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## A Description of a Peer-Run Supervised Injection Site for Injection Drug Users

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**ABSTRACT** *Owing to the ongoing health crisis among injection drug users in Vancouver, Canada, there have been repeated calls for the establishment of supervised injection sites (SIS) since the early 1990s. In April 2003, a group of advocates and drug users opened an unsanctioned SIS in Vancouver's Downtown Eastside. The "327 SIS" operated for 184 days. During the operation of the SIS, volunteers supervised over 3,000 injections by a high-risk injection drug using population. The SIS provided a sterile environment for injection drug use without measured negative consequences and demonstrated the feasibility of a peer-driven low-threshold SIS.*

**KEYWORDS** *Peer-driven, Safer injection site, Vancouver.*

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### INTRODUCTION

Many inner-city neighbourhoods in North America are experiencing public health problems because of illicit injection drug use.<sup>1,2</sup> This is true of the Downtown Eastside of Vancouver, British Columbia where high rates of human immunodeficiency virus (HIV) infection and fatal overdoses have been observed over the past decade.<sup>3,4</sup> The Vancouver HIV epidemic has been directly attributed to specific local factors including the high prevalence of cocaine injection and difficulty accessing syringes among the city's injection drug users (IDU).<sup>5-7</sup>

Owing to the ongoing health crisis among IDU in Vancouver, there have been repeated calls for the establishment of supervised injection sites since the early 1990s.<sup>8</sup> Supervised injecting sites (SIS), where IDU can inject preobtained illicit drugs, have been implemented in several cities to reduce community and public health impacts of injection drug use.<sup>9,10</sup> SIS have been credited with improving the health and social functioning of their clients<sup>9</sup> while reducing risk of fatal overdose,<sup>11</sup> HIV and hepatitis C risk behaviour,<sup>12</sup> improperly discarded syringes,<sup>13</sup> and public drug use.<sup>14</sup> In addition, improved access to medical care and drug treatment has been attributed to SIS attendance.<sup>15,16</sup>

In November 2002, the former chief coroner of the province of British Columbia, Larry Campbell, was elected as Mayor of Vancouver. Campbell swept the election

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while running on a platform calling for a “Four Pillars” drug strategy, including the immediate establishment of a SIS in Vancouver Downtown’s Eastside.<sup>17</sup> In spite of these developments, the Downtown Eastside was still without a SIS when the Vancouver Police Department, on April 7, 2003, initiated a large-scale police crackdown on the neighbourhood’s drug market.<sup>18,19</sup> This police operation involved increasing the number of patrol officers in the neighbourhood who conducted warrant checks and focused on arresting those involved in drug trafficking. This type of police activity has been associated with an array of health-related harms among IDU, including increased risk behaviour associated with infectious disease transmission and overdose.<sup>20-22</sup> On the night that the City-Wide Enforcement Team (CET) crackdown was initiated, local health care workers, advocates, and drug users opened an unsanctioned peer-driven SIS.

Although several unsanctioned SIS have operated in Vancouver<sup>8</sup> and other settings, such as Sydney and Australia,<sup>23</sup> for varying lengths of time, little is known about their operation. Therefore, the objectives of this study were to describe the unsanctioned SIS, including its operational design, the individuals accessing the site, as well as statistics pertaining to the use of the site up to the point of its eventual closure on October 17, 2003.

## METHODS

Individuals working at the SIS worked with three external researchers in gathering data by using various methods and sources to gain understanding of a peer-driven unsanctioned SIS.

### Survey

To describe the population accessing the site, a brief survey was administered to 100 individuals accessing the SIS from June 1, 2003 to August 27, 2003. The individuals operating the site decided in advance to solicit only 100 surveys to minimize the burden of data collection on those accessing the SIS and those overseeing it. The survey was a modified version of an instrument used in our previous work<sup>24</sup> and included items pertaining to socio-demographic characteristics, drug use, risk behaviours, and use of the SIS. The instrument was self-administered, and individuals were offered assistance with completing the survey on an “as needed” basis to help ensure validity and reliability during data collection. Also, individuals were oriented to the survey before filling out the instrument, and completion of the surveys was overseen by a nurse working at the SIS to ensure data quality. The survey was also deliberately kept brief and simple in format to reduce difficulties with completion.

Socio-demographic characteristics considered included gender, age, unstable housing, and residence in the Downtown Eastside. Unstable housing was defined as living in a single room occupancy hotel, transitional living arrangements, and homelessness. Drug-use-related variables considered in the analyses included injection of cocaine, heroin, and crystal methamphetamine injection; crack smoking; time of last injection; public injecting in the previous 6 months (including location); frequency of cocaine, heroin, and crystal methamphetamine injection; and requiring help injecting. To assess public injecting, we presented participants with a list of locations (e.g., street, parking lot, and public washroom) and asked “in the past 6 months, have you injected in any of the following places?” Participants were invited to check any or all of the five public locations listed and were also provided with a space to indicate other locations in which they had injected. Variables pertaining to

use of the SIS included number of previous visits to SIS and number of syringes exchanged during the present visit.

### **Visit Logs**

Individuals working at the SIS maintained a detailed log of the number of individuals accessing the SIS for injection (according to gender and Aboriginal ethnicity), assisted injections supervised, individuals accessing the SIS for “drop-in” purposes, syringes distributed and collected, and referrals to external services. The SIS volunteers also documented in detail all police activities occurring around and within the site, including the date, time, and nature of the police activities.

### **Meeting Minutes, Press Releases, Media Stories, and Nursing Notes**

Historical documentation was compiled and systematically reviewed to derive information about the operation and closing of the SIS. Materials included SIS meeting minutes, related press releases and media stories, and nursing notes.

### **Data Analysis**

Descriptive statistics were used to describe individuals accessing the SIS as well as the SIS utilization statistics. Univariate statistics were used to explore associations between use of the SIS, syringe exchange numbers and police presence in or around the SIS. Categorical and explanatory variables were analyzed using Pearson  $\chi^2$ , and continuous variables were analyzed using Mann–Whitney *U* tests. Historical documentation and field notes were sorted according to the central study objectives. Content analysis was used to examine themes that emerged from the data.

## **RESULTS**

The unsanctioned SIS officially opened on April 7, 2003.<sup>25</sup> The SIS was located in the heart of the Downtown Eastside’s open drug scene at 327 Carrall Street and was built within a storefront space. The SIS closed on October 7th, after 184 days of operation.

### **Operational Design**

The 327 SIS included a space for drop-in visits as well as a small space in a back room with two small tables—divided by a temporary wall—for injection and one washroom. The site operated 7 days a week, 4 hours a day from 10 PM to 2 AM. The drop-in space and injecting room were overseen by 15 local volunteers, among whom 12 were IDU, and one individual was a registered nurse. Within the drop-in space, individuals were able to exchange syringes, drink coffee that was provided, and receive peer support from the volunteers. All volunteers had received cardio-pulmonary resuscitation certification and completed an overdose intervention training programme. On each shift, two volunteers oversaw the drop-in space, whereas two volunteers and the on-site nurse supervised the injecting room. To ensure that the site was peer-driven, SIS volunteers at the site began organizing weekly “Council” meetings involving site volunteers and individuals using the site. The Council made decisions about operational issues, including volunteer duties at the site.

Individuals accessing the injecting space were provided with sterile syringes and water, filters, and spoons and were offered education related to safer injection and vein care. First aid kits and cardio-pulmonary resuscitation masks were kept on site,

although the volunteers did not have access to oxygen tanks or Narcan (opiate antagonist to reverse effects of opiates in the event of an overdose). The injecting room operated in a low-threshold format not commonly observed in most SIS.<sup>26</sup> For example, the site did not have rules requiring registration or prohibiting the sharing of drugs or assisted injection within the SIS. Two individuals were allowed to share an injecting space as long as direct (i.e., syringe sharing) and indirect (e.g., sharing of filters and cookers) sharing did not take place. Four months into the operation of the SIS, the volunteers began allowing visitors to smoke crack in a washroom equipped with a fan. The rules that were implemented included no drug dealing within the SIS, no verbal or physical abuse, no walking through the injecting room with uncapped syringes, and no “jugging” (injection in the jugular vein).

The site volunteers also implemented guidelines for dealing with individuals who came to the SIS requiring help with injections. Individuals requesting to be “doctored” (i.e., injected by another person) were first required to undergo training on how to self-inject before they were allowed to receive assistance with injections. This training included teaching individuals to find a peripheral vein, prepare drugs for injection, “tie-off” using a tourniquet, test or “taste” drugs for strength, insert the syringe and inject, and care for veins. After completing this training, individuals were asked to attempt self-injection twice. If they were still unable to self-inject, they were allowed to have a friend or a SIS volunteer assist them with their injections, provided that universal precautions were followed (e.g., wearing of rubber gloves and no syringe sharing).

### **Participants Characteristics**

Of the 100 individuals who completed surveys between June 1, 2003 and August 27, 2003, 67% were male, 29% were female, and 4% were transgendered. The median age of participants was 36 years, with a range of 19–55 years of age. Twenty-five percent of individuals self-identified as being of Aboriginal ethnicity, 75% lived in the Downtown Eastside, and 62% lived in unstable housing.

In terms of drug use characteristics, 78% participants reported injecting cocaine in the previous 6 months, whereas 70% reported injecting heroin, 30% reported injecting crystal methamphetamine, and 51% reported smoking crack during the same time period. In terms of frequency of drug use, 48% participants reported daily injection of cocaine, 43% reported daily injection of heroin, 11% reported daily injection of crystal methamphetamine, and 23% reported smoking crack daily. Eighty percent of participants reported that their last injection had occurred within the same day, and an additional 11% reported last injecting during the previous 2 days. None of the participants reported that their first injection took place at the SIS. Eighty-seven percent of individuals reported injecting in public in the past 6 months, with 79% reporting injecting on a street or in an alley, 43% reporting injecting in a park, and 35% reporting injecting in a public washroom. Twelve percent of participants reported that they required assistance with injections. The median self-reported number of previous visits to the SIS at the time of survey administration was four, whereas the median self-reported number of syringes exchanged during the current visit was two.

### **SIS Utilization and Referral Statistics**

In total, data was available for 161 days between April 7 and September 30, 2002. The site was closed for 2 days, and data was not recorded for 18 days due to volunteers being overwhelmed by demand during the first 3 weeks of operation. During the 161 days for which data was collected, there were 3,217 visits to the injection room,

of which 2,187 (68%) were made by men, 1,031 (32%) were made by women, and 2,114 (66%) were made by individuals who self-reported as being of Aboriginal ethnicity. The median daily number of visits to the injection room was 18 (per 4-hour shift), with the lowest daily total involving five visits and the highest day involving 55 visits. During this same period, there were 8,822 visits to the drop-in area, of which 7,091 (80%) were made by men, and 1,731 (20%) were made by women. The median daily number of visits to the drop-in area was 54. The total number of used syringes collected during the period was 6,672, whereas the total number of sterile syringes distributed was 11,644. The daily median number of syringes collected was 25, whereas the daily median number of syringes distributed was 45.

There were no overdoses, fatal or non-fatal, during the operation of the SIS. According to nursing notes taken during the operation of the SIS, 215 individuals came to the injecting room requesting assistance with injections, and these individuals often received up to 1 hour of education related to safer self-injection. In every instance, individuals requiring assistance with injection were eventually able to locate a peripheral vein for the purpose of injection, and all of those who provided assistance with injections agreed to adopt universal precautions (e.g., wearing rubber gloves) during the injection procedure. During the operation of the SIS, 23 participants were referred to detox facilities, and documentation at the SIS confirmed that 13 of these individuals completed a detoxification programme and entered a recovery home. An additional 62 participants were referred to methadone clinics, and 188 participants were referred to shelters.

### The Impact of Police Presence

Police activity in and around the SIS was documented during 34 days (21% of all days for which data was recorded). According to field notes taken, the type of police activity varied considerably from low-level surveillance of the site to uniformed officers entering the SIS. More common types of activity noted in field notes included police parking their cars outside the SIS and observing and questioning individuals entering and leaving the site.

The impact of the police presence on access to the 327 SIS injection room and drop-in area and syringe exchange numbers are presented in Table 1. As indicated, police presence was significantly associated with reductions in the number of individuals accessing the SIS injection room ( $P=0.019$ ), including the number of Aboriginal IDU accessing the injection room ( $P<0.001$ ), the number of visits to the drop-in area ( $P=0.012$ ), as well as the number of syringes collected ( $P<0.001$ ) and distributed ( $P<0.001$ ) at the 327 SIS.

**TABLE 1. 327 SIS utilization stratified by days with and without police presence**

Variable	Police presence		P-value
	No (median)	Yes (median)	
Visits to injection room	19	15	.019
Visits by Aboriginal IDU*	13	9	<.001
Visits to drop-in area	55	45	.012
Syringes collected	29	12	<.001
Syringes distributed	49	25	<.001

IDU, injection drug users; SIS, supervised injection sites.

\*Refers to visits to the injection room.

The 327 Carrall Street SIS closed on October 7 2003, 184 days after it opened, and approximately 3 weeks after Vancouver's official and sanctioned SIS opened a few blocks away. The decision to close the site was made by the SIS Council in light of the fatigue among SIS volunteers, police presence around the site, and the related confrontations between volunteers and participants at the SIS and police. Additionally, the new sanctioned SIS was opened, and several of the drug users who volunteered at the 327 SIS were eventually employed there.

## DISCUSSION

The 327 Carrall Street SIS likely performed positive public health function by providing a sterile environment where IDU could inject safely and slowly and under supervision. Previous studies have indicated that police crackdowns can prompt various changes in behavioural practices among IDU that increase health-related risks, including discouraging sterile syringe seeking,<sup>22,27</sup> prompting syringe sharing, and rushing during the injection process.<sup>20,21,26</sup> The SIS also attracted a high-risk population from within the local IDU community. For example, a high proportion of the individuals accessing the SIS were daily cocaine injectors and/or of Aboriginal ancestry—characteristics that have previously be shown to be associated with elevated risk for HIV infection among IDU in Vancouver.<sup>6,28</sup> Many IDU accessing the SIS were also individuals who had previously injected in public spaces, a practice that has been shown in several settings to be associated with drug-related harms, including syringe sharing, bacterial infections, and hepatitis C incidence.<sup>29-31</sup> Given the number of referrals and syringes exchanged at the SIS, it appears that the SIS may also have played a broader role in facilitating contact with external health and social services (e.g., drug treatment, detox facilities, and shelters) and in expanding sterile syringe coverage.

The SIS also served to demonstrate the feasibility of a low-threshold, peer-driven SIS operational format. The SIS allowed drug sharing and assisted injection. Of note, it has been suggested previously that rules prohibiting sharing of drugs are required to maintain order and prevent violence among IDU,<sup>32</sup> yet there were no violent incidents or disputes over drug sharing documented within the SIS, despite the fact that drug sharing was a common occurrence there. Also, the SIS demonstrated that by accommodating individuals requiring assistance with injection, opportunities to offset risks associated with this dangerous practice can be gained. In contrast, we would argue that prohibiting individuals who require assistance with injection from accessing a SIS is a discriminatory practice that is ultimately counter to public health goals, given the risk associated with the practice.<sup>24</sup> However, others have suggested that this practice should be prohibited within SIS because of the potential risk of infectious disease transmission.<sup>32</sup>

Although this practice may indeed pose risks during injections that occur outside of a SIS,<sup>33</sup> the experience at the 327 Carrall Street SIS indicates that these risks can be reduced with appropriate supervision and intervention. First, the nurse working at the SIS was able to offset immediate and perhaps future risks posed by assisted injection by successfully teaching several individuals to administer their own injections. Second, in those situations where self-administration of injection was not possible, the risk of blood-borne disease transmission was diminished by requiring that the individual administering the injection take appropriate precautions (e.g., wearing rubber gloves). Although it is difficult to determine whether lessons learned during these moments translated to daily practice, it is likely that the

interventions initiated by the nurse served the purpose of increasing awareness of the risks posed by assisted injection and the means to offset them. Although these interventions do not address concerns of SIS operators pertaining to vicarious liability that could arise following an overdose occurring because of an assisted injection,<sup>34</sup> it does indicate that there are ways to more safely accommodate this vulnerable population within SIS in the event that concerns about liability are made secondary to goal of promoting public health.

The experience at the 327 Carrall Street SIS also demonstrates the feasibility of involving IDU in the governance and operation of SIS. Previous studies have indicated that IDU-driven interventions can be effective in increasing the reach and effectiveness of harm reduction interventions<sup>35-37</sup> and are more effective in the coverage they provide than traditional service provider interventions.<sup>38,39</sup> Furthermore, IDU accessing syringe exchanges have reported that they are more comfortable receiving this type of service from their peers than from professional providers.<sup>40</sup> Given the evidence supporting peer-assisted interventions, SIS operators may benefit from including IDU in SIS governance and operations.

The data presented also indicates that police presence around the SIS may have an adverse effect on access to SIS. In this study, police presence around the SIS was associated with substantial reduction in visits to the site, as well as the number of syringes that were distributed and collected. These findings are consistent with the results of previous studies indicating that police presence may serve to limit access to syringe exchange by IDU<sup>22,27</sup> and suggest increased potential for unsafe syringe disposal and syringe sharing because of police presence.<sup>21,22</sup> The high level of police presence in this observed in this instance may be due in part to the fact that this site was not a legally sanctioned facility. However, it should be noted that recent local reports have suggested that police can have a positive impact by supporting SIS by helping street based IDUs access these types of services.<sup>14</sup> These anecdotal reports have not as yet been confirmed through empirical analysis.

There are several limitations associated with this study. Most importantly, the study provides only descriptive data about the SIS, and evidence of its public health impact cannot be established with the data presented herein. As well, the survey data was based on a small convenience sample, and therefore may not be representative of the population accessing the site.

The 327 Carrall Street SIS volunteers provided a safer space for supervised injection for individuals at high risk for drug-related harm. In doing so, the SIS volunteers demonstrated the feasibility of implementing a low-threshold SIS format that may be culturally appropriate to the practices of local IDU and also demonstrated the feasibility of involving IDU in the governance and operation of SIS. The data presented here confirm that police presence can have a negative impact on the delivery of low-threshold prevention services for IDU, and suggest that SIS will be most successful if police activities can be coordinated with health services. The lessons learned from this experience also indicate that more should also be done to accommodate high-risk IDU within SIS, including those who require assistance with injections.

## REFERENCES

1. Des Jarlais DC, Hagan H, Friedman SR, et al. Maintaining low HIV seroprevalence in populations of injecting drug users. *JAMA*. 1995;274:1226-1231.
2. Fischer B, Rehm J, Blitz-Miller T. Injection drug use and preventive measures: a comparison of Canadian and western European jurisdictions over time. *CMAJ*. 2000;162:1709-1713.

3. Strathdee SA, Patrick DM, Currie SL, et al. Needle exchange is not enough: lessons from the Vancouver injecting drug use study. *AIDS*. 1997;11:F59-F65.
4. BC Vital Statistics Agency. *Selected Vital Statistics and Health Status Indicators. Drug-Induced Deaths by Age and Gender*. 2000.
5. O'Shaughnessy MV, Montaner JS, Strathdee S, Schechter MT. Deadly public policy. *Int Conf AIDS*. 1998;12:982.
6. Tyndall MW, Currie S, Spittal P, et al. Intensive injection cocaine use as the primary risk factor in the Vancouver HIV-1 epidemic. *AIDS*. 2003;17:887-893.
7. Wood E, Tyndall MW, Spittal PM, et al. Unsafe injection practices in a cohort of injection drug users in Vancouver: could safer injecting rooms help? *CMAJ*. 2001;165:405-410.
8. Kerr TH, Wood E, Palepu A, Wilson D, Schechter MT, Tyndall MW. Responding to explosive HIV epidemics driven by frequent cocaine injection: is there a role for safer injecting facilities? *J Drug Issues*. 2003;33:579-608.
9. Dolan K, Kimber J, Fry C, Fitzgerald J, McDonald D, Trautmann F. Drug consumption facilities in Europe and the establishment of supervised injecting centres in Australia. *Drug Alcohol Rev*. 2000;19:337-346.
10. Hedrich D. *European Report on Drug Consumption Rooms: European Monitoring Centre for Drugs and Drug Addiction*. Lisbon, Portugal: European Monitoring Centre for Drugs and Drug Addiction; 2004.
11. Bundesministerium für Gesundheit und Soziale Sicherung. *Evaluation der Abiet van Drogenkonsumäuen un der Bundesrepublik Deutschland*. Baden-Baden, Germany: Nomos; 2003.
12. Ronco C, Spuhler G, Coda P, Schopfer R. Evaluation for alley-rooms I, II, and III in Basel. *Soc Prev Med*. 1996;41:S58-S68.
13. Kemmesies U. *Final Report: The Open Drug Scene and the Safe Injection Room Offers in Frankfurt am Main*. Münster, Germany: Indo; 1999.
14. Wood E, Small W, Li K, Marsh D, Montaner JS, Tyndall MW. Changes in public order after the opening of a medically supervised safer injecting facility for illicit injection drug users. *CMAJ*. 2004;171:731-734.
15. Kaldor J, Lapsley H, Mattick RP, Weatherburn D, Wilson A. *Final Report on the Evaluation of the Sydney Medically Supervised Injecting Centre*. Sydney: MSIC Evaluation Committee. 2003.
16. Kimber J, Dolan K, Van Beek I, Hedrich D, Zurhold H. Drug consumption facilities: an update since 2000. *Drug Alcohol Rev*. 2003;22:227-233.
17. CBC News. Real-life Da Vinci leads sweep in Vancouver elections. *CBC News*. November 18, 2002.
18. Vancouver Sun. 90 arrested in drug sweep: the first five days of a major campaign has produced hundreds of trafficking charges. *Vancouver Sun*. April 12, 2003:A1.
19. Wood E, Spittal PM, Small W, Kerr T, Li K, Hogg RS, Tyndall MW, Montaner JS, Schechter MT. Displacement of Canada's largest public illicit drug market in response to a police crackdown. *CMAJ*. 2004 May 11;170:1551-1556.
20. Maher L, Dixon D. Policing and public health: law enforcement and harm minimization in a street-level drug market. *Br J Criminol*. 1999;39:488-512.
21. Aitken C, Moore D, Higgs P, Kelsall J, Kerger M. The impact of a police crackdown on a street drug scene: evidence from the street. *Int J Drug Policy*. 2002;13:189-198.
22. Rhodes T, Mikhailova L, Sarang A, et al. Situational factors influencing drug injecting, risk reduction and syringe exchange in Togliatti City, Russian Federation: a qualitative study of micro risk environment. *Soc Sci Med*. 2003;57:39-54.
23. Wodak A, Symonds A, Richmond R. The role of civil disobedience in drug policy reform: how an illegal "safer injection room" led to a sanctioned, "medically supervised injection centre". *J Drug Issues*. 2003;33:609-624.
24. Kerr T, Wood E, Small W, Palepu A, Tyndall MW. Potential use of safer injecting facilities among injection drug users in Vancouver's Downtown Eastside. *CMAJ*. 2003;169:759-763.



25. CTV News. Illegal safe injection site opens in Vancouver. *CTV News*. May 5, 2003.
26. Broadhead RS, Kerr TH, Grund JP, Altice FL. Safer injection facilities in North America: their place in public policy and health initiatives. *J Drug Issues*. 2002;32:329–355.
27. Wood E, Kerr T, Small W, Jones J, Schechter MT, Tyndall MW. The impact of police presence on access to needle exchange programs. *J Acquir Immune Defic Syndr*. 2003;34:116–118.
28. Craib KJ, Spittal PM, Wood E, et al. Risk factors for elevated HIV incidence among Aboriginal injection drug users in Vancouver. *CMAJ*. 2003;168:19–24.
29. Darke S, Kaye S, Ross J. Geographical injecting locations among injecting drug users in Sydney, Australia. *Addiction*. 2001;96:241–246.
30. Latkin C, Mandell W, Vlahov D, Oziemkowska M, Knowlton A, Celentano D. My place, your place, and no place: behavior settings as a risk factor for HIV-related injection practices of drug users in Baltimore, Maryland. *Am J Community Psychol*. 1994;22:415–430.
31. Bruneau J BS, Lamothe F, Vincelette J. What can we learn from chronic, non-infected IDUs: sociodemographic characteristics and factors associated with long-term HIV and HCV seronegativity. *Can J Infect Dis*. 2001;13:44A.
32. Fry CL. Safer injecting facilities in Vancouver: considering issues beyond potential use. *CMAJ*. 2003;169:777–778.
33. Friedman SR, Furst RT, Jose B, et al. Drug scene roles and HIV risk. *Addiction*. 1998;93:1403–1416.
34. Canadian HIV/AIDS Legal Network. *Establishing Safe Injection Facilities in Canada: Legal and Ethical Issues*. Montreal: Canadian HIV/AIDS Legal Network; 2002.
35. Grund JP, Blanken P, Adriaans NF, Kaplan CD, Barendregt C, Meeuwssen M. Reaching the unreachable: targeting hidden IDU populations with clean needles via known user groups. *J Psychoactive Drugs*. 1992;24:41–47.
36. Wood E, Kerr T, Spittal PM, et al. An external evaluation of a peer-run “unsanctioned” syringe exchange program. *J Urban Health*. 2003;80:455–464.
37. Rees V. User groups. *Addiction*. 1995;90:145–114.
38. Broadhead RS, Heckathorn DD, Grund JC, Stern LS, Anthony DL. Drug users versus outreach workers in combating AIDS: preliminary results of a peer-driven intervention. *J Drug Issues*. 1995;25:531–564.
39. Broadhead RS, Heckathorn DD, Weakliem DL, et al. Harnessing peer networks as an instrument for AIDS prevention: results from a peer-driven intervention. *Public Health Rep*. 1998;113:42–57.
40. Kerr T, Douglas D, Peace W, Pierre A, Wood E. *Responding to an Emergency: Education, Advocacy, and Community Care by a Peer-driven Organization of Drug Users: A Case Study of the Vancouver Area Network of Drug Users (VANDU)*. Health Canada Hepatitis C Prevention, Support, and Research Program. Ottawa, Canada: Health Canada Hepatitis C Prevention, Support, and Research program 2001.