

## A B S T R A C T

Information about injection drug users' lifestyles is necessary to develop effective harm reduction strategies. One way to gather this information is through needle exchange programs. In 1998, a convenience sample of 100 clients of Saskatoon's needle exchange service was interviewed about their injection and sexual practices.

Ritalin and morphine were the most commonly injected drugs. Over half the participants (53%) reported having shared needles, usually with friends, relatives, and partners. Slightly more (62%) had shared injection equipment. Most participants had multiple sexual partners, especially the women, half of whom were sex trade workers. Condom use was higher with casual partners than with regular partners. While awareness about HIV transmission was high, most participants considered their risk of infection to be below average.

These findings are discussed in light of the insights they provide regarding both health risks and opportunities for harm reduction in the study population.

## A B R É G É

La cueillette de renseignements sur les habitudes des consommateurs et consommatrices de drogue par injection est essentielle afin de développer des stratégies efficaces de réduction des préjudices. Une façon d'y arriver est par le biais de programmes d'échange de seringues. En 1998, le service d'échange de seringues de Saskatoon a été soumis à un processus d'évaluation. Les 100 clients et clientes ayant fait l'objet d'un échantillonnage ont répondu à des questions reliées à leurs pratiques sexuelles et d'injection.

Les drogues injectées les plus répandues étaient le ritalin et la morphine. Plus de la moitié des répondants et des répondantes (53 %) ont signalé avoir employé des aiguilles que des amis, parents et partenaires ont utilisées tour à tour; cette proportion augmentait légèrement (62 %) pour ce qui est du partage du matériel d'injection. La plupart des répondants et des répondantes, spécialement les femmes dont la moitié était impliquées dans le trafic sexuel, avaient plus d'un partenaire sexuel. L'utilisation du condom était plus fréquente dans le cas des partenaires occasionnels que dans celui des partenaires réguliers. Bien que conscients et conscientes du risque posé par l'infection au VIH, la plupart des répondants et répondantes ont jugé que leur risque d'infection se situait sous la moyenne. Ces conclusions sont élaborées selon les pistes de réflexion qu'elles fournissent quant aux risques posés à la santé et aux occasions de réduction des préjudices au sein de la population à l'étude.

# Health Risks and Opportunities for Harm Reduction Among Injection-drug-using Clients of Saskatoon's Needle Exchange Program

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Individuals who use illicit drugs are at increased risk for a range of health problems, from blood-borne infections to physical deterioration and death. Moreover, the impact of drug use extends beyond the user; its social correlates include crime, family disintegration, child neglect, and social dependency.<sup>1,2</sup> Economic costs of illicit drug use in Canada were recently estimated at \$1.37 billion annually.<sup>3</sup>

The rise of HIV infection has focussed increased attention on injection drug users (IDUs) in particular, since sharing needles is an efficient means of transmitting HIV and other blood-borne viruses.<sup>4</sup> Information about individuals who inject drugs is necessary to develop effective harm reduction strategies, but is difficult to gather because of the illegal nature of their behaviour.<sup>5</sup> IDUs may also fail to receive appropriate health care and health education because of reluctance to access mainstream services or be open with service providers about their addiction.

The establishment of needle exchange programs, a key component of most HIV prevention programs for IDUs, has created an opportunity for IDUs to receive not only clean needles, but also health education, basic health care, and referrals to other services. Furthermore, data collected through these programs can provide much-needed information on the lifestyles and health needs of this population.

In Saskatoon, Public Health Services added a needle exchange component to its Street Outreach program in 1993. In this program, two outreach workers and a nurse provide counselling and referrals, in addition to condoms, needles, bleach, and safety containers for needles. In 1997, staff made about 4,000 contacts with 425 clients, 328 of whom (77%) obtained needles. In 1998, as part of a process evaluation, we collected information on 100 IDUs who use the needle exchange service. Here we describe their sociodemographic characteristics, injection drug use and sexual behaviours, needle exchange practices, and perceived risk for and knowledge about preventing HIV infection. Our objective was to assess both health risks and opportunities for enhancing harm reduction efforts in this population.

## METHODS

### Data collection

All clients who were registered with the Street Outreach program and who used injection drugs were eligible to participate. Prior to the study, staff verbally informed clients about the project and gave them an information card. From February to May 1998, personal interviews were conducted with the first 100 eligible clients who volunteered. A sample of 69 would have been sufficient to estimate the population parameters with a 90% confidence interval; however, since funding was available to interview 100 clients, this number was selected. Table I describes the study participants.

Interviews were conducted by the first author and Street Outreach staff. Each participant was given \$20.00 upon completing the interview.

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The questionnaire was a modification of that used in the Cape Breton HIV investigation.<sup>6</sup> Both open- and closed-ended questions were used. In addition to the descriptive statistics reported here, all variables were analyzed by gender and age, using chi square tests for categorical variables and t-tests for continuous variables. Only statistically significant differences are mentioned.

## RESULTS

### Injection practices

Participants reported initial use of needles as early as 11 years of age, with 67% having injected drugs by the age of 20. Almost three quarters indicated they had begun injecting drugs because their friends or partners introduced them to it.

When asked which drugs they had injected most often during the preceding six months, 48% of participants cited morphine, 46% ritalin, and 32% cocaine. Other drugs were much less common. Although half had used heroin, few reported using it frequently or within the past six months.

Over half of the participants (53%) reported that at some time they had used needles previously used by someone else. Within the preceding six months, 23 (24%) had shared needles with another person. Among these 23, only 8 (35%) said they 'always' cleaned the needle before re-using it. Most sharing occurred among friends, relatives, and partners. When asked why they had shared, most (70%) responded that it was the only needle available and/or that they had shared with their partner, whom they trusted. Almost all participants (93%) said they would not share needles if new needles were always available. Sharing injection equipment was even more evident than sharing needles, reported by 62%. About half the sample had shared equipment within the preceding six months.

Few participants injected drugs on their own; most (72%) reported injecting with one to three other people. Injecting with strangers was not a common practice. Most of the participants (78%) had used injection drugs in other cities, most commonly Edmonton, Calgary, Regina, and Prince Albert, SK; many had injected in two or three other cities.

**TABLE I**  
**Sociodemographic Characteristics of Participants by Gender**

Sociodemographic Variables	Men (N=41)	Women (N=59)
Age (years)		
<20	3 (7%)	13 (22%)
20-29	13 (32%)	22 (37%)
30-39	16 (34%)	16 (27%)
40+	9 (27%)	8 (13%)
Level of Education		
Less than high school	1 (2%)	5 (9%)
High school	36 (88%)	50 (85%)
Post-secondary	4 (10%)	4 (6%)
Housing		
Apartment, duplex	38 (93%)	52 (88%)
Parent's or friend's place	3 (7%)	5 (8%)
Shelter/no fixed address	0	2 (4%)
Ethnic Group	(N=40)	(N=50)
Caucasian	13 (32%)	11 (19%)
Aboriginal/Indian	27 (66%)	48 (81%)
Relationship Status		(N=58)
Married/common-law	17 (42%)	25 (42%)
Divorced/separated or single	24 (59%)	33 (56%)
History of Incarceration	41 (100%)	55 (93%)
Employment Status		
Regular or casual	6 (14%)	6 (10%)
Not employed	35 (86%)	53 (90%)

### Needle exchange practices

Almost everyone interviewed had obtained needles through Street Outreach in the preceding six months. Half the participants said they knew other IDUs who did not use the needle exchange service. Most (73%) reported getting needles from Street Outreach not only for themselves, but also for their friends, acquaintances, relatives, and partners. Similarly, 31% sometimes obtained clean needles from friends, rather than directly from Street Outreach.

### Sexual risks

In order to determine the risk of spreading HIV by sexual activity, respondents were asked about their sexual practices. Almost all (91%) reported having a sexual partner within the preceding six months. Eight women (14%) had partners of both genders; no men reported same-sex partners.

Three distinct groups emerged in terms of sexual practices: sex trade workers (who had both customers and regular partners), 'singles' (with regular and casual partners), and those who were married or living common-law, who reported only one sexual partner. Eleven women (19%) reported having exchanged sex for drugs or a place to sleep in the preceding six months, while 29 women (49%) and 1 man (2%) reported having been paid for sex within the same time period. A high proportion of

both women (40%) and men (28%) had had more than one sexual partner within the past month. Within the preceding year, almost three quarters of the female participants and two thirds of the males had had more than one sexual partner; the number of partners reported by women in the past year was significantly higher than the corresponding figure for men ( $t=-1.42$ ,  $p=0.008$ ). Younger participants tended to have more sexual partners.

Condom use was more common with casual partners than with regular partners. For example, 93% reported using condoms for vaginal sex with casual partners, compared to 41% with regular partners. However, condom use was not consistent. Among those who used condoms for vaginal sex with casual partners, for instance, one quarter reported that they did not always use them. The most common reasons given for not using condoms were being in a trusting relationship and self or partner not liking them. Neither age nor gender was consistently related to condom use. Individuals 19 or younger were more likely to report 'always' using condoms for vaginal intercourse, with both regular and casual partners, compared to older participants. More men than women reported using condoms for both anal and vaginal sex with regular partners, whereas more women than men used condoms for oral sex with casual partners.

### Knowledge and beliefs about HIV infection

Most participants were well informed about HIV transmission and means of preventing its spread. When asked how to avoid becoming infected with HIV, 89% of respondents mentioned using condoms and 80% recommended not sharing needles. Most identified both these strategies. However, participants tended to underestimate their risk of HIV infection. When asked to rate their chances of acquiring HIV, 10% of participants considered them 'high' and 21% 'about average,' while 54% felt their chances were 'pretty low' and 13% believed they were at 'no risk.' Even 28% of those who had shared injection equipment and 10% of those who had used a needle that someone else had used believed their chances of becoming infected with HIV were 'pretty low.' Only 14% of those who shared equipment or needles rated themselves at a 'pretty high' risk for becoming infected with HIV.

### DISCUSSION

This study is limited by its use of a convenience sample. However, the Street Outreach staff's assessment, based on their familiarity with their client population, was that self-selection bias was minimal. Those interviewed constitute almost one third of the total clientele of the needle exchange service.

Our findings highlight the multiple health risks and barriers to positive lifestyle change faced by this population. Participants generally began injecting drugs in their youth, initiated by family and friends. They continue to use drugs – and share needles and equipment – within their most intimate social network. Refusing to share a needle in this context implies suspicion that one's friend or partner is 'not clean.' A study of Calgary's needle exchange clients<sup>7</sup> found being "careful who I share with" to be a common justification for sharing needles. The social embeddedness of injection drug use thus contributes both to the difficulty of getting off drugs and to needle sharing. This underscores the need to consider the social context when designing harm reduction strategies.

Many of the study participants face increased risk of blood-borne infections by

virtue of their high number of sexual partners, especially the sex trade workers, all of whom are women. The issue of trust arises here also, with participants more likely to use condoms with casual than regular partners. Again, the findings of the Calgary study<sup>7</sup> were similar to ours, with trust in one's partner a common reason for not using a condom.

In spite of these real risks, most of the individuals interviewed considered their risk for HIV infection to be relatively low. This may be because the rate of HIV infection/AIDS in Saskatchewan is considerably lower than in many other parts of Canada. However, the tendency of participants to have spent time (and injected drugs) in other cities where the prevalence of HIV is higher increases their risk of infection.

Study participants do have some characteristics that work in their favour, relative to IDUs in many other places. The greater popularity of morphine offers some protection, simply because individuals using this drug do not inject as often as those using cocaine. Also, Saskatoon does not appear to have shooting galleries, in which individuals may inject drugs (and share needles and equipment) with a large number of strangers, thereby increasing their exposure to pathogens. The motivation to use clean needles (when they are available) appears high, along with knowledge of how HIV is spread and how it may be prevented – factors that may counter participants' low perceived risk, at least in part. Use of condoms for sex with casual partners, particularly among sex trade workers, is common.

The fact that participants knew of other IDUs who do not use the needle exchange service suggests there is room for increasing awareness of and access to the service. The large number of participants reporting that they sometimes obtained needles for other people indicates an active secondary distribution system. This is both positive, in that it extends the reach of the 'official' needle exchange service, and negative, since those who receive needles only through other IDUs cannot benefit from other Street Outreach services.

In conclusion, our findings suggest several opportunities for targeting harm reduction efforts. Potential actions could aim to: enhance the social acceptability of

using condoms and not sharing needles, even with trusted partners; address the intersecting problems of injection drug use and sex trade work; promote treatment services like methadone maintenance; increase IDUs' perception of personal risk for HIV infection (while offering effective strategies for reducing that risk); and increase the proportion of IDUs served by Street Outreach by using the network of current clients to promote the program. Clearly, these efforts will require a collaborative effort among all agencies working with IDUs, including Public Health Services, street youth programs, law enforcement agencies, and treatment services, as well as the participation of IDUs themselves.

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### REFERENCES

1. Lurie P. The Public Health Impact of Needle Exchange Programs in the United States and Abroad: Summary, Conclusions and Recommendations. Berkeley, CA: The Regents of the University of California, 1993.
2. Lawrence O, Gostin L, Lazzarine Z, et al. Prevention of HIV/AIDS and other blood-borne diseases among injection drug users. A national survey on the regulation of syringes and needles. *JAMA* 1997;277(1):53-62.
3. Hankins C. Syringe exchange in Canada: Good but not good enough to stem the HIV tide. *Substance Use Misuse* 1998;33(5):1129-46.
4. World Health Organization. Programme on Substance Abuse: Multi-city Study on Drug Injecting and Risk of HIV infection. Geneva: WHO, 1994.
5. Canadian Centre on Substance Abuse. Canadian Profile: Alcohol, Tobacco & Other Drugs 1994. Toronto: Canadian Centre on Substance Abuse, 1994.
6. Laboratory Centre for Disease Control, Health Canada. Nova Scotia Department of Health. October 1996-February 1997.
7. Elnitsky SL, Abernathy TJ. Calgary's needle exchange program: Profile of injection drug users. *Can J Public Health* 1993;84(3):177-80.

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