

Drug use trends in Victoria and Vancouver, and changes in injection drug use after the closure of Victoria's fixed site needle exchange



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Overview

This 6th CARBC statistical bulletin reports trends in injection drug use in Victoria and Vancouver from the BC Alcohol and Other Drug Monitoring Project (www.AODmonitoring.ca). As well, changes before and after the closure of Victoria's fixed site needle exchange in June 2008 are examined.

Results are reported from 464 interviews (226 in Vancouver, 238 in Victoria) with adult injection drug users conducted in 5 waves using a standardised sampling strategy, every 6 months from July 2007 to December 2009.

Around the time of the closure of the fixed site needle exchange in Victoria, there were shifts in the types of drugs injected and an increase in unsafe injecting practices. At the same time, numbers of clean needles distributed in Victoria since the closure fell by over 15,000 per month.

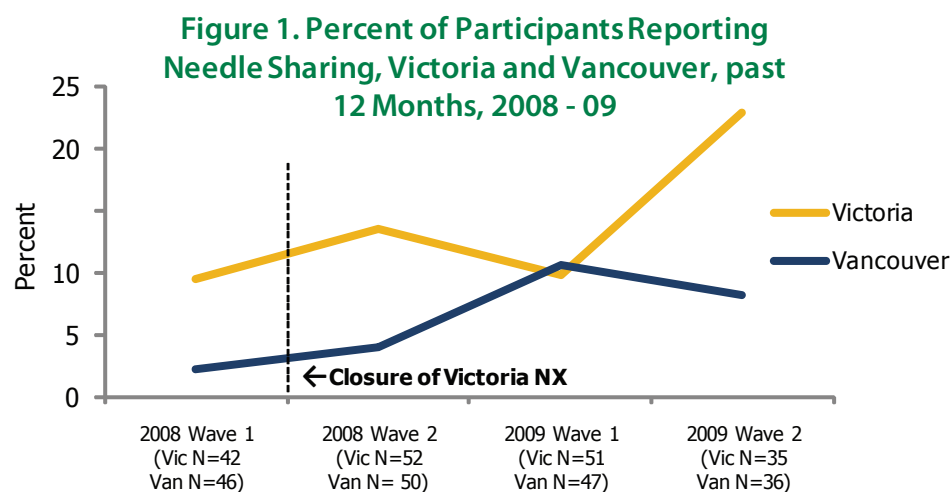
Across both cities and all time periods, crack cocaine was the most commonly used substance, after tobacco, in the past 30 days (86%), followed by powdered cocaine (70%).

When the needle exchange ceased operation on May 31, 2008, the data shows a brief decrease in daily injection among the sample, followed by a steady rise to higher levels than pre-closure over the next year. Trends show a decline in Vancouver during the same period. By the second half of 2009, there was a substantially higher proportion of frequent drug injectors in Victoria than Vancouver (89% vs. 29%).

Needle sharing was significantly more common in Victoria than Vancouver (see Figure 1). Rates increased to 23% in Victoria, up from 10% before the fixed site needle exchange closure, compared with 8% in Vancouver - a concern highlighted by qualitative data suggesting this increase was directly linked to the closure.

It is recommended that measures be taken to increase ease of access to both clean needles and crack- using paraphernalia to limit the spread of blood-borne viruses in the community.

"Not properly disposing of needles has increased and it seems like people are sharing needles more. The harm on people is increasing."(Victoria participant on the impact of the closure of the fixed-site needle exchange)



Note: Needle sharing significantly greater in Victoria than Vancouver ($p < .05$).

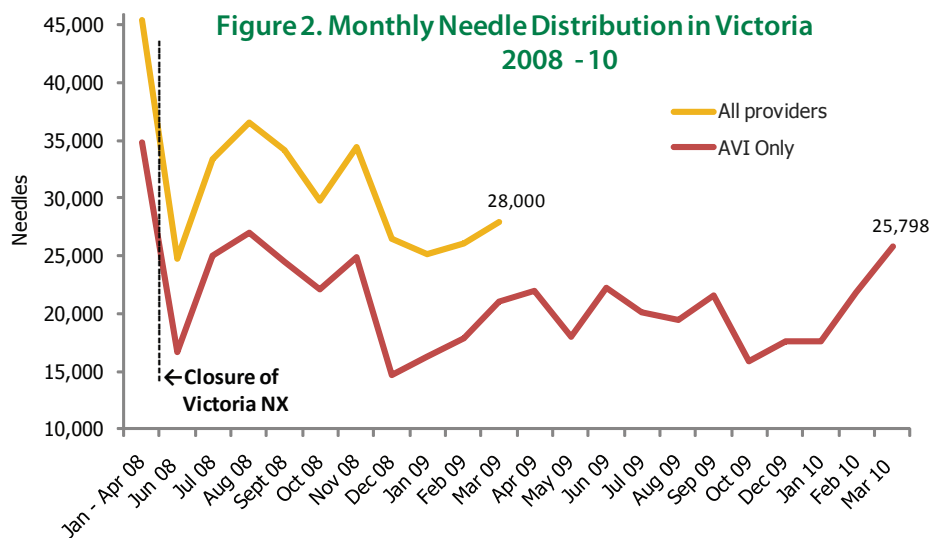
Introduction

Needle exchange programs are widely regarded as a basic yet essential component of harm reduction interventions aimed at reducing various harms related to injection drug use such as the transmission of blood-borne viruses among injection drug users (IDU). Scientific evidence supports the effectiveness of needle exchange programs in reducing the spread of HIV and other illnesses through reductions in injection-related risk behaviours such as needle sharing and re-use (Tilson et al., 2007; Wodak & Cooney, 2005; Gibson, Flynn & Perales, 2001). Furthermore, needle exchanges offer clients an opportunity to receive non-judgmental information on drug use, its consequences and potential routes to recovery. In this 6th CARBC Bulletin, data from the High Risk Populations component of the BC Alcohol and Other Drug (AOD) Monitoring Project (Stockwell et al, 2009, www.AODmonitoring.ca) are used to identify trends of injection drug use patterns and drug use behaviour in Vancouver and Victoria. Findings related to the closure of Victoria's only fixed-site needle exchange in the summer of 2008 are highlighted.

Needle exchange services have been offered in Victoria, supported by the Vancouver Island Health Authority (VIHA) and managed by AIDS Vancouver Island (AVI), since 1988. On May 31, 2008, due to a lawsuit from neighbours, the fixed-site needle exchange was evicted. Attempts from VIHA to find another fixed-site location were unsuccessful due to neighbourhood pressure and a lack of available rental spaces. Since June 2008, needle exchange services in Victoria

have been offered through a mobile program. Mobile needle exchanges are typically used as an adjunct to fixed site services to reach clients who may not feel comfortable accessing fixed sites. However, best practice documents recommend that in cities with large populations of injection drug use, more than one model of needle exchange service delivery is necessary and that a fixed site needle exchange is an essential component (Strike et al., 2006). Another factor that impacts the mobile service is a "no-go zone" in an area of downtown Victoria, where street outreach workers are not permitted to hand out clean needles or any other harm reduction supplies but where a significant number of people who use injection drugs are located. The result has been a substantial reduction in the level of health service delivery provided by AVI and of clean needles, and has impacted their ability to meet the provincial policy of providing drug users with one clean needle for every injection (BCCDC, 2009).

Figure 2 shows needle distribution figures from January 2008 to March 2010. The number of needles distributed monthly dropped substantially the month after the fixed-site needle exchange closed -from an average of 45,000 distributed per month during the months of January to April 2008 to an average of about 30,000 needles per month thereafter. The purpose of this bulletin is to examine trends in drug use and changes both before and after the fixed-site needle exchange closed in Victoria, using Vancouver, which has seen no similar disruption of harm reduction services, as a comparison.



Note: Distribution number for the period of Jan-Apr 2008 represents the average number of needles distributed in that time period. Distribution figures from all providers after March 2009 are not available at this time. Source: AIDS Vancouver Island.

Methods

The AOD Monitoring project began collecting data on high-risk populations in mid-2007 (Duff et al, 2009). The Canadian Adult Sentinel Survey of Illicit Drug Use (CASSIDU) is conducted bi-annually in two waves (Wave 1=Winter/Spring and Wave 2=Summer/Fall), initially with 50 adult injection drug users in each wave in each city and then starting with the second wave of 2009, increasing to 80 participants with an expanded eligibility criteria that now includes participants who are non-injection drug users¹. The 2007 data were from a single wave conducted in the summer and fall as part of a pilot study. By the end of 2009, 464 interviews with active injection drug using participants had been conducted (226 in Vancouver, 238 in Victoria). This group will be the focus of this bulletin.

Eligible participants had lived in BC for at least 6 months, were at least 19 years old, and injected/used drugs at least once a month for the previous 3 months. Participants were sampled using a standardised strategy and survey instrument with recruitment from a variety of street agencies in Victoria and Vancouver. Participants were each given a \$20 honorarium for an interview.

Interviews took place at a limited number of street population-serving agencies in both cities and at specific times. The interviews covered a broad range of topics including questions on drug use history, recent occasion drug use (yesterday, last weekend and last 30 days), related risk behaviours, drug markets (price, availability, perceived quality), perceived risks and harms associated with drug use, and health and socioeconomic indicators. A wide variety of specific drug categories are covered, such as: cocaine powder, crack cocaine, heroin, and crystal methamphetamine. Questions on needle sharing and frequency of drug injection were included only after the pilot study.

This bulletin presents descriptions of rates of use of different substances by different means of administration in the two cities. Statistical comparisons were performed using Fisher's exact test with two-tailed tests to compare groups between two time periods. Trends over time in use of each substance were statistically assessed with the linear-by-linear test across all five waves of data.

¹ From the Pilot in 2007 until 2009 Wave 1, participants were required to be regular injection drug users. From 2009 Wave 2 onwards, participants are no longer required to be injection drug users, and the sample size per wave was increased to 80 per site. For the purposes of this report, in order to ensure the samples were equivalent across all waves of data collection, we restricted the sample to those that injected within the last 3 months.

Findings

Demographic characteristics

Among all participants in both cities, 67.7% were male with 2.1% reporting either being transgender or intersex. A little less than a third (28.3%) reported having no fixed address. The majority of participants were unemployed or on disability (78.2%) and 14.3% were either married or living common law. The mean age of participants was 40.2 years.

I. Differences between groups and trends

Substance use in both cities

Table 1 shows the percentage of respondents who used various substances for the total sample, Victoria and Vancouver. The most widely used substances by any method across all waves of data collection were tobacco (around 96%), crack (86%), cocaine (69%) and marijuana (62%). Ecstasy was the least used substance in the past 30 days. In terms of comparisons between cities, results showed significant differences for several substances. The Vancouver sample had significantly more use of marijuana, heroin and crystal meth than the Victoria sample. Victoria had significantly more morphine and dilaudid use.

Table 1. Percent using various substances in the last 30 days by any method between Victoria and Vancouver

	Total Sample	Victoria	Vancouver	Statistical Significance
Tobacco	95.7	97.5	93.8	ns
Crack	86.1	87.8	84.3	ns
Cocaine	69.5	72.6	66.2	ns
Marijuana	62.1	56.5	68.0	p<.05
Heroin	60.5	55.7	65.6	p<.05
Alcohol	53.1	54.4	51.8	ns
Morphine	44.3	59.3	28.4	p<.001
Methadone	42.3	42.9	41.8	ns
Crystal Meth	39.3	32.9	46.0	p<.01
Dilaudid	34.6	48.1	20.4	p<.001
Ecstasy	11.7	10.2	13.3	ns

Note: ns indicates not statistically significant. Groups were compared using two sided Fisher's exact test.

Despite being geographically close, several significant differences were observed between Vancouver and Victoria for injection drug use (see Table 2). Across all time periods, there was significantly more injection use in Victoria than Vancouver of the prescribed opioids dilaudid and morphine. There was significantly less injection use of both crystal meth and heroin in Victoria than Vancouver.

Table 2. Percent injecting various substances in the last 30 days between Victoria and Vancouver

	Total Sample	Victoria	Vancouver	Statistical significance
Cocaine	56.3	60.5	52.0	ns
Crystal Meth	25.0	14.8	35.7	p<.001
Heroin	52.1	47.0	57.1	p<.05
Dilaudid	24.9	37.0	12.4	p<.001
Morphine	33.0	46.8	18.4	p<.001

Note: ns indicates not statistically significant. Groups were compared using two sided Fisher's exact test.

Gender and age differences

Rates of injecting different substances in the adult injecting drug users did not differ significantly by gender for cocaine, dilaudid and morphine. Crystal meth by injection, however, was used more commonly by males than females in both cities (p<.05). Heroin use by injection did not differ for males and females overall; however, females were significantly more likely than males to inject heroin in Vancouver (p<.05).

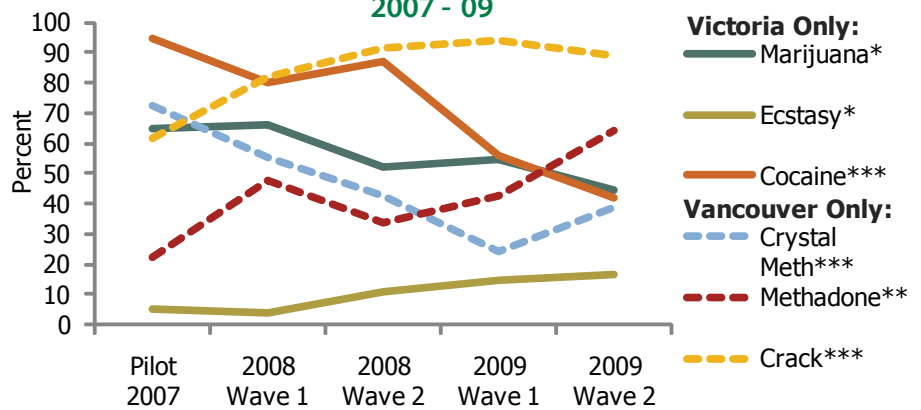
The average ages of those who used dilaudid and morphine by injection were similar for both cities. Younger people were significantly (p<.01) more likely to use crystal meth by injection in Vancouver. The average age for

those injecting crystal meth in Vancouver was 34 versus age 43 for those who did not inject this substance.

Significant trends over 5 periods in substance use in both cities

Analyses were conducted to examine the significant linear trends over the five waves of data collection using linear-by-linear analysis for ordinal data. Victoria and Vancouver were analyzed separately since drug usage in the two cities is quite different (see Table 1). No significant trends were observed for five drugs in either city (heroin, dilaudid, morphine, alcohol, and tobacco). Drugs with significant increasing or decreasing trends in either Victoria or Vancouver can be found in Figure 3. In Victoria, a significant increase in ecstasy usage from about 5% in wave 1 to 17% of respondents in wave 2 was found (p<.05). Significant decreases in Victoria were found for use of cocaine (p<.001) and marijuana (p<.05). In Vancouver, a significant decrease in crystal meth (p<.001) and significant increase in methadone (p<.01) and crack (p<.001) were observed. The increase in crack use is consistent with general increases over the past decade reported in other cities across Canada (Health Canada, 2006).

Figure 3. Significant Trends in Recent Drug Use Over Time, Victoria and Vancouver, 2007 - 09



Significance levels for trends: ***=p<0.001, **=p<0.01, *=p<0.05

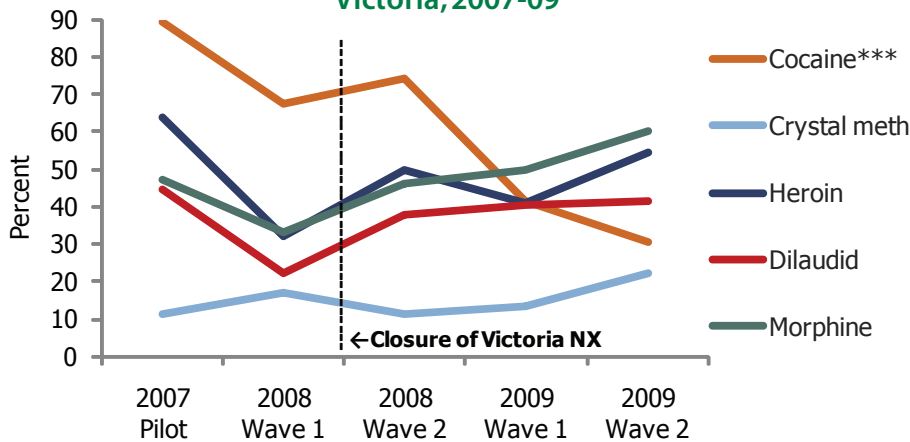
II. Changes in relation to the closure of Victoria's needle exchange

Changes in substances injected in Victoria over time

A number of significant changes in injection drug use have been observed in Victoria since 2007 from before to after the closure of the fixed site needle exchange. As seen in Figure 4, the most striking

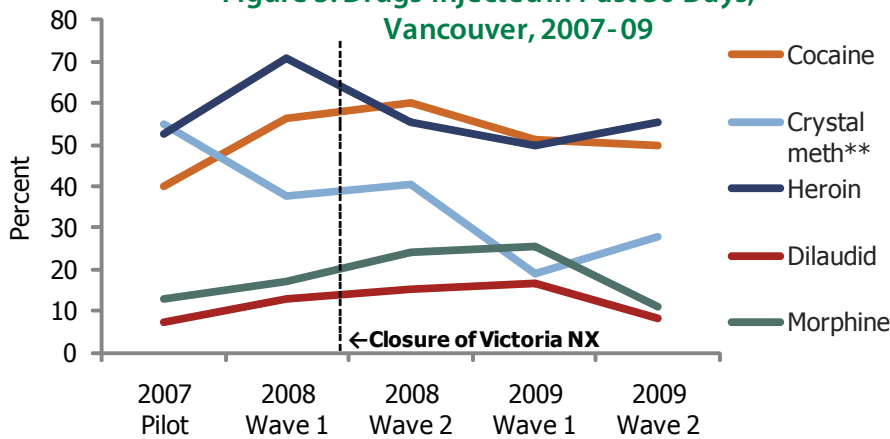
change was a large decreasing trend in the injection of powder cocaine. In 2007 almost 90% of participants reported injecting cocaine in the previous 30 days, which dropped to just 31% in late 2009 (p<.001). The reduction in powder cocaine use could be one of the factors accounting for the drop in syringe distribution as people who are injecting cocaine tend to use more syringes. No other trends were significant.

Figure 4. Drugs Injected in past 30 Days, Victoria, 2007-09



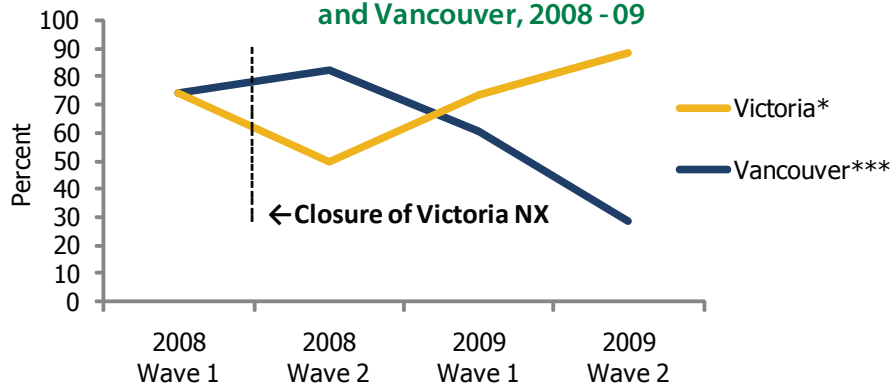
Significance level for trends: ***= $p < 0.001$

Figure 5. Drugs Injected in Past 30 Days, Vancouver, 2007-09



Significance level for trends: **= $p < 0.01$

Figure 6. Percentage of Respondents Injecting Once a Day or More, Past 12 Months, Victoria and Vancouver, 2008 - 09



Significance levels for trends: ***= $p < 0.001$, *= $p < 0.05$

Changes in substances injected in Vancouver over time

In Vancouver, injection of crystal meth significantly declined since 2007 ($p < .01$; see Figure 5). There was a slight but not significant increase in reported injection of morphine and dilaudid by Vancouver respondents.

Injection behaviour: frequent use and needle sharing

Figure 6 illustrates the rate of injection drug use over time for Vancouver and Victoria. The trend for daily drug injection has significantly increased in Victoria ($p < .05$) and decreased in Vancouver ($p < .001$). Victoria initially showed a decrease in frequent injection use (injecting "daily or more"); however, frequent injection increased every period thereafter and is now higher than before the closure of the needle exchange. In Vancouver over the same time periods, frequent injection first increased slightly but decreased thereafter, with participants who reported injecting "daily or more" dropping from 74.5% in early 2008 to only 28.6% in late 2009.

Needle sharing is one of the biggest concerns surrounding injection drug use given the high risk of transmitting blood-borne viruses such as HIV and Hepatitis C. Increased harm reduction initiatives over the past number of years have been effective in highlighting the dangers of needle sharing, and have worked to reduce needle and syringe sharing among injection drug users (Wodak & Cooney, 2006). Figure 1 (on page 1) shows rates of needle sharing in Vancouver and Victoria of those that reported injecting in the last 3 months from early 2008 to the end of 2009. Overall, participants in Victoria reported sharing needles more often than the participants in Vancouver ($p < .05$). Needle sharing increased in Victoria from 10% in early 2008 to 23% in late 2009, but this trend is not statistically significant. Rates of needle sharing have remained under 11% in Vancouver over the same time period, with a non-significant increase.

Impacts of the Closure of the Fixed-Site Needle Exchange: Qualitative data

In early 2009 an open-ended question sheet was added to the surveys in Victoria to assess how the closure of the fixed-site needle exchange had impacted drug use and injection drug users. Common themes emerging from the responses included:

- More open and public drug use.
- An increase in improper disposal of used needles (i.e., on the street).
- More people sharing and re-using syringes.
- More difficult to get clean needles.

Participants often spoke about the inconvenience of finding new needles since the fixed-site needle exchange closed in the summer of 2008. As one participant succinctly stated, "It's made it harder to find clean needles." Other participants reported similar experiences:

Getting needles is more complicated now. Like, when you want a needle now...you can't get one.

Circumstances make it harder to get [clean needles]. You have to go to where the mobile exchange is and sometimes I can't do that.

It's not as convenient to find the needles and harder to dispose of them properly.

It has affected me because I'm not always around when the street nurses come by. There's very low convenience to get clean needles and supplies.

I see a lot of people just picking up dirty needles from the ground or in the grass or in mud. It's just so much dirtier since the needle exchange closed.

Participants also frequently spoke about re-using needles. One participant, when asked about frequency of re-using needles replied, "Weekly...when I don't have a new one." Other participants spoke of similar experiences re-using needles when they were unable to find new ones:

I'm re-using my own needles more since it closed. (How often do you re-use?) Three or four times per needle.

Now, it's a hassle to get needles. I will re-use if I need to.

(How often do you re-use?) Sometimes, until they are dull.

(Why do you re-use needles?) Because they are hard to get, hard to get new ones.

Needle sharing is of particular concern, and poses serious health consequences for injection drug users. A number of participants reported seeing others around them sharing needles more often since the needle exchange closed:

More people are sharing and disposing of their rigs [needles] on the street. The street use is much more unsafe due to sharing... Because of the closure of the needle exchange, it is less convenient and that means there is more sharing.

I've noticed more people sharing rigs and needles.

I will clean old ones, use my girlfriend's used needles... I am confident with my girlfriend's health, we both have Hep C.

Sharing needles has increased and addicts are re-using their needles more often.

Discussion

The BC AOD Monitoring Project's ongoing surveys of illicit drug users in Victoria and Vancouver indicate shifting and differing rates of injection drug use in both cities. Victoria had significantly lower rates of crystal meth, heroin and marijuana use than Vancouver and significantly higher rates of injection of the prescribed opioids: dilaudid and morphine. Drugs whose use is increasing include methadone and crack in Vancouver and ecstasy in Victoria. These distinct observations in each research site underscore the value of data collection in multiple cities, since results from one jurisdiction cannot be generalized to another jurisdiction.

This study illustrates that drug usage for these injection users is substantially different in Victoria than in Vancouver for the period between 2007 and late 2009. First, the prescribed opiates morphine and dilaudid are significantly more common in Victoria than Vancouver. Illicit use of heroin, crystal meth and marijuana are significantly more common in Vancouver than Victoria.

Some changes were noted after the closure of the fixed site needle exchange in Victoria, in June 2008. Although there was a substantial reduction in the number of clean needles distributed in Victoria, daily drug injection increased significantly over time. Conversely, in Vancouver, where clean needles were more accessible, daily drug injection significantly decreased. These results may underscore the importance of educational supports provided by needle exchange personnel that promote healthier lifestyles. The qualitative data collected in early 2009 in Victoria also raise concerns about difficulty accessing clean needles and a tendency to be more likely to re-use or share needles.

Across the whole study period, Victoria had significantly higher rates of needle sharing than Vancouver but significant trends over time were not observed for either city. Vancouver has several fixed site needle exchanges distributed across the metropolitan area and this may account for significantly lower rates of needle sharing intensity compared with Victoria.

Across both cities, after tobacco, crack cocaine was the most widely used substance. The significant increase in the use of crack cocaine over the period of our study in Vancouver, as well as the overall increasing prevalence of this substance warrants other preventive and harm reduction initiatives. We recommend ready access to clean crack use paraphernalia to limit the spread of blood-borne viruses (Fischer et al., 2008).

There remains a substantial problem with injection drug use in Victoria following the fixed site needle exchange closure. Our findings show significantly higher rates of needle sharing in Victoria than Vancouver. We recommend an immediate abolishment of the "no-go zone" in downtown Victoria, to enable outreach workers and health service providers to adequately respond to the health needs of injection and other drug users. We further strongly recommend that, in accordance with optimal best practice put forward elsewhere (Strike et al., 2006), one or more fixed site needle exchanges be reintroduced in Victoria as part of a comprehensive plan to attend to the health needs of injecting drug users and preventing the spread of HIV and Hepatitis C.

Acknowledgements

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