caring and allowed for trust to be built (Fast, 2008; Small, Wood, Lloyd-Smith, Tyndall, Kerr, 2008; Jozaghi & Andersen, 2013). There were about 1,800 referrals to health and social services in the first two years of MISC in Australia, 44% of which were to drug and alcohol treatment (van Beek, 2003). Additionally, 23% of the SEOSI cohort reported they stopped injecting for a period of at least six months (DeBeck et al., 2011). Frequently, participants held stable jobs (Anoro, 2003) with over 36% reporting having a regular job in the past six months (Richardson et al., 2008). It must be noted that regular use of the SIF was not associated with employment. Only binge use was associated with employment, highlighting that some may concentrate their use in order to maintain work (Richardson, 2008).

Further considerations

Nine studies address topics related to the previous sections and supplement the findings. First, Andersen and Jozaghi (2012) and Jozaghi, Reid, and Andersen (2013) examined the cost-benefit analysis of SIF in Canada through a mathematical model. If SIF were to be opened in Montreal, there could be 14-53 fewer HIV cases and 84-327 fewer HCV cases, resulting in about \$1.5 million in savings annually. These savings do not account for other healthcare costs, such as overdose and infections at the injection site (Jozaghi et al., 2013). The authors note that in order to expand the cost savings of a SIF, it must attract new IDUs and thus open in new areas accessible to IDUs and not served by a present SIF (Andersen and Jozaghi, 2012).

Significant factors must be considered which may impede use of SIF. Operational procedures in particular may turn IDUs away; particularly wait times, monitoring, need to present ID and register, and police presence (Kerr et al., 2003; Kerr et al., 2007; Petrar et al., 2007; Kral et al., 2010). Hours of operation also need to be

considered (Petrar et al., 2007), rules on sharing drugs, limits on numbers of injections, and the specific needs of cocaine toxicity may also discourage participation by IDU (Kerr et al., 2003).

Conclusion

It is clear that a large portion of IDUs are willing to utilize SIF. These individuals are often at higher risk and will benefit from the support and clean environment of a SIF. There are overwhelming numbers of individuals actively using SIF in six countries. The evidence is clear from this utilization, if opened SIF will save lives and improve health. In many cases, the availability of SIF can be the best protection from overdose by allowing IDUs to take their time and be in the presence of trained staff with resources to intervene and prevent deaths that would normally occur in the streets or homes of IDUs.

The improvement in safer injection practices was seen not only at the SIF, but also within the surrounding communities. Those who use SIF helped spread messages of safety within the injecting drug using community not engaged with the SIF. The process of moving injection drug use off the streets and out of alleys places less risk on IDUs in regard to their safety, arrest, and disease transmission. IDUs were not the only ones to benefit, the general public who share these same communities witnesses cleaner, safer neighborhoods as well. Emergency services which had frequently been burdened by IDUs were now available for others. The emergency services needed could be administered at the SIF.

Connections to services outside the SIF are key evidence to the benefit of SIF as well. It is clear reaching more at risk populations enables SIF staff to provide access to services that would otherwise be avoided. The trust of staff and the educational opportunities provided can help to facilitate those connections. This trust was built over time, by visiting with the same health professionals who were nonjudgmental and caring. IDUs were provided with hope, a tool often withheld from them on the street and in traditional treatment settings. When an individual was ready for traditional treatment they had the access to the same caring professionals who could facilitate the connection.

The present literature review examines aspects of available research about SIF. The results of this research may be limited by the search criteria. The majority of SIF and SCF available are in non-English speaking countries, but this author could only utilize journal articles published in English. Translation of non-English reviews should be considered for further research. Additionally, two articles were found which gauged the general public's opinion about SIF, one in North America. Only two studies identified in this review took place in the United States. SIF are a relatively new intervention and therefore little research is available. Understanding public opinion is necessary to implementing a SIF, as the community can petition for or against such facilities in their neighborhoods.

If SIF are to be considered, further research is needed in the best methods for gaining community support, addressing political challenges, and identifying the optimal design of such facilities. Key stakeholders should be included in these discussions. These individuals should include current drug users, former drugs users,

their families, community members, policy makers, drug treatment professionals, medical professionals, law enforcement, and public health professionals. Evidence of the benefits of SIF are growing, but previous attempts to implement SIF demonstrate that implementation will be challenging. As stated in the literature review, key stakeholders may find SIF acceptable, but do not foresee their implementation likely. It will take strong connections with community leaders, research, education, and positive advocacy to implement a SIF and save the lives of many in need.

The problem with our current system is that "Dead addicts don't recover" (Mac Master, 2004, p 358) but traditional approaches wait for them while community level intervention push IDUs further from help. SIF provide access to life-saving interventions and quality healthcare which may give IDUs the chance to recover. We must remember that not everyone is prepared or capable of ending their use. Instead many pathways need to be available. SIF will reduce disease transmission and remove overdose as the leading cause of accidental death. If we can improve the quality of life for IDUs we may also improve the health and wellbeing of many others in the United States.

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