Bridging Services with Community Voices around Injection Drug Use

Results & Recommendations from an Assessment of Harm Reduction Needs in the Saskatoon Area

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Most importantly, thank you to all of the Street Health clients who offered their time and energy to this survey. We hope you find your voice reflected in this report and in the changes you see in the programs, services, and supports available to you.
Public health practice in the response to injection drug use aims to reduce drug related harms without requiring abstinence or cessation of drug use. This approach encourages incremental changes in drug use behaviours, ensuring that services and supports offered to clients meet clients ‘where they are at’. The focus is on the whole person and does not judge or discriminate against drug use.

This report summarizes key findings and recommendations from a survey of harm reduction needs among clients accessing the Saskatoon Health Region’s (SHR) primary harm reduction service, the Street Health Program. The survey was conducted over spring and summer of 2008.

This survey emerged from concerns about increasing rates of HIV among individuals directly or indirectly affected by injection drug use (IDU). To ensure practice was informed by client voices and evidence, service providers in the SHR recognized the importance of documenting and responding to harm reduction needs of the community. This study was also a response to the genuine interest expressed by the B.R.I.D.G.E. Partnership, a partnership of forty-five plus agencies and organizations committed to providing more comprehensive and supportive services to communities coping with IDU in Saskatoon.

Recognizing that multiple determinants of health contribute to the complexity of contexts in which clients live, the researchers made every effort to collaborate with other service providers, communities and clients in the development of the survey tool.

The study was conducted through the Street Health Program (Department of Disease Control in Public Health Services). In 2008, the Street Health Program offered support to 1007 registered clients in addition to many unregistered clients. The program is carried out by a team of outreach workers and public health nurses who work together to provide services for clients affected by IDU and/or HIV and hepatitis C (HCV). The program offered an ideal venue for connecting with individuals affected by IDU.

The study was founded on a number of good practices related to reducing the risk of transmission of HIV and HCV in the context of IDU:

- Services are provided for clients in a way that works for them—right place, time, supplies and services.
- Clients are provided with all of the supplies they need for safer substance use (i.e. no sharing of any equipment).
- Clients use a clean needle for each and every injection.
- Clients have access to treatment and other supportive services through harm reduction programs.
- Testing is available to clients with appropriate follow-up and support. Clients are encouraged to be tested every three months.
- Clients are provided with comprehensive education related to their IDU and associated risks so that they can make informed decisions.

The following pages are organized by sections of the survey itself. The report will be useful for service providers, clients, and community agencies involved in decision-making and program planning for harm reduction in the Saskatoon area.
Methods

Following a series of stakeholder consultations and meetings through B.R.I.D.G.E. Partnership, the survey was developed and conducted by the SHR’s Street Health Program.

Core questions for the survey were shared with members of the agencies and organizations represented in all four of the B.R.I.D.G.E. Partnership’s working groups (Health Promotion & Primary Prevention, Harm Reduction, Treatment & Recovery, and Enforcement). Comments and interests in exploring specific issues related to service provision and identifying client needs were incorporated into the survey.

A focus group was held at AIDS Saskatoon after a regular drop-in lunch to receive client feedback on the survey. An open invitation was offered to anyone attending the lunch. Potential participants were informed of the purpose of the focus group and the survey. We described ‘harm reduction’ as any kind of services or supplies that helps to lower the risk of getting an infection like HIV or hepatitis C for people who are doing something (like injecting drugs) that can expose them to these infections.

Participants were compensated for their time (approximately 90 minutes) with coffee, snacks, and a $20 honorarium. Six individuals participated in the focus group. The survey was adapted and re-structured to reflect the feedback and language suggestions of these participants. The focus group was well received. At the end of the focus group, one participant commented that ‘you should do more of these…we want to be involved!’

The survey was developed into a user-friendly database (see Figure 1 below) using Microsoft Access 2003. The database offered consistent prompts for both interviewers and participants. The survey included the following categories for data collection: demographic information; accessing health care; health information; drug information; hours and locations for service delivery; getting new supplies; used supplies; other services; and basic needs.

The survey was delivered alongside regular outreach services through the Street Health Program. Training sessions were provided to all Street Health staff to ensure consistency in survey delivery. The survey was only offered to potential participants following regular services. Inclusion criteria: must have been accessing services through the Street Health Program at either the fixed site (STI Clinic, SWITCH) or Health Works van; must have been registered with the Street Health Program (unregistered clients were offered the opportunity to register using either their own name or a pseudonym); and must have been at least 16 years of age.

A total of 151 individuals completed the survey between May 26th and September 25th of 2008, representing 22.3% of all clients seen during this same period. A $5 honorarium was given to participants to recognize their time and contribution to the survey. The electronic format of the survey allowed participants to view their answers as they moved through the questions. This interactive approach provided participants with a greater sense of control and ownership in the survey and contributed to consistency in recording responses. Participant responses to the survey included several statements that it was ‘a good survey’ and ‘it was really great to give input’.

Data were then imported into SPSS 13.0 for analysis. Descriptive statistics and chi square tests were used to explore the data.

The study was reviewed and approved by the University of Saskatchewan’s Behavioural Research Ethics Board (Beh-REB #08-114) and later approved by Mount Royal Colleges Research Ethics Board (Number 2008-10). Verbal consent was obtained and a one-page information sheet provided to all participants in the study.

Recommendations

Meaningful engagement of users of harm reduction services in the process of gathering, interpreting, and sharing data is critical to ensuring practice is driven by client needs. Efforts to creatively engage clients in this process should be consistently incorporated into programming and evaluation for harm reduction.

Figure 1: Screen Shot of Survey
The age distribution of survey participants is illustrated in Figure 2. The survey sample included an even distribution of females and males (48.3% and 51.7% respectively). The majority of participants were between 25 and 44 years of age, with a range of 19-59 years. A total of 86.8% identified as First Nations, Inuit or Métis.

To understand the dynamics of supply needs, participants were asked if they spent three or more consecutive days in a rural community or reserve in the last six months. 37.7% (55) participants responded ‘yes’, identifying a variety of locations both north and south of Saskatoon.

Participants were asked to share up to three locations where they spend most of their time. Responses were collected in an open text format, allowing participants flexibility in their answers.

Data were first reviewed as a free-response field and then placed on a city map of Saskatoon. Only locations identifiable on a map were included. This process resulted in a total of 36 locations that were then clustered to identify service needs. Clusters of locations were gathered into logical, identifiable areas included: Riversdale, Avenue T & 20th to 22nd Street, Caswell Hill/33rd Street, Pleasant Hill, Downtown, and ‘other’. A number of specific locations were mentioned repeatedly (frequency ≥ 5): Westside Community Clinic, AIDS Saskatoon, the Friendship Inn, and the Friendship Centre.

Because clients were asked to list up to three locations, the data shown in Figure 3 represent first, second and third responses. The majority of participants (82.1%) listed only one location, 56.9% listed two locations, and 24.5% of participants offered three locations. Harm reduction services offered at the time of the survey included regularly scheduled outreach to Avenues H at 20th Street (Riversdale) and two stops at Avenue R at 20th Street and Avenue P at 21st Street (Pleasant Hill).
Findings Health Information

The second section of the survey explored participants’ use of health services. Of particular interest was the use of emergency services. We asked participants if they had visited an emergency room in the last six months. Almost half (48.3%) responded ‘Yes’. Reasons participants visited emergency services are shown in Figure 4.

Of the 73 individuals who stated they’d visited an emergency room in the last six months, the average number of visits was 3.48; however, 32.8% visited the ER once and another 21.3% visited the ER twice (cumulative percent of 54.1%).

We also explored whether participants have ever not gone to a health care centre even when they thought they should. A total of 69 (45.7%) participants answered “Yes” to this question.

When asked what kinds of things make participants not want to go to a health centre (see Figure 5), even when they think they should the reason most frequently cited was discrimination due to their drug use, disease, or culture.

Long waiting times were also frequently identified as a reason for not seeking care.

Recommendations

The high volume of participants accessing emergency services indicates a need for awareness among service providers about the unique needs of this population. Efforts to address experiences of discrimination generally could contribute to more effective and meaningful service access by individuals coping with IDU. The data also indicate needs for education and awareness among Street Health clients about the role of emergency services and for an evaluation of the accessibility of non-emergent health services in identified locations (e.g. Riversdale, Pleasant Hill; see Figure 3).
In this section of the survey, we explored some aspects of health care service access and general health information. One area of interest was in participants’ experiences with abscesses.

Soft tissue infections (abscess or cellulitis) have been found to be one of the most common reasons for hospital admissions among individuals using injection drugs. Such infections can develop at sites of a so-called ‘miss’, when injections are taken under the skin or into the muscle, with drugs containing high concentrations of contaminants (e.g. talc, coatings), at sites not cleaned prior to injection. Soft tissue infections are associated with complications including sepsis, endocarditis, and necrotizing fasciitis.

Participants were asked if they had experienced an abscess. A total of 43 out of 148 participants (29.1%) reported having an abscess in the last six months. Chi-square tests were used to identify significant differences between variables. Table 1 outlines significant associations found between a history of abscess and other study variables.

A greater proportion of participants reporting a history of HIV also reported a history of abscess than those participants with no known history of HIV. Participants reporting a history of abscess in the last six months were also more likely to report having visited an emergency room in the same time period.

Participants reporting use of prescription drugs or methadone were also more likely than others to have experienced an abscess. Prescription drugs and methadone contain waxy coatings or other substances in suspension that could contribute to an increased risk for abscess formation.

Interestingly, a larger portion of participants reporting high volume needle use (i.e. more than 21 needles used per 24 hour period) reported a history of abscess. This might be related to the greater frequency of injecting and/or the types of drugs injected by individuals using a high volume of needles.

Given the risk of exposure to blood borne pathogens associated with injection drug use, we were interested in participants’ experiences with testing for HIV and HCV. Current practice in the Street Health Program promotes testing at approximately 3-6 month intervals.

Figure 6 summarizes participants’ self reported time periods for when they were last tested for HIV and/or HCV (n=148). Although just 55% of respondents reported being tested in the suggested time period, the majority of participants (77%) reported being tested for both within the last year.
Newly reported cases of HIV in the Saskatoon Health Region reached 77 in 2008\textsuperscript{5}. Thirty of these cases were female and 47 were male. Of the 30 females testing positive for HIV, 22 were in their ‘childbearing’ years, between the ages of 15 and 40. The majority of these can be linked either directly or indirectly to IDU.

Testing for HIV was not part of the data collected for this study; however, participants were asked if they had ever tested positive for HIV and HCV. Among the 151 individuals participating in the survey, 36 (23.8\%) reported having tested positive for HIV in the past. Because this is self-reported point prevalence, it can be considered an under-estimate of the actual prevalence of HIV in the community.

Almost all of these participants identified as First Nations, Métis or Inuit (97.2\%). This was significantly different than participants reporting no history of HIV and identifying as First Nations, Métis or Inuit (85.0\%, p=0.051). An equal number of males and females are represented; however, females represent a greater proportion of cases in individuals 34 years and younger.

Of the participants reporting a history of HIV, 38.9\% reported spending time in a rural, remote or reserve location in the last six months (no significant difference from other participants). A total of 63.9\% (compared to 43.3\% among participants reporting no history of HIV, p=0.034) of participants in this sub-group reported visiting an emergency room in the last six months, with an average of 4.09 visits in that time frame (compared to 3.48 among other participants, p=0.450).

Other significant associations between participants reporting a history of HIV with other variables are displayed in Table 2. Significantly greater proportions of participants reporting a history of HIV also reported having had an abscess in the last six months and not accessing health services when they thought they should. Interestingly, 16.1\% of participants reporting a history of HIV (compared to 4.8\% of participants with no history of HIV) felt it was OK to share their needles with other users who were also HIV+ (p=0.056). See “Findings Getting New Supplies” (p. 14-15) for more discussion on this sub-group.

Table 2: Significant Associations with Reporting History of HIV

<table>
<thead>
<tr>
<th>Variable</th>
<th>$\chi^2$</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identify as First Nations, Inuit, or Métis</td>
<td>3.81</td>
<td>0.051**</td>
</tr>
<tr>
<td>Visited ER in last six months</td>
<td>4.48</td>
<td>0.034**</td>
</tr>
<tr>
<td>Ever tested positive for HCV</td>
<td>9.55</td>
<td>0.002**</td>
</tr>
<tr>
<td>Had an abscess in the last six months</td>
<td>3.80</td>
<td>0.051**</td>
</tr>
<tr>
<td>Need water as a basic HR supply</td>
<td>4.64</td>
<td>0.031**</td>
</tr>
<tr>
<td>Need gloves as a basic HR supply</td>
<td>3.38</td>
<td>0.066*</td>
</tr>
<tr>
<td>Ever not accessed health services, even when should</td>
<td>4.49</td>
<td>0.034**</td>
</tr>
<tr>
<td>Ever not accessed health services, even when should—Lists reason as “Not feeling welcome”</td>
<td>3.38</td>
<td>0.066*</td>
</tr>
<tr>
<td>Think it’s OK to share needles if both users are HIV+ or HCV+</td>
<td>3.64</td>
<td>0.056*</td>
</tr>
</tbody>
</table>

**Significant at $\alpha=0.05$; *Significant at $\alpha=0.10$
Participants reporting having received a positive HCV test in the past represented 79.5% of all participants. As was observed among participants reporting a history of HIV, a history of HCV was equally distributed among males and females; females were over-represented in the younger age categories (19-24 years and 25-34 years) compared to males.

Unlike those participants reporting a history of HIV, there was no significant difference between history of HCV and self-identifying as First Nations, Inuit or Métis.

Some significant differences, however, were found between participants reporting a history of HCV and those with no known history of HCV.

Additionally, participants reporting a history of HCV represented a significantly greater proportion of those participants stating they inject, snort, or smoke as a method or drug use and need needles as a safe injection supply.

As was seen among participants reporting a history HIV, more participants with a history of HCV also reported not accessing health services even when they think they should. This is particularly concerning given the association between HIV and HCV.

Co-infection with HIV among chronic HCV patients has been a more rapid progression of hepatitis7. In this study, a significantly greater proportion of participants reporting a history of HCV also reported a history of HIV.

This sub-group of participants represents individuals experiencing complex needs, including regular and supportive health care. Effective treatments are now available in highly active anti-retroviral (HAART) therapy8. Despite effective treatment availability for HCV, injection drug users tend to have low levels of knowledge and understanding about treatment options9.

**Findings**

Table 3: Significant Associations with Reporting History of HCV

<table>
<thead>
<tr>
<th>Variable</th>
<th>$\chi^2$</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ever tested positive for HIV</td>
<td>9.71</td>
<td>0.002**</td>
</tr>
<tr>
<td>‘Smoke’ identified as a method of drug use</td>
<td>3.05</td>
<td>0.081*</td>
</tr>
<tr>
<td>Inject identified as a method of drug use</td>
<td>Fisher’s Exact</td>
<td>0.016**</td>
</tr>
<tr>
<td>Snort identified as a method of drug use</td>
<td>3.01</td>
<td>0.083*</td>
</tr>
<tr>
<td>Ever not accessed health services, even when should</td>
<td>6.55</td>
<td>0.011**</td>
</tr>
<tr>
<td>Needles identified as a need for safe use of drug</td>
<td>Fisher’s Exact</td>
<td>0.003**</td>
</tr>
</tbody>
</table>

**Significant at $\alpha=0.05$; *Significant at $\alpha=0.10$**

**Recommendations**

The proportion of study participants reporting a history of HIV is alarming and likely an underestimate of the prevalence among study participants. The population of individuals using injection drugs and affected by HIV and/or HCV is coping with multiple, complex needs across all determinants of health.

Inter-disciplinary, integrated strategies for treatment and support are urgently needed. Efforts to raise awareness among decision makers in policy and programming about the emerging HIV trends in the Saskatoon area are also urgently needed to respond to the needs of this community.
Participants were asked to identify what different kinds of drugs they use. Responses are displayed in Figure 9 above. The most commonly identified drugs included morphine, crack/cocaine, and Ritalin.

A total of 83 (55.0%) participants reported using all three of these drugs, indicating a large number of participants were engaged in poly-drug use. Even more common was the use of morphine and crack/cocaine, with 102 (67.6%) reporting use of both. Given this context of poly drug use, substantial challenges with methadone might be experienced by both this population and service providers involved in methadone assisted recovery in the Saskatoon area.

In exploring the ways in which participants use their drugs, 99 (151 (65.6%) reported smoking; 147 (97.4%) reported injecting; 33 (21.9%) reported snorting; 68 (45.0%) reported swallowing; and 20 (13.2%) reported inhaling.

Sharing of non-injection drug use equipment, including inhalation tubes, has been independently associated with transmission of HCV\textsuperscript{10}. Distribution of safer crack use kits has been recommended on the basis of findings of a survey following the introduction of such kits in Ottawa, Ontario\textsuperscript{11}.

Given the high prevalence of HCV and HIV in the context of a relatively large proportion of participants identifying ‘smoking’ as a way they use their drugs, smoking crack might be considered as a possible mode of transmission for HCV and HIV in this population. Safer crack use supplies, such as stems or pipes, filters, and mouthpieces might be an important strategy for reducing the risk of transmission of these viruses in Saskatoon.
Participants were asked to identify what days of the week they would most likely go out to get supplies. These data are presented in Figure 10, showing that participants prefer accessing services every day of the week with needs highest on Fridays. At the time of the survey, there was limited access to harm reduction supplies on weekends and holidays.

Currently, partnerships are forming to provide services at multiple locations and on weekends and statutory holidays using informed practice.

Also of interest were the hours in which participants would most likely go out to access harm reduction supplies. In particular, the researchers wanted to explore the need for 24-hour services.

Participants’ responses are summarized by six-hour blocks of time in Figure 11. This data reveals that the greatest preference to access services is in the evenings between 6:00 pm and midnight, followed by the afternoons between 12:00 pm and 6:00 pm.

Participant preferences for times of service delivery correspond with current service delivery patterns; however very limited harm reduction services are currently available for the 84 participants stating they would prefer access between midnight and noon. Programmatic deficiencies in needle distribution have been identified as one of the major barriers to accessing sterile injection equipment\(^1\). Syringe vending machines have been found to enhance access to sterile equipment, particularly among hidden IDU populations and in difficult to reach locations or when programs are restricted in their ability to expand hours of service delivery\(^2\).

Interest in this possibility was explored by asking participants if they would purchase new needles from a vending machine for 10 cents. A total of 77.5% (115) of participants responded ‘yes’ to this question.
Findings: Locations for Service Delivery

Participants were asked to identify locations where they would most like to get harm reduction supplies from. Free-text responses were reviewed and coded into categories and are represented in Figure 12.

Participants frequently identified locations in so-called ‘core’ neighborhoods and established service sites, such as the van (providing service to Riversdale, Pleasant Hill); the Idlywyld clinic and Westside Community Clinic (WSCC); and the Student Wellness Initiative toward Community Health (SWITCH), as preferred locations. Additional locations (‘other’) identified included 33rd Street and downtown.

At the time of the survey, outreach services were offered exclusively through the Street Health Program. The Idlywyld Clinic, WSCC and SWITCH offered fixed site services Monday through Saturday. Outreach services through a van were offered Monday through Friday and included scheduled stops in Riversdale and Pleasant Hill. Access was otherwise through roaming outreach services or home visits during scheduled outreach times.

Recommendations

Participants clearly indicated a need for services seven days a week, with the greatest need between noon and midnight. Service delivery should be prioritized for this time period in areas where participants spend most of their time or indicate as their preferred location for accessing services (See Figures 3 and 12): Riversdale, Pleasant Hill, and downtown. As a central service provider for this population, the Street Health Program would be best situated in a core neighborhood such as Riversdale or Pleasant Hill.

The needs of this population may be greater than what current services can support. Creative programming is needed to ensure viable options for expanding access to needles in areas and at times when services are explored. Given the positive response rate to willingness to purchase new needles from vending machines, an assessment of the potential community acceptance and viability of this option should be considered. Such machines could provide safe and convenient locations to those who are unable or unwilling to access services during established times.

The use of vending machines should be carefully considered in conjunction with facilitating access to needle disposal sites (see p. 15 for more detail). Special product containers and packaging might be needed in order to provide access to sterile injection equipment through a vending machine. Consideration should be given to products that hold clean supplies separate from a used syringe compartment in a biohazard container (e.g. Fitpack®). Distribution of these products could incorporate educational materials, additional harm reduction supplies (e.g. swabs, water, spoons), and contact information for where individuals can connect with service providers.
We wanted to know what kinds of supplies participants needed in order to use their drugs safely and without sharing. At the time of the survey, the safer injection equipment offered through the Street Health program included needles, swabs, spoons, and filters.

Participants were first read the following statement: “HIV and hepatitis C can be spread through sharing smoking or injecting supplies like needles, spoons, filters, water, tourniquets, or pipes”; and then asked what kind of supplies they needed in order to do their drugs safely and without sharing. Figures 13 summarizes data gathered for this question.

Almost all participants (146/151 or 96.7%) stated that they needed needles, followed by spoons (90.1%) and filters (72.2%). Water was also identified as a needed supply by 65.6% of participants. Ties and pipes were also commonly identified as needed supplies at 41.7% and 38.4% respectively.

Participants were also asked some detailed questions about supplies currently provided through the Street Health Program (See Figure 14).

The majority of respondents liked the needles distributed by the program; however the 24 (16%) individuals who did not like the needles stated it was because they clog easily; were poor quality/barbed frequently; or were difficult to handle.

The 21.4% of participants who did not like the spoons frequently stated that a waxy film or coating on the spoon bubbled during cooking. Spoon size was also a concern, with several participants stating they need access to both tablespoons and teaspoons. A total of 37 (24.5%) participants identified a need for both, 33 (21.9%) preferred tablespoons and 69 (45.7%) preferred teaspoons.
Filters were less liked, with 34.5% of participants stating they did not like those distributed by the Street Health program. Common reasons for not liking the filters included size (too small), structure (having a hole in the centre), and fear of cotton fever.

Interestingly, only 42% of participants reported using filters distributed through the program. Another 48% (62) participants stated they use cigarette filters, 6% (7) stated they do not use filters, and 4% (5) used other filters.

Of particular interest was access to sterile needles. We asked participants if they were able to access enough new needles for each injection they do.

Encouragingly, the vast majority of participants stated that they had enough new needles for each injection either most or all of the time (86% combined); however, when asked if they ever use their own needle more than once 75.5% (91/117) of participants answered ‘yes’.

Sterile needles in Saskatoon remain a marketable harm reduction supply with 88 participants identifying a cost-associated source of new needles (buy on the street or purchase at a pharmacy). It is possible that those participants getting new needles from ‘other people’ may also be paying a fee. Upon investigation, it was found that when purchased at a pharmacy cost approximately $5.00 for 10 needles. The most commonly cited reason for not having enough new needles for each injection was “went through mine too fast”, indicating a tendency for participants to underestimate supply needs.

Of concern was the large number of participants (72/147 or 47.7%) identifying program-related reasons for not having enough new needles for each injection (“didn’t have any to exchange; “wasn’t given enough at last service”; or “inaccessible services”. Participants stating that they ‘didn’t have any to exchange’ speak to an implicit barrier in providing services on the basis of exchange (i.e. provide one new needle for every used needle returned) rather than distribution according to need.
Findings

Participants were also asked how many needles they used in a day (24 hours). This estimate of needles used per day does not necessarily reflect how many times participants were injecting or taking a ‘hit’; but rather, the number of needles they might go through in order to safely use their drug without sharing. Participants’ responses were occasionally provided in a range, in which case the upper end of the range on the premise that an adequate supply of sterile injecting equipment should be readily available at all times to reduce the risk of transmission of HIV and HCV to the greatest extent possible.

An average of 18.49 needles per person per day (median=10, mode=10) was reported, for approximately 129 per week. The number of needles used per day varied by some sub-groups within the study (Table 4). The average number of needles used per day was significantly greater among participants reporting a history of HIV ($\mu=24.57$) and among participants reporting heroine use ($\mu=27.87$).

Participants were further categorized according to whether they reported needing a high (21+) or low (20 or fewer) volume of needles in a day. A total of 108 (72.5%) participants reported using 20 or fewer needles and 41 (27.5%) reported using 21 or more needles in a 24-hour period. Chi-square tests were conducted to compare the volume of needles needed to other variables of interest.

Significantly more participants reporting a history of abscess also reported using a high volume of needles (i.e. 21+) in a 24-hour period ($p=0.031$). A total of 41.4% of participants with a history of abscess reported using 21 or more needles in a day compared to 23.5% using 20 or fewer needles in a day.

Similarly, a significantly greater proportion of participants reporting use of methamphetamine (crystal-meth) were represented among respondents with a high volume of needles used in a day compared to low volume of needles per day (19.5% and 9.0% respectively, $p=0.086$).

At the time of the survey, the Street Health Program distributed an estimated 25 needles per registered client weekly (22% coverage). This estimate is in line with others in Canada. A group of researchers in Ottawa, Ontario estimated that 6.7 million injections occurred in 2002, while 159, 000 needles were distributed by the needle exchange program—covering just 2.4% of equipment needs.

Table 4: Average Number of Needles Needed per Day, by Group

<table>
<thead>
<tr>
<th>Variable</th>
<th>$\mu$</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Report testing positive for HIV</td>
<td>24.57</td>
<td>0.040**</td>
</tr>
<tr>
<td>Report testing positive for HCV</td>
<td>19.24</td>
<td>0.320</td>
</tr>
<tr>
<td>Report history of abscess (last 6 months)</td>
<td>22.33</td>
<td>0.142</td>
</tr>
<tr>
<td>Report morphine use</td>
<td>18.44</td>
<td>0.943</td>
</tr>
<tr>
<td>Report crack/cocaine use</td>
<td>19.24</td>
<td>0.333</td>
</tr>
<tr>
<td>Report heroine use</td>
<td>27.87</td>
<td>0.048**</td>
</tr>
</tbody>
</table>

**Significant at $\alpha=0.05$; *Significant at $\alpha=0.10$

Recommendations

Even with conservative estimates, the current distribution patterns do not appear to meet participant identified needs. Services should provide sufficient supplies so that every time a needle is used, there is ample access to sterile injecting equipment.

Consideration of programmatic factors contributing to participants’ underestimation of their supply needs could include a more thorough assessment of clients supply needs. For example, staff in harm reduction programs could consider incorporating questions that might assist clients in determining their supply needs in their daily practice. Barriers to accessing sufficient needles should also be evaluated. A large number of participants identified program-related factors as the key reason for re-using injection equipment. Accessibility to services should be enhanced and consideration given to moving toward a needs-based distribution policy.

Limited literature is available about the supply (e.g. needles) needs of individuals using injection drugs. Additional factors may influence the number of needles needed, such as the quality of needles distributed and the purity of drug. Previous investigations have asked participants about how many times they inject in a day. By asking participants to estimate the number of needles they used in a day, rather than the number of injections or hits they take, may provide a more accurate estimate of supply needs. Further research is needed to confirm this and to better understand how programs can support clients in estimating their supply needs.
One of the mandates of the Street Health Program is to promote community safety and reduce the risk of community exposure to unsafely discarded needles. The program participates in the Needle Safe Saskatoon Partnership and coordinates an inter-agency community clean up each spring. Additionally, the Street Health program supports weekly community patrol for unsafely discarded needles.

To that end, we were interested in learning how we might best support participants in returning used injection equipment to a designated facility (e.g. Idylwyld clinic or Health Works van). Participants were asked to identify factors that make it easier or difficult to return used supplies (i.e. needles).

Figures 17 and 18 display participants’ responses to these questions. Location and hours for service delivery were frequently cited as a factor that would facilitate returning supplies. Additionally, having more discrete containers, more drop boxes, home visits, and access to a range of container sizes was thought to improve participants’ capacity to return used supplies. These factors correspond well with barriers to returning used supplies. Participants identify others using injection drugs as a source of new needles and state they use others’ containers to dispose of used needles. These data provide suggestive evidence for a network of IDU in Saskatoon.

Of concern is the number of participants identifying fear of police (i.e. “heat score”) as a barrier for returning used supplies. The frequency of having containers stolen indicates a need to evaluate programmatic factors contributing to a needle market in Saskatoon.
Participants were asked about complementary services or items that they would like to access from a harm reduction program. Figure 19 illustrates the types of services or items that participants prioritized, indicating a high need for personal hygiene items and food.

Offering these other services as a regular part of outreach may increase accessibility to programs and provide service providers with additional opportunities to offer testing, counseling and referral services. Integrated services have been repeatedly found to provide more consistent and meaningful support to individuals coping with injection drug use.\(^{15}\)

**Harm Reduction & Social Marketing**

In the months prior to data collection for this survey, a social marketing campaign was launched. Stickers were placed on biohazard containers distributed through the street health program and a series of advertisements (recycle bin and lighted cube) were placed along 20th Street (Figure 20). The intent of the campaign was to raise awareness of the risk of HIV associated with sharing any kind of injection equipment.

To evaluate the effectiveness of this social marketing campaign, participants were shown a picture of the advertisements and asked if they’d seen the ad, where they’d seen it, and what they thought about when they saw it. A total of 31.7% of participants indicated seeing the messaging with a wide variety of responses confirming that the intent of the message was understood.

Coordinated, sustained messaging can contribute to successful prevention efforts. Messaging that programs should consider include transmission prevention (e.g. don’t share works), promoting testing, breaking the cycle of initiation into IDU, and overdose prevention and care.

**Recommendations**

The social marketing campaign reached a substantial portion of study participants, with positive responses to the messaging. There is a need for expertise and funds to launch an effective social marketing campaign that considers target populations and behavior change theory.
Unequal access to health services, racial and social discrimination, poverty, exposure to street violence, inadequate housing, poor general or mental health and other demographic and social determinants have been found to be factors influencing the health of individuals accessing harm reduction services.\textsuperscript{16}

Drawing from a population health approach, this survey incorporated questions about other determinants of health influencing participants and their families. We asked participants if they or their family ever struggles to meet basic needs, such as food, clothing and shelter. A majority of participants (116/148 or 78.4\%) responded “yes”.

Figure 20 details the needs identified by participants. Housing, food and income were most frequently identified as needs participants felt they and their families struggled with. These needs highlight the disparities experienced by persons accessing harm reduction services in Saskatoon.

This finding combined with the fact that a majority of participants identified low-income neighborhoods locations where they spend most of their time, places individuals using injection drugs at an even greater disadvantage for negative health outcomes.\textsuperscript{17}

Figure 20: Basic Needs Participants Feel they and their Families Struggle with

### Recommendations

The community affected by injection drug use in the Saskatoon area is coping with multiple, complex needs including many of the foundational human rights (shelter, food). Actions are needed to respond to the disparities experienced by this community.

The B.R.I.D.G.E. Partnership must carefully consider the findings of this survey and respond accordingly. Simple steps toward enhancing the delivery of meaningful services through harm reduction outreach might be a good first step. For example, the programs and services could establish donation sites, in large businesses or through the airport to collect new, unused items for distribution through harm reduction programs.
Summary
The findings of the study offer a foundation for improving harm reduction services in the Saskatoon area based on client-identified needs. The study revealed an alarming self-reported prevalence of HIV among study participants. This draws attention to the urgent need for an integrated response across all levels of government and including relevant community based agencies. Responsive policy and programming is needed. The communities affected by injection drug use, HIV and HCV must be actively engaged and involved throughout this process.

Both clients and service providers should be offered opportunities to discuss and explore the recommendations outlined in Table 5. These recommendations should be considered as part of a comprehensive response to emerging trends in HIV, HCV and IDU in the community.

Study Limitations
This survey offers insights into the needs expressed by individuals already accessing services through the Street Health Program and therefore does not represent the needs of any individuals who were not aware of or did not access this program during the study period.

The self-reported nature of many questions is limited to participant recall and honesty; however, the interactive nature with immediate visual feedback on responses may have enhanced this aspect of data collection. Because the study was cross-sectional and included a moderate sample size, the possibilities for statistical analysis were limited to non-parametric tests.

The wording of some questions could be improved for future studies, including adding a response for ‘never tested’ to the questions about when participants were last tested for HIV and HCV.
Table 5: Summary of Recommendations in Response to the Survey

1. Implement a needs re-assessment every 3 years. Utilize electronic direct entry surveys to reduce data errors and empower participants.

2. Advocate for harm reduction services in rural communities and on reserves.

3. Based on the principles of primary health care and client-identified needs, move the Street Health Program into a more accessible location in one of the core neighborhoods of Saskatoon.

4. Provide safer drug use supplies to clients visiting rural communities or reserves based on their needs not returns.

5. Re-evaluate Health Works mobile van stops in consideration of where participants spend most of their time.

6. Distribute of safer crack smoking supplies such as pipes, mouthpieces and filters.

7. Provide 24 hour access to safer drug use supplies through vending machines.

8. Provide a full range of harm reduction supplies such as cookers, water and tourniquets.

9. Provide choices in the size and type of supplies such as needles, spoons and filters.

10. Advocate for partners pursuing the provision of harm reduction services to complement established and existing times and locations. Services in Riversdale, Pleasant Hill, 33rd and downtown should be prioritized between noon and midnight.

11. Investigate the number of needles, unique individuals, frequency of visits and time of visits to pharmacies for the purchase of needles to provide insight on accessibility.

12. Establish donation sites to collect new, unused personal hygiene items, non-perishable food items, gift cards or phone cards.

13. Advocate for provincial leadership to provide strategic direction, expertise, funds and other resources to implement initiatives and program expansion (e.g., social marketing campaigns, peer engagement in service delivery).

14. Consider using qualitative research (e.g. focus groups) to follow up on questions raised by or left unanswered by this study. Areas to consider exploring include: factors influencing the number of needles used in a day and preference for needle type; experiences contributing to avoidance of services; strategies for addressing stigma and discrimination; experiences, and needs of individuals and families coping with HIV; understanding a, uptake, and provision of HCV treatment; and others as identified by clients and others stakeholders.

15. Consider using the UNAIDS/WHO Estimation and Projection Package (EPP) to determine prevalence trend estimates for HIV in Saskatoon. Population prevalence of HIV has been estimated for Vancouver in a recent study. Providing a comparable estimate for Saskatoon could be valuable from a policy and programming perspective.


