Supervised Injection

An Evidence-Based Policy

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Introduction

Drug addiction in modern society is by its very nature a global problem. Since President Nixon announced a "War on Drugs" in 1971, the United States has spearheaded efforts around the world to reduce and punish illicit drug production, trafficking and use. President Clinton, for instance, gave $1.3 billion to Colombia in 2000 to support coca plant defoliation and military training ("Timeline: America's War on Drugs," 2007). Last year, Afghanistan received $107 million from the United States (USAID) to fund alternatives to opium poppy cultivation (Office of National Drug Control Policy, 2011a). Furthermore, the 2012 federal budget will increase total spending on drug control, from $25.9 billion in 2011 to $26.2 billion (Office of National Drug Control Policy, 2011b). From these expenditures, it is obvious that Americans, at the very least, see controlling the production, trade and consumption of illicit drugs as a global priority. Other developed nations, including the members of the European Union, are also committed to international approaches in addition to comprehensive, national drug strategies (European Monitoring Centre for Drugs and Drug Addiction, 2010). And it is common knowledge that in many developing countries, the "War on Drugs" is both real and bloody – indeed, an estimated 40,000 people in Mexico alone have died in the five years since incumbent President Calderon initiated a "crackdown on the drug cartels" ("Q&A: Mexico's drug-related violence," 2011).

However, not all American funding goes abroad, nor does it go solely towards shutting down production sites; the U.S. Department of Justice alone spent $87.9 million on imprisonment of offenders for drug-related crimes in 2009 (Office of National Drug Control Policy, 2011a), and over 1.35 million people in the U.S. were arrested for possession of illicit drugs in 2010 (United States Department of Justice, 2009). Such patterns of incarceration, both in the U.S. and elsewhere, largely originated from the Anti-Drug Abuse Act, signed into law by President Reagan in 1986, which created minimum sentences for drug abuse and possession ("Timeline: America's War on Drugs," 2007).

With regard to U.S. drug control policy, the U.S. Drug Control Strategy has described how it has led to a "revolving door" between crime, incarceration and drug use. Indeed, expenses associated with imprisonment and doubts regarding its effectiveness in controlling drug abuse have driven policy makers to seek alternative solutions that reduce drug abuse, including controversial measures that diametrically oppose the philosophy of punishment represented by mandatory incarceration (Office of National Drug Control Policy, 2011c). The debate over the ethics of these non-traditional methods is fraught with such disparate issues as human rights and allocation of taxpayers' funds. However, in considering any approach to drug control, one must not forget that the ultimate goal should be to limit the harm that drugs do to individuals and society, since the reason for their prohibition is that they are unduly harmful. Politicians and commentators would thus do well to consider the evidence for how effective a proposed drug policy would be at reducing harm. Unfortunately, this consideration has not always been given, which has paved the way for counterproductive policies. Examination of the implementation of one such controversial measure, a supervised injection site (SIF), reveals the difficulty of adjusting a policy even in the face of overwhelming evidence.

Insite: A Case Study

In 2003, Insite, the first supervised injection facility in North America, opened in Vancouver, British Columbia, Canada (Buxton, 2005). Insite operates as a facility where nurses and other health care professionals monitor drug users, or "clients," as they shoot up. It is designed to be a safe space for addicts to inject illicit drugs: syringes, filters and other medical supplies are provided to ensure clean injections, in contrast to the infected needles often used outside Insite's doors ("Services," n.d.). The facility is located in Vancouver's Downtown Eastside (DTES), one of the poorest neighborhoods in Canada. It is home to more than 3,000 injection drug users out of a population of only about 17,000 (*Downtown Eastside*, 2006). In this neighborhood, prostitution, drug deals and drug use are conducted in the open, and needles are procured in any way possible, often by picking them off the ground or using them directly after another drug user (McNeil, 2011). Though Insite does not supply any illicit drugs, it does provide a legal and monitored space in which users can inject, thereby lessening many of the immediate dangers associated with illicit drug use, such as risks of overdose or cross-infection. In addition, long-term health improvements in individuals' health can begin at Insite, as the health care staff at the site have access to a population that is generally marginalized and underserved, even within Canada's single-payer universal health care system.

While it began as a temporary pilot project, Insite has

been so successful in its objectives that it is now fighting in court to become a permanent part of health care delivery in Vancouver. The federal government in 2003, headed by the centrist Liberal Party, granted Insite an exemption from Canada's narcotics laws so it could operate and conduct comprehensive research on the efficacy of SIFs. Since the election of the right-wing Conservative Party in 2006, the Attorney General of Canada has sought to remove the exemption on the grounds that Insite is ineffective at reducing harm to individuals, increasing the safety of the community and lessening addiction. Based on the evidence gathered at Insite, however, this argument is simply false.

Harm Reduction

On the contrary, there has been no dearth of scientific evidence supporting the effectiveness of SIFs. Insite has had more than 1.8 million visits from over 12,000 individuals since it opened its doors. In that time, there has not been a single death at the facility, despite hundreds of overdoses at Insite each year ("User Statistics," n.d.). Additionally, a retrospective population-based study of overdose rates in Vancouver before and after the opening of Insite found that, within the immediate 500 meter radius of the SIF, fatal overdoses decreased by 35.0% ($p=0.048$); contrarily, in the rest of the DTES these deaths decreased by a statistically insignificant 9.3% ($p=0.490$) (Marshall, Milloy, Wood, Montaner, & Kerr, 2011). While this study was not a randomized controlled trial, it nevertheless provides compelling support for Insite's success in reducing overdose deaths in the community. Estimates therefore put the number of lives Insite has directly saved by preventing overdose fatalities at 1.9 to 11.7 people per year, representing between 6% and 37% of the total overdose mortality in the DTES (Milloy, Kerr, Tyndall, Montaner, & Wood, 2008).

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In addition, there is no evidence that SIFs encourage illicit drug use or facilitate addiction. Thomas Kerr and colleagues (2006) measured rates of relapse and rates of stopping drug use among former and current addicts in the DTES; there was no increase in the former rate or decrease in the latter after Insite's opening. Thus, all the major objections to SIFs—including the oft-heard accusation that they encourage drug use—are shown to be false. Simply preventing overdose deaths, with no discernible adverse impact on public or individuals' health, is already substantial support in favour of the facility's operation.

Moreover, there are further health benefits to clients. By providing clean needles, SIFs such as Insite, and those operating in Europe reduced needle sharing by an estimated 69% among clients, in comparison to non-clients (M. J. Milloy & Wood, 2009). Thus, SIFs reduce the risk of transmission of disease through contaminated needles; indeed, injection drug users account for a quarter of all new cases of HIV in North America and four out of five new cases in Eastern Europe and Central Asia. Insite also provides injection drug users, especially vulnerable groups such as women, with a safe environment that is a refuge from violence, promoting "enhanced agency at the point of drug consumption" (Fairbairn, Small, Shannon, Wood, & Kerr, 2008). For instance, on the street, women are often forced to exchange sexual favors for drugs, which again increases the risk of transmitting disease, as well as increasing the potential for abuse and assault.

Client access to health care professionals at SIFs also allows for a host of health interventions to be conducted. Compared to the population of injection drug users at large, SIF clients have increased use of condoms, are more likely to use safer injection practices such as disinfecting the injection site, receive more treatment for urgent medical problems such as skin infections, and are referred to other health professionals more often (British Columbia Centre for Excellence in HIV/AIDS, 2009). Most important, perhaps, is the potential for SIFs to enroll clients in rehabilitation programs to wean them off illicit drugs altogether. This capability reduces harm to the individual drug user directly and to communities around the world that meet the demand of illicit drug users through trafficking and production.

Further Research

Additionally, the continued operation of SIFs such as Insite offers an opportunity to conduct further research into the nature of drug addiction and the effectiveness of various interventions. John Strang and colleagues (2010) used the access provided by an SIF in the UK to compare the efficacy of supervised injectable heroin with injected methadone for reduction of street heroin use in addicts who had been on but were not responding to oral methadone treatment for over six months. In their landmark randomized controlled trial, Strang et al. introduced a laboratory technique for distinguishing between prescribed and street heroin, enabling them to measure their primary outcome of 50% or more weekly urinalysis samples over 26 weeks being negative for street heroin. They found that the group that use prescribed heroin was significantly less likely to use street heroin[1]; 72% compared to 27% in the oral methadone group achieved the primary outcome of being off street heroin for over half the study. The group prescribed heroin also was significantly more likely to abstain completely from street heroin.

The trial's results, which could only have been obtained through an SIF, controversially suggest that prescribing medicinal heroin might be a viable intervention to lessen use of illicit heroin and put addicts on the road to recovery. For the users, such an intervention might help them avoid "the all too common outcomes of untreated heroin addiction, including HIV infection or death from overdose" (Kerr, Montaner, & Wood, 2010). More research is needed before prescribed

1—Adjusted odds ratio with oral methadone, 8.17 (95% CI: 2.88–23.16). Adjusted odds ratio with injectable methadone, 4.57 (95% CI: 1.71–12.19).

heroin can become an accepted method of drug control, but the fact remains that the SIF, by allowing consistent access to the very group most directly affected by drugs, gives researchers a unique opportunity to develop interventions. At a time when governments are actively seeking novel approaches to drug control, the SIF is a powerful tool for constructing policy innovations.

Conclusion

The arguments against allowing interventions such as SIFs are not grounded in evidence. They are, instead, based on the mentality of the "War on Drugs," an ideology that has stigmatized and punished users even in its very language of a "war." One must ask why a government would attempt to oppose a policy intervention that has been shown to be effective at saving lives; the explanation is that governments advocate a punitive ideology that focuses on penalizing users rather than helping them. However, resistance to SIFs is disrespectful to the scientists who have generated the evidence in support of them and to the clinicians who wish to deliver the best care to their patients based on such evidence. It also interferes with the individual's right to life and security by denying him or her access to life-saving interventions that will improve his or her health. Canada, at least, has recognized the importance of evidence in preventing counterproductive policies. On September 30, 2011, The Supreme Court of Canada, in a unanimous 9-0 decision, ruled that putting a limit on access to the health services provided by Insite is not in accordance with the principles of fundamental justice. Closing Insite would be arbitrary regardless of which test for arbitrariness is used because it would undermine the very purposes of the CDSA [Controlled Drugs and Substances Act]—the protection of health and public safety. It would be also extremely disproportionate: during its eight years of operation, Insite has saved lives with no discernable negative impact on the public safety or health objectives of Canada. The effect of denying the services of Insite to the population it serves and the correlative increase in the risk of death and disease to injection drug users is grossly disproportionate to any benefit that Canada might derive from presenting a uniform stance on the possession of narcotics (*Canada (Attorney General) v. PHS Community Services Society*, 2011). Insite will stay open.

While DTES and other similarly impoverished, dangerous communities in Canada will benefit from the health and safety improvements brought about by SIFs, the U.S. continues to lead the so-called "War on Drugs." One can easily imagine the benefits that SIFs would bring to inner-city neighborhoods across the United States, from New York to Chicago to Los Angeles. At the same time, it is hard to imagine a SIF opening in the United States, given the nature of the American political atmosphere. The legal struggle would be at least as protracted as it was in Canada. Yet Chief Justice McLaughlin, citing the well-known medical fact that drug addiction is a disease and not a choice (Leshner, 1997), also writes that "the morality of the activity the law regulates is irrelevant at the initial stage of determining whether the law engages a [section 7] right[2]" (*Canada (Attorney General) v. PHS Community Services Society*, 2011). That is, we should not let opinion get in the way of saving individuals' lives. Ideology should not interfere with health.

Introducing SIFs to the U.S. is by no means impossible. Leo Beletsky and colleagues (2008) describe in detail a variety of possible approaches towards legalization, concluding that it can succeed with "the necessary public health and political leadership." The results of doing so would go beyond the already significant benefits to the immediate communities of the SIFs. The adoption of interventions such as SIFs in the U.S. would signal a significant shift in ideology in the nation that is the command center of the "War on Drugs." Beletsky et al. (2008) note that "the possibility that evidence and advocacy can produce legal change" is promising for the "effort to minimize the harms of illegal drug use." A change in American policy would almost certainly echo across the world; the adoption of harm-reducing interventions such as SIFs would be a welcome endorsement of empirical evidence over ideology.

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2—Section 7 of the Canadian Charter of Rights and Freedoms reads, "Everyone has the right to life, liberty and security of the person and the right not to be deprived thereof except in accordance with the principles of fundamental justice."

References

BBC. (2011, August 26). "Q&A: Mexico's drug-related violence." Retrieved from http://www.bbc.co.uk/news/world-latin-america-10681249

British Columbia Centre for Excellence in HIV/AIDS. (2009). *Findings from the evaluation of Vancouver's pilot medically supervised safer injection facility – Insite*. Vancouver.

Buxton, J. (2005, June). *Vancouver drug use epidemiology* (CCENDU). Vancouver.

(2006). *Downtown eastside community monitoring report*. Vancouver: Central Area Planning.

Canada (Attorney General) v. PHS Community Services Society, 44. SCC (2011).

European Monitoring Centre for Drugs and Drug Addiction. (2010). *The State of the Drugs Problem in Europe*. Publications Office of the European Union: Luxembourg.

Buxton, J. (2005, June). *Vancouver drug use epidemiology* (CCENDU). Vancouver.

Fairbairn, N., Small, W., Shannon, K., Wood, E., & Kerr, T. (2008). Seeking refuge from violence in street-based drug scenes: Women's experiences in North America's first supervised injection facility. *Social Science & Medicine, 67*(5), 817-823. doi: 10.1016/j.socscimed.2008.05.012

Kerr, T., Montaner, J. S. G., & Wood, E. (2010). Science and politics of heroin prescription. *The Lancet, 375*(9729), 1849-1850.

Kerr, T., Stoltz, J.-A., Tyndall, M., Li, K., Zhang, R., Montaner, J., & Wood, E. (2006). Impact of a medically supervised safer injection facility on community drug use patterns: a before and after study. *BMJ, 332*(7535), 220-222. doi: 10.1136/bmj.332.7535.220

Leshner, A. I. (1997). Addiction Is a Brain Disease, and It Matters. *Science, 278*(5335), 45-47. doi: 10.1126/science.278.5335.45

Marshall, B. D. L., Milloy, M. J., Wood, E., Montaner, J. S. G., & Kerr, T. (2011). Reduction in overdose mortality after the opening of North America's first medically supervised safer injecting facility: a retrospective population-based study. *The Lancet, 377*(9775), 1429-1437.

McNeil, D. G. Jr. (2011, February 8). An H.I.V. Strategy Invites Addicts In. *The New York Times*, pp. D1.

Milloy, M. J., & Wood, E. (2009). Emerging role of supervised injecting facilities in human immunodeficiency virus prevention. *Addiction, 104*(4), 620-621. doi: 10.1111/j.1360-0443.2009.02541.x

Milloy, M. J. S., Kerr, T., Tyndall, M., Montaner, J., & Wood, E. (2008). Estimated Drug Overdose Deaths Averted by North America's First Medically-Supervised Safer Injection Facility. *PLoS One, 3*(10), e3351. doi: 10.1371/journal.pone.0003351

Office of National Drug Control Policy. (2011a). *FY 2010 accounting of drug control funds*. Washington, DC: U.S. Government Printing Office.

Office of National Drug Control Policy. (2011b). *National drug control budget - FY 2012 funding highlights*. Washington, DC: U.S. Government Printing Office.

Office of National Drug Control Policy. (2011c). *National drug control strategy*. Washington, DC: U.S. Government Printing Office.

NPR. (2007, April 2). "Timeline: America's War on Drugs." Retrieved from http://www.npr.org/templates/story/story.php?storyId=9252490

Services. Retrieved from http://supervisedinjection.vch.ca/services/

Strang, J., Metrebian, N., Lintzeris, N., Potts, L., Carnwath, T., Mayet, S., Forzisi, L. (2010). Supervised injectable heroin or injectable methadone versus optimised oral methadone as treatment for chronic heroin addicts in England after persistent failure in orthodox treatment (RIOTT): a randomised trial. *The Lancet, 375*(9729), 1885-1895. doi: 10.1016/s0140-6736(10)60349-2

United States Department of Justice (2009). *Arrest table* [Data file]. Available from http://www2.fbi.gov/ucr/cius2009/arrests/index.html

User statistics. Retrieved from http://supervisedinjection.vch.ca/research/supporting_research/