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Addressing the Nation's Opioid Epidemic: Lessons from an Unsanctioned Supervised Injection Site in the U.S.

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Over half a million people have died of opioid-related overdose in the U.S. since 2000.[1] As of 2014, an estimated 774,434 people inject drugs in the U.S., the majority of whom inject opioids including prescription opioids and heroin.[2] The prevalence of HIV and hepatitis C virus among people who inject drugs in the U.S. is 2% and 43%, respectively.[2] With the U.S. in the midst of an opioid epidemic causing morbidity and mortality at unprecedented levels, policymakers and public health practitioners are in need of innovative solutions.

Illicit drug use has been treated in the U.S. primarily as a criminal activity and only secondarily as a public health concern. When HIV/AIDS emerged in the early 1980s, activists and public health practitioners adopted and advocated for a more pragmatic approach to drug use—harm reduction—which consists of "a set of practical strategies and ideas aimed at reducing negative consequences associated with drug use."[3] Prominent examples of harm reduction programs include access to sterile syringes for injection of illicit drugs through syringe access programs and expanding provision of naloxone, a lifesaving opioid overdose-reversal medication, to lay persons, law enforcement, and other first responders. Although these strategies have been shown to reduce viral transmission risk and decrease opioid overdose mortality, respectively,[4,5] more needs to be done. Supervised injection sites are the next evidence-based harm reduction strategy that should be considered for implementation in the U.S.

Supervised injection sites (also called safer injection facilities or safer consumption services) are legally sanctioned locations that provide a hygienic space for people to inject pre-obtained drugs while observed by trained staff. These sites have the dual aims of increasing the safety of people who inject drugs and reducing the public nuisance of having people injecting drugs in public spaces, including on the street or in public restrooms. These locations provide a non-judgmental environment; protected time and space for injecting; appropriate guidance and equipment (e.g., clean needles, naloxone) to reduce harms; proper disposal of used equipment; and onsite or linkage to medical care, substance use treatment, and social services. Ten countries currently allow legal operation of such sites (Australia, Canada, Denmark, France, Germany, Luxembourg, the Netherlands, Norway, Spain, and Switzerland), with approximately 98 facilities operating in 66 cities worldwide. Implementation of supervised injection sites has been shown to improve individual health, such as overdose mortality rates,[6] drug use and enrollment in drug treatment,[7,8] HIV and viral hepatitis risk,[9] and access to health and social services.[10,11] Improvements in community health and safety are also noted in neighborhoods with supervised injection sites, including reductions in public injection and improperly disposed of syringes,[12,13] drug related crime,[14] violence in the neighborhoods surrounding the site, and in the demand for ambulance services for opioid-related overdoses.[15] Once implemented, these sites have been found to have high community support, which increases over time.[16,17] A recent study estimated that placing a supervised injection site in a U.S. city would net cost savings of $3.5 million (U.S.) per year.[18]

The legal status of supervised injection sites in the U.S. is unclear, but laws such as the federal Controlled Substances Act could potentially be used to shut them down.[19] In response to legal obstacles to syringe access programs in the 1980s and 1990s, community activists engaged in civil disobedience and grassroots activism to implement this intervention, which had evidentiary support from other countries, but was initially illegal in many parts of the U.S. The country is currently in the beginning phases of similar civil disobedience and activism related to supervised injection sites.

After a year of planning and preparation, a social service agency located in an undisclosed urban area in the U.S. opened an unsanctioned supervised injection site in September 2014. The agency developed a quantitative

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survey to evaluate the impact of the site. The service is confidential and the survey is anonymous. The authors were approached by the agency, with whom they are not affiliated, to help evaluate their program. All evaluation activities were approved by the IRB of the University of California, San Diego.

The unsanctioned supervised injection site has one large room dedicated solely to injection and an adjoining room that provides post-injection monitoring/supervision. The injection room has five stainless steel stations with mirrors and stools (Figure 1). It is open 4–6 hours per day, 5 days per week. Use of the space is by invitation only, and the total number of people with active privileges is generally <60 in order to avoid lines. The agency provides other social services that are open to the general public. Once a person comes to the agency a few times, and appears to need supervised injection services, they are invited to use the supervised injection room. There are no formal exclusion criteria. Participants generally spend between 10 and 20 minutes in the injection room. Because the rooms are not adequately ventilated, smoking of drugs is not allowed. A staff person is stationed in the injection room at all times. Ancillary sterile injection equipment is provided by the agency, which also safely disposes of all used equipment. The staff person observing the injections has been trained in overdose prevention, resuscitation using naloxone and rescue breathing, injecting technique, and harm reduction principles.

Before each time a program participant injects drugs at the site, the staff person asks 12 questions, and the answers are recorded into an encrypted survey software package via a tablet computer (Table 1). In the first 2 years of operation, there were 2,574 injections by over 100 participants (the exact number of participants is unknown because the survey is anonymous and the validity of the data linked by unique identifiers cannot be verified). Most participants are white, male, and homeless. Heroin is the most commonly injected drug at the site. There have been two overdoses on site, both of which were reversed by staff using naloxone (one overdose per 1,287 injections). This rate is very similar to the overdose rate in the pre-fentanyl era at the main Vancouver supervised injection site, which had a rate of one overdose per 1,310 injections.[6] No incidents of violence have occurred at the site.

Figure 1. Photo of part of injection room at the unsanctioned supervised injection site in the U.S. (Photo by Greg Scott, PhD.)

This proof-of-concept evaluation has brought up a number of potential benefits for people who use the site and the surrounding community. Supervision of injections by trained staff ensures that overdoses are identified and responded to immediately. It also provides opportunities for real-time education about safer injection practice, potentially reducing the future incidence of soft tissue infection and other injection-related morbidities. Being able to inject in a clean, well-lit space equipped with sterile equipment, where there is no need to rush due to fear of detection, may also reduce injection-related injury and disease. By contrast, more than 80% of people who used the site reported having to always, often, or sometimes rush injections when injecting outside the site. More than 90% of people using the site reported that, if not for the site, they would have been injecting in a public restroom, street, park, or parking lot. As such, this site has averted over 2,300 instances of public injection in the neighborhood during a 2-year period. The proportion (67%) reporting recent unsafe disposal of used equipment is very high. In contrast, all syringes from injections at the supervised injection site were safely disposed, representing an estimated 1,725 (67% of 2,574) episodes of averted public disposal of injection equipment. The site facilitates constructive discussions about how to mitigate negative consequences of their drug use, and allows for conversations related to entering substance use treatment programs.

The full benefits of a supervised injection site are not actualized in this U.S. site because it is unsanctioned. If it were sanctioned, more people could be served, licensed clinicians could provide on-site healthcare services, other agencies could collaborate to provide co-located, wrap-around services, and there would be more options for funding site activities and increasing operating hours. Although supervised injection sites may not substantially reduce the number of people who use opioids and other injection drugs, they do attenuate the serious medical sequelae of this epidemic, including preventable infections and deaths. It is time for local, state, and federal governments to consider removing legal barriers such that a comprehensive pilot of this innovative intervention can be implemented.

Table 1. Demographic and Other Information Each Time Participants Used a Supervised Injection Site in the U.S., 2014–2016

Characteristic (N=2,574)	Percent
Gender identity (*n*=2,567)	
Men	91.3
Women	7.6
Transgender	1.1
Race/ethnicity	
White	80.1
African American	13.5
Latino	3.9
Asian/Pacific Islander	0.2
Native American	1.5
Other	1.5
Currently homeless	80.5
Type of drug used at site	
Heroin	79.3
Opiate pills	5.4
Methamphetamine	16.4
Cocaine/Crack	9.0
Mix (speedball, goofball)	13.0
Number of injections past month overall	
Mean	113.8
Median (IQR)	100 (60, 130)
Where would you have injected if not at site today?	
Public restroom	34.9
Street, park, or parking lot	57.3
My own place	4.1
Friend's place	1.8
Other	1.9
Experienced overdose past 30 days not at the site	6.6
Witnessed overdose past 30 days not at the site (*n*=1,812)	25.7
Used unsterile syringe past 30 days (*n*=1,806)	9.0
Disposed of syringe in public place past 30 days (*n*=2,534)	67.4
Rushed an injection not at site (*n*=1,811)	
Always	15.3
Often/Sometimes	68.5
Never	16.1
Had contact with police past 30 days (*n*=1,808)	75.9

IQR, interquartile range.

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