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The Merits of Supervised Injection Facilities:

A case for Sudbury and Northern Ontario

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This research paper was prepared as part of Mr. Berryman's summer 2014 internship with Northern Policy Institute. We are pleased to provide an opportunity for our new generation of thinkers to express their views to a public audience.



Executive Summary

How can we best address the needs of the most vulnerable among us? People who — whether due to poverty, drug use, mental illness, or lack of access to resources in remote regions — face significant challenges when making decisions about their lives. Communities across Northern Ontario, for example, face major hurdles assisting those afflicted by addictions to injection drugs. Prohibitionist approaches to this problem often increase the number of health-related complications in a community as opposed to reducing them. One alternative to such approaches is the creation of supervised injection facilities (SIFs), and the objective of this study is to examine the applicability of an SIF in Greater Sudbury. While this analysis is targeted at the community of Greater Sudbury, the author believes the conclusions could just as easily apply to many other communities, northern or otherwise, that face similar circumstances.

Greater Sudbury has faced a serious and rising narcotics issue for many years. A 2007 study found that cocaine and crack were the two most commonly injected drugs in Sudbury, while crack was the most commonly used drug among people who injected drugs (PWID), higher even than alcohol and cannabis. Up to 60 percent of these individuals engaged in the practice of needle-sharing, while nearly 70 percent of the respondents claimed they tested positive for hepatitis C. Needle reuse is a serious issue that can have significant consequences for the spread of disease, especially of HIV and HCV.

Sudbury has a needle exchange program which offers critical support to PWID who are concerned about the spread of disease as well as about their own health. Although needle exchange programs help to get used needles off the street and provide a supply of clean needles, they reach only a certain percentage of the PWID. Evidence — in the form of used syringes and drug paraphernalia — of drug use in Sudbury's Downtown is an omnipresent and solemn reminder that, even with all the current services available to homeless and drug-using individuals in Sudbury, the problem persists and access to alternatives is stunted.

From the perspective of disease and disease-risk, few behaviours so rampantly spread terminal illness as injection drug use. The rate of disease among injection drug users and their lack of awareness of whether they are infected with these diseases is thus quite alarming.

Roughly 13 percent of Sudbury's injectors tested positive for HIV, and of those, one third were completely unaware that they were infected, meaning that a significant percentage of PWID might unknowingly have been infecting others through needle-sharing and risky sexual behaviour, the two most common methods of HIV transmission. In addition, approximately 69 percent of Sudbury's injectors tested positive for HCV. These statistics suggest the urgent need for frequent testing of PWID, for the health of these individuals and those around them. Given the immense costs associated with lifetime HIV treatment, and the ability of injectors to access taxpayer-funded medicine and health care, those who oppose the creation of prevention centres and education for PWID about blood-borne illness testing should consider the costs of allowing these individuals to continue to share needles without knowing their HIV status.

Action needs to be taken to ameliorate the issues associated with injection drug use in Sudbury. Needle exchange programs are reaching out to almost three-quarters of users, but not consistently. Health clinics are providing services, education, and clean equipment, but only to a small percentage of users. Local organizations are mobilizing to raise awareness and meet with injectors on the street level, but they too are limited in their access. One overarching solution to these issues would be to create a supervised injection facility (SIF) in Sudbury. The nine key benefits are as follows:

1. Sudbury PWID would have access to resources
2. An SIF would lower rates of disease and infection
3. Health care costs associated with treating HIV in Sudbury would decrease
4. An SIF would reduce the public risks associated with



- drug use
5. An SIF would reduce fatal overdose rates
 6. A Sudbury SIF could serve as a model for the applicability of SIFs elsewhere in Northern Ontario, where rates of addiction and drug use tend to be higher
 7. By implementing an SIF, Sudbury could contribute significantly to the data and literature regarding SIFs around the world, as well as on local drug use rates and at-risk populations
 8. An SIF would be able to draw on the operational discoveries of facilities elsewhere in the world to service its clientele more effectively
 9. Above all, an SIF in Sudbury would help PWID, one of city's most volatile populations

A supervised injection facility in Sudbury would be effective in carrying out a number of key health care goals, improving community wellness, and reducing the incidence of incurable disease. However, the steps needed to reach this point are numerous, and the pitfalls along the way could be significant. To determine

if an SIF would be viable, several key considerations must first be addressed including the likelihood that PWID will use the facility, the specifications set forth by the government, the level of community support and the cost-effectiveness of an SIF.

Introduction

An important element of creating healthy and sustainable communities in Northern Ontario is the management of public health. This focus can manifest itself in many ways, and reflect any number of broad or specific strategies for improving the lives of community members. One of the many challenges service providers and policy makers alike face is how to address the needs of vulnerable groups and those with little or no leverage — whether due to poverty, drug use, mental illness, or lack of access to resources in remote regions — when making decisions about their lives.

A key health-related issue that communities across Northern Ontario face is injection drug use and the implications for public health outcomes of harm-reduction and prohibitionist approaches to this problem. One alternative to such approaches is the creation of supervised injection facilities (SIFs), and the objective of this study is to examine the applicability of an SIF in Sudbury. Specifically, the focus is on people who inject drugs (henceforth abbreviated as PWID) and the role public health policy can play in improving both individual and community health outcomes by addressing this issue directly. PWID can be affected by a wide range of factors — including poverty, stigma, addiction, discrimination, mental illness, and the criminalization of behaviour — making them particularly vulnerable to lack of access to resources and assistance. The implications for these individuals, and for the communities in which they live, are increasing health care costs, increasing illness and disease, and the disproportionate impact of these effects on some of the most vulnerable segments of the population.

To discuss the application of effective approaches to injection drug use, it is important first to understand what is meant by “effective.” Effectiveness, for the purpose of this study, means changes to health variables such as needle sharing, overdose rates, counselling and treatment access, and drug rehabilitation, which represent a shift toward a socially optimal outcome.

It is also important to consider that, although harm-reduction methods can help reduce the damage caused by the behaviour of PWID — in terms of reducing individual harm, disease and deaths associated with drug-use behaviour, and the overall societal costs of injection drug use, as well as improving social outcomes for communities — they do not necessarily reduce drug use. Harm-reduction programs — in particular, needle exchange programs and SIFs — have a strong role to play in providing programming and information to help PWID access addiction treatment services and take proactive approaches to abstaining from drugs. Insite, for example — the SIF in Vancouver — provides referral services to PWID whose only access to counselling, information about rehabilitation, and access to social services might be through the site itself (Small et al. 2011, 561).

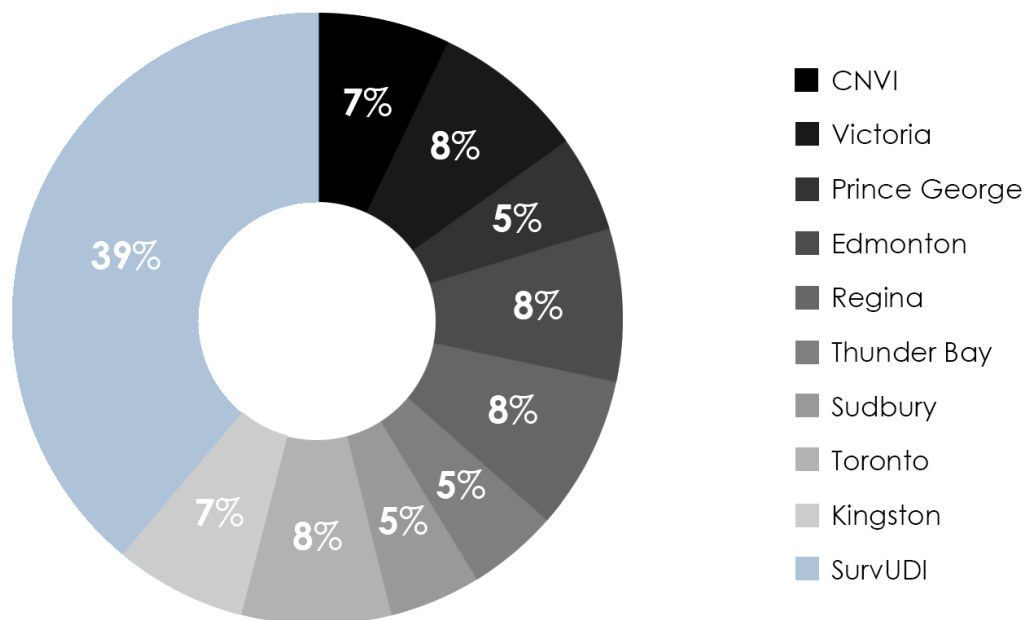
Methodology

The study examines a broad range of theoretical and empirical literature, and applies the findings of this literature to the applicability of an SIF in Sudbury. The literature encompasses studies conducted on Ontario community health outcomes, assessments of SIFs in other countries, data from Vancouver's Insite SIF, health surveys, academic papers, journals, international policy assessments, and other reports. The analysis undertaken for the Sudbury case represents a compilation of data and statistics from a range of sources in order to assess the value and limitations of policies regarding SIFs and PWID behaviour. In the context of Sudbury, however, the body of research that exists in the public domain regarding PWID, health outcomes of vulnerable groups, and city-wide initiatives to improve community health are limited, an issue addressed in the conclusion. Nevertheless, such information as is available helps to paint a picture of the situation Sudbury faces and to inform some of the conclusions presented regarding SIFs and PWID health.

Defining the Issue

Injection drug use is a dangerous and fundamentally unhealthy practice. It is associated with infection, HIV, and the hepatitis C virus (HCV), not to mention the effects of the drugs themselves and contaminants therein. A 2013 UNAIDS report suggests that PWID account for 5–10 percent of the world's HIV infections, and for up to 40 percent of new infections in some regions (UNAIDS 2013b, 33). This is exacerbated by the fact that access to sufficient sterile equipment for PWID is available almost exclusively in developed states. Historical statistics suggest that 45 percent of the global PWID population of around 12.7 million is in just four countries — Brazil, China, Russia, and the United States — although the lack of recent self-reporting data from the latter two makes this assertion unreliable for the current context (UNAIDS 2013, 30). UN estimates in 2012 suggest that of the worldwide population of PWID, 12 percent are affected by HIV (WHO 2014, 5). In an attempt to map the scope and scale of the drug-use problem in Canada, the Public Health Agency of Canada created a multi-regional analysis that looked at the drug-using population in a number of major Canadian cities, and examined a wide variety of associated variables. The study involved interviewing more than 3,000 PWID between June 2005 and November 2008 about a variety of issues and practices in their daily lives (Public Health Agency of Canada 2013, 10; see Figure 1). (It should be noted that the Public Health Agency of Canada data referred to in this study are from Phase 2 of the survey; data from Phase 3 had not yet been released at the time of writing.) PWID commonly inject a variety of drugs, but, as Figure 2 shows, the type of drug most commonly used varies by city.

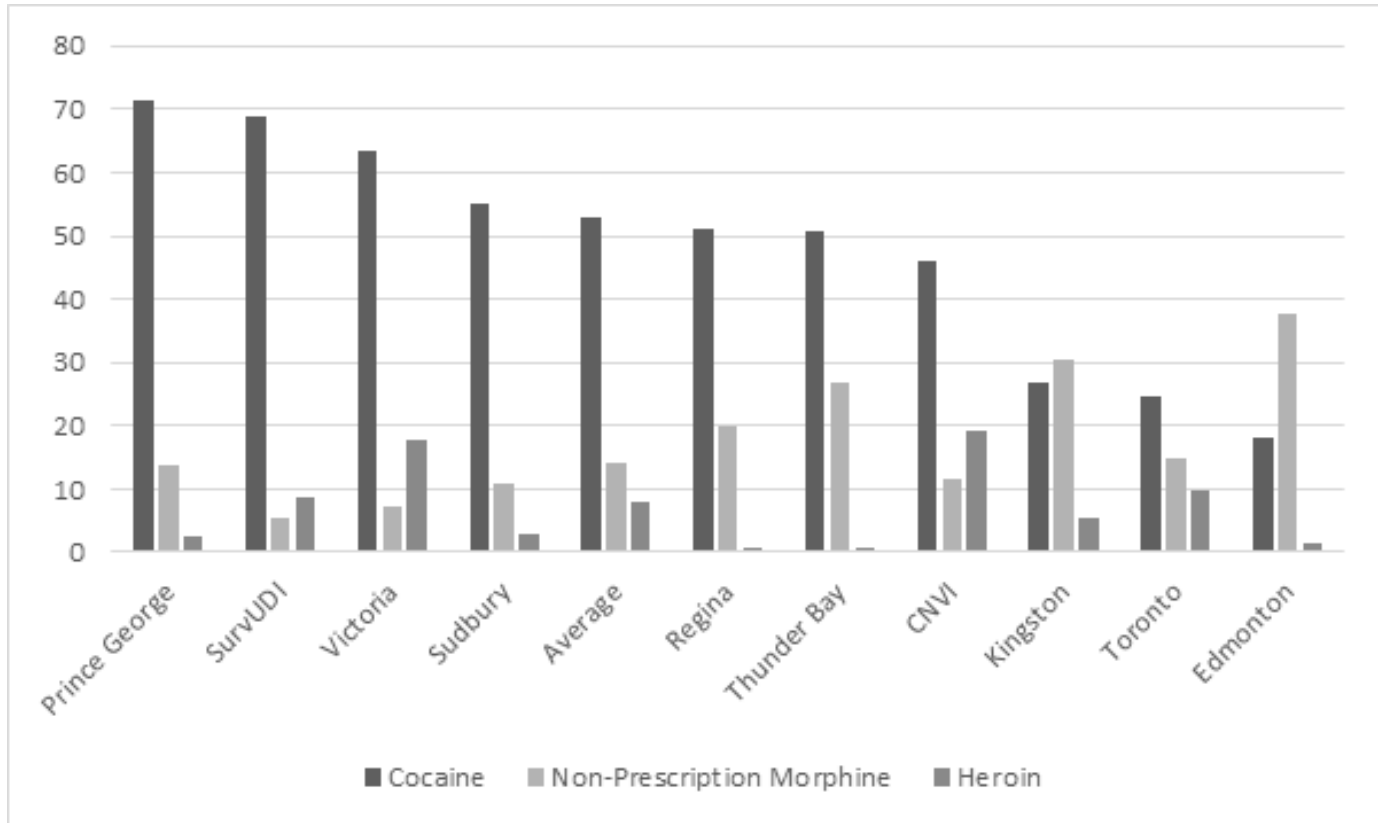
Figure 1: Persons Who Inject Drugs, Number Surveyed by Region, 2005-08 (Total 3076, 100%)



Note: CNVI refers to Central and Northern Vancouver Island; SurvUDI is a network of sites located in Abitibi-Témiscamingue, Outaouais, Montreal, Montérégie, Quebec City, Saguenay-Lac St-Jean, Mauricie-Central Quebec, and the Eastern Townships.

Source: Public Health Agency of Canada (2013, 24).

Figure 2: Drug Most Commonly Injected in the Previous Six Months, by Region, 2005–08 Survey



Note: CNVI refers to Central and Northern Vancouver Island; SurvUDI is a network of sites located in Abitibi-Témiscamingue, Outaouais, Montreal, Montérégie, Quebec City, Saguenay-Lac St-Jean, Mauricie-Central Quebec, and the Eastern Townships.

Source: Public Health Agency of Canada (2013, 59).

Costing and Health Care

A study from the Tourcoing AIDS Reference Center in France suggests that the lifetime cost associated with HIV is €534,800 per person (in 2010 euros), assuming the person lives with HIV/AIDS for around 27 years (Sloan et al. 2012, 50). Although this finding cannot be converted directly to the Canadian context, HIV treatment is still incredibly expensive in this country. Much of this financial burden — a staggering \$570 million annually — is placed on taxpayers (Small 2007, 24). In addition, the injection of illegal drugs continues to lead as a cause of urban deaths and maiming internationally, with the PWID fatality-by-overdose rate anywhere from 1 to 3 percent (Milloy et al. 2008b, 2). In 2012, the United Nations Office on Drugs and Crime, in collaboration with the World Health Organization (WHO), UNAIDS, and the World Bank, estimated that the number of people who had recently injected drugs was 12.7 million globally, 13 percent of whom were living with HIV (WHO 2014, 5), nearly 5 percent of the global total living with HIV (UNAIDS 2013a, 7).

The significant prevalence of mental illness among PWID is another important contributor to the health costs of drug use. Each year, the costs associated with mental illness in Canada are in excess of \$6.3 billion, with lost productivity costs for Canadians suffering from mental illness, as of 2013, reaching more than \$8 billion. Drug and alcohol-related health care costs number billions more — more than \$8 billion in 2002 alone (Flynn et al. 2013, 1).

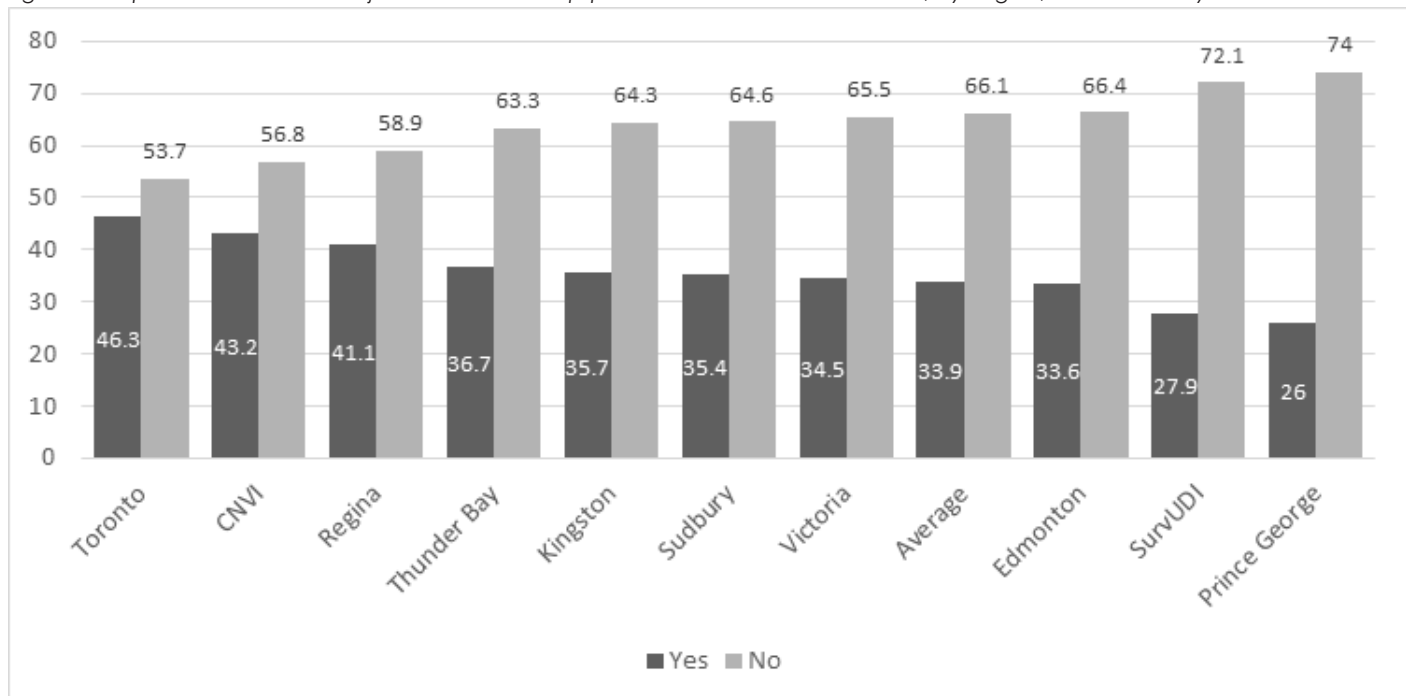
One obvious negative externality of drug use is the treatment of drug overdoses in hospitals. When a series of overdoses occurs in a short span of time, this can occupy more health care professionals and time in emergency departments, particularly as most overdoses can be treated with oxygen alone (UHRI 2009, 31).

Illness and Infection

Unsafe injection practices, needle sharing, and the use of non-sterile equipment can lead to any number of potentially fatal diseases, infections, and viruses. Some of the major health issues include infective endocarditis, HCV, and HIV. SIFs have a strong tendency to draw a population of especially high-risk drug users, which means that the reduction in needle sharing and potentially dangerous behaviour — including recurrent/daily injecting and public drug use, both of which allow a significant increase in the possibility of injection-linked, blood-borne illness — likely would be most concentrated among those who are using such sites to begin with (Wood et al. 2005a, 128–9).

A study by the Public Health Agency of Canada reveals that rates of needle sharing in major Canadian cities are a serious concern (Public Health Agency of Canada 2013, 91); see Figure 3. As a result of such factors as open sores, inconsistent hygiene practices, crowded and unclean accommodations, and the reuse of needles, PWID are much more likely to test positive to a variety of infectious diseases (Lloyd-Smith et al. 2010, 714). Wood et al. (2005b, 52) find that injection with used syringes by HIV-negative PWID is correlated with an increased likelihood of public injecting. Injection with used syringes has also been widely identified as an unsafe practice that increases the likelihood of contracting various illnesses, and public injection has been identified as a high-risk injecting practice that can lead to numerous negative health outcomes. Syringe sharing is also one of the most frequent practices of PWID who require assistance when injecting, which dramatically increases their chance of new HIV infection (Wood et al. 2005b, 53).

Figure 3: Proportion of PWID Who Injected with Used Equipment in the Previous Six Months, by Region, 2005–08 Survey



Note: CNVI refers to Central and Northern Vancouver Island; SurvUDI is a network of sites located in Abitibi-Témiscamingue, Outaouais, Montreal, Montérégie, Quebec City, Saguenay-Lac St-Jean, Mauricie-Central Quebec, and the Eastern Townships.

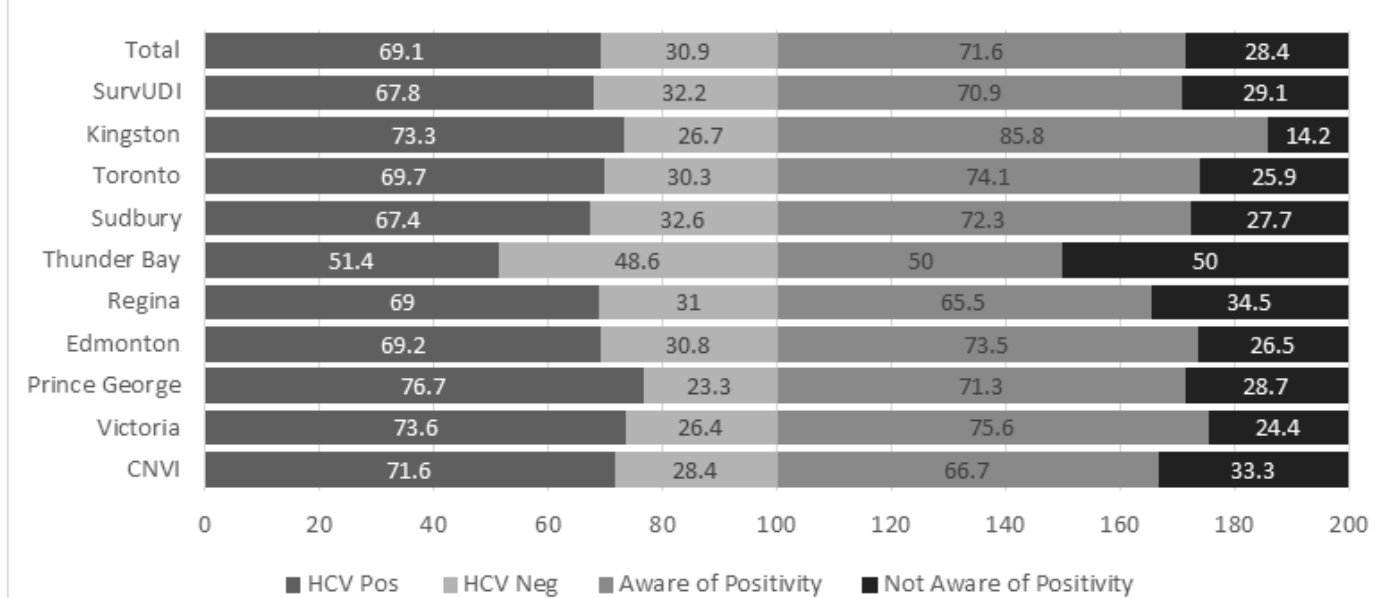
Source: Public Health Agency of Canada (2013, 113).

An examination of skin swabs from a cohort of Vancouver's Insite population allowed physicians and nurses to assess the overall prevalence of skin infections, and provided suggested follow-up measures for health care and referrals for services (Lloyd-Smith et al. 2010, 714). These services are just one of the “spin-off” advantages of the establishment of the Vancouver SIF as a location for community health assessment and medical evaluation. A study of a SIF in Denmark also revealed similar spin-offs (Axelsson et al. 2014, 100). The continued potential for investigations, initiatives, and potentially life-saving tests is worth noting for SIFs. The results from the Insite testing demonstrate that over one-quarter of the cohort tested positive for multiple skin infections, including potentially fatal ones (Lloyd-Smith et al. 2010, 718). This is a strong indicator of the general health and health risks prevalent among PWID, leaving aside outside factors.

Another health risk facing PWID is infective endocarditis, a disease that affects heart tissue and results in a substantial number of hospitalizations among the injecting population, according to a European study (Axelsson et al. 2014, 100). Of the subjects who showed no signs or symptoms, 7 percent had a previous case of infective endocarditis, although the total number of infected PWID was unknown due to the ability of sufferers to remain asymptomatic until a serious event occurs (Axelsson et al. 2014, 104).

HCV is another common health concern of PWID (see Figure 4), and is widespread across Ontario, where more than 110 000 people are estimated to be living with the virus, the majority of whom are, or have been, PWID. Indeed, in Ontario the infection rate for HCV is 200 percent higher than for HIV. To reduce the risk of needle sharing and the reuse of needles in order to avoid the spread of blood-borne illnesses such as HCV, a single PWID requires around 1,000 new needles per year, or about 2.7 per day (Ontario Hepatitis C Task Force 2009, 4, 7–8). Due to the fairly nominal cost of syringes when purchased in bulk, however, this figure represents a very reasonable annual sum.

Figure 4: HCV Status and Awareness of HCV Positivity, by Region, 2005–08 Survey

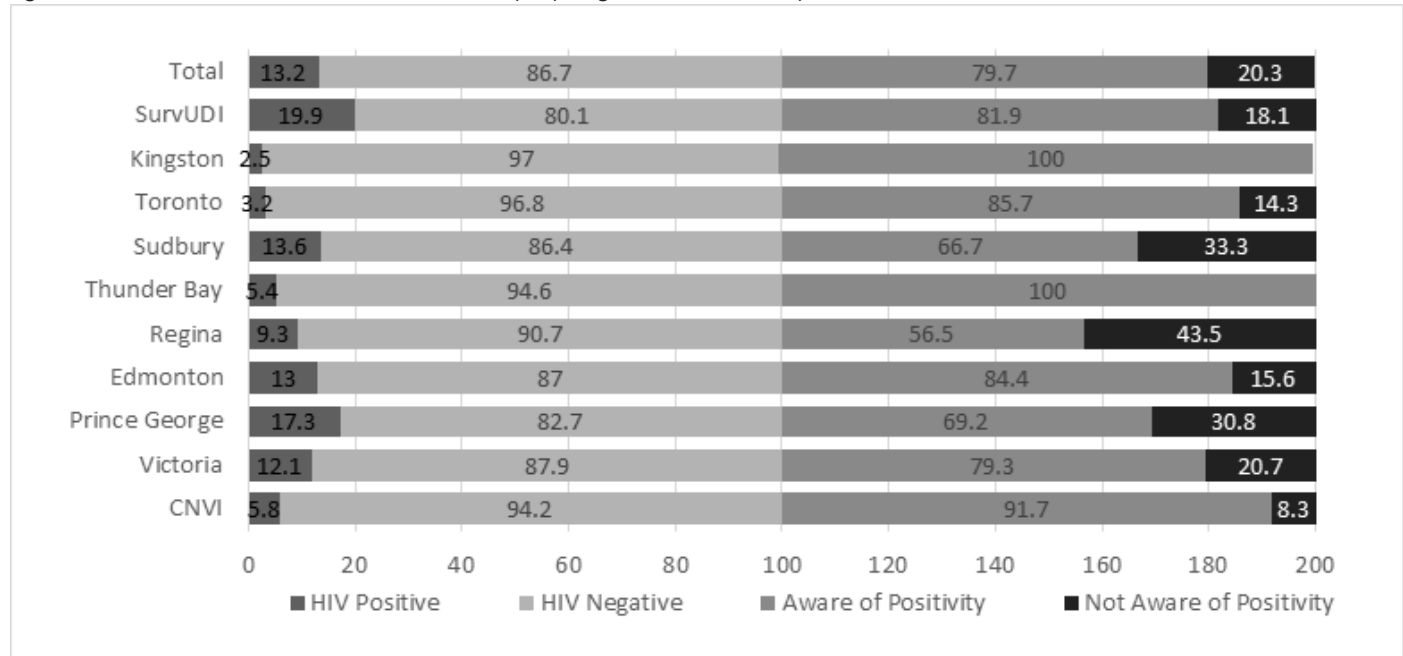


Note: CNVI refers to Central and Northern Vancouver Island; SurvUDI is a network of sites located in Abitibi-Témiscamingue, Outaouais, Montreal, Montérégie, Quebec City, Saguenay-Lac St-Jean, Mauricie-Central Quebec, and the Eastern Townships.

Source: Public Health Agency of Canada (2013, 165, 167).

Finally, when discussing blood-borne illnesses linked to injection drug use, the most infamous and arguably the most dangerous is HIV. An eighteen-month investigation of blood samples from more than a thousand PWID in Vancouver concluded that HIV prevalence was about 17 percent (Tyndall et al. 2006b, 2). With its high mortality rate and no known cure, and with limited access to medical care for many of those PWID so affected, HIV remains a leading killer. Across Canada, HIV is heavily concentrated among men (75 percent of the incidence). Accurate statistics are hard to come by, however, given the stigma that exists around HIV management and diagnosis more generally, and the hesitance of many potential sufferers to seek out testing (Morgan et al. 2013, 237). Figure 5 demonstrates the prevalence of HIV and the awareness of positivity among those affected.

Figure 5: HIV Status and Awareness of HIV Positivity, by Region, 2005–08 Survey



Note: CNVI refers to Central and Northern Vancouver Island; SurvUDI is a network of sites located in Abitibi-Témiscamingue, Outaouais, Montreal, Montérégie, Quebec City, Saguenay-Lac St-Jean, Mauricie-Central Quebec, and the Eastern Townships.

Source: Public Health Agency of Canada (2013, 161, 163).

What Is a Supervised Injection Facility?

A supervised injection facility — also known as a safe injection facility, safe injection site, supervised injection site, or supervised injection centre — is a legally established and maintained facility where people who inject drugs can self-medicate with drugs acquired before they enter the facility, while supervised by trained medical personnel (see Hall and Kimber 2005, 271; Kerr et al. 2006, 220; Axelsson et al. 2014, 100). In general, these facilities are highly regulated by government, and require certain criteria to be met, which might include that users are not already visibly under the influence of intoxicants, (such as drugs and alcohol), are not pregnant, and meet certain age criteria (Hall and Kimber 2005, 272).

Today, more than 92 legal SIFs are in operation in more than 60 cities in 10 countries — predominantly in Europe, but also in Australia and Canada — servicing millions of drug users annually (City of Toronto 2013, 1; Strike et al. 2014, 946–7). The more than 16 SIFs in Germany and 20 in the Netherlands are, according to one study, helping to reduce overdose-linked hospitalizations by a factor of ten (Wright and Tompkins 2004, 100). It should also be noted that there has never been a heroin-overdose fatality in any legally sanctioned SIF in the world (Christie et al. 2004, 66; Wright and Tompkins 2004, 101).

SIFs can take a number of forms, but the three most

common are mobile, stand-alone, and integrated (City of Toronto 2013, 4). The Vancouver SIF, Insite, is a stand-alone centre, wherein the services are provided from a dedicated facility. Alternatively, the Dr. Peter Centre, also in Vancouver, is an example of an integrated facility, in which the SIF services that are provided operate concurrently with the primary role of the centre as an assisted-living residence for HIV/AIDS patients that offers a variety of health services (Krüsi et al. 2009, 639). Mobile services are the least common of the three types of SIF, but their value should not be underestimated: in 2010, nearly 12,000 PWID took advantage of mobile SIFs in Berlin and Barcelona alone. These services usually take the form of a van or large-occupancy truck outfitted with appropriate booths and equipment to accommodate the needs of PWID, and are particularly effective in locations with small, diffuse groups of PWID (Dietze, Winter, and Pedrana 2012, 257–8), unlike in Vancouver, where the Downtown Eastside neighbourhood has a small but highly concentrated group of injectors. Since most drug users are unlikely to travel far from where they acquire their drugs to inject, due in part to urgency, but also to inconvenience (Elliott, Malkin, and Gold 2002, 13), mobile sites could be used in conjunction with stand-alone or integrated services. Mobile sites could also use the fixed sites as a headquarters. Alternatively, a mobile service could be used when the provision of services from a fixed location is limited (Lessard and Morissette 2011, 7). In both Berlin and Barcelona, mobile units are operated by the city, with street-level services and staffing carried out by non-governmental organizations (NGOs) (Dietze, Winter, and Pedrana 2012, 258).

SIFs are considered an important pillar of public health and harm reduction in most developed nations, as public drug injecting can lead to numerous health challenges for communities and individuals (see Bastos and Strathdee 2000, 1772; DeBeck et al. 2009, 81). DeBeck et al. argue that because of limited access to sterile equipment and locations, public injection practices lead to higher risks for PWID, including infections from injecting and blood-borne illness. In addition, there is a strong, negative public reaction to seeing someone injecting drugs on the street, not to mention the risks of discarded "gear" (needles, wrappers, syringes, tie-offs, cooking paraphernalia, and so on), especially to children (DeBeck et al. 2009, 81). In proposing the creation of a SIF, therefore, many factors require consideration, including, but not limited to, the need to reduce risky drug-use practices and decrease the rate of fatal overdoses, to increase access to health care for highly marginalized groups, and to control issues that accompany highly public drug use (Dolan et al. 2000, 338).

One advantage of establishing an SIF in an area with many PWID is to allow health workers within the facility to provide education, drug alternatives, and information about rehabilitation and next-step programs. One example of an education program that has been used in an SIF is the provision by nurses of information regarding safe injection practices (Milloy et al. 2008b, 2). By introducing PWID to an environment in which they are safe and able to access education about best practices, the likelihood that they will continue to use the SIF will increase, thereby improving their overall safety. By bringing drug users off the streets and introducing education measures, it is also possible to reduce the public incidence of drug paraphernalia and litter. Based on data from the Vancouver site, the return rate of syringes might be as high as 95 percent in some needle exchange programs, although other drug-related litter is still a problem (Wood et al. 2004a, 732).

Opposition to and Limitations of SIFs

SIFs often face the stigma of being held responsible for promoting or supporting drug use and attracting PWID and drug dealers (Dolan et al. 2000, 338; Hall and Kimber 2005, 271). These claims, however, are largely unsubstantiated, as found in a study conducted by the Urban Health Research Initiative of the British Columbia Centre for Excellence in HIV/AIDS on the experience of Vancouver's Insite SIF (UHRI 2009, 15).

A misconception regarding SIFs is that, by providing an environment that makes PWID feel safe, they create

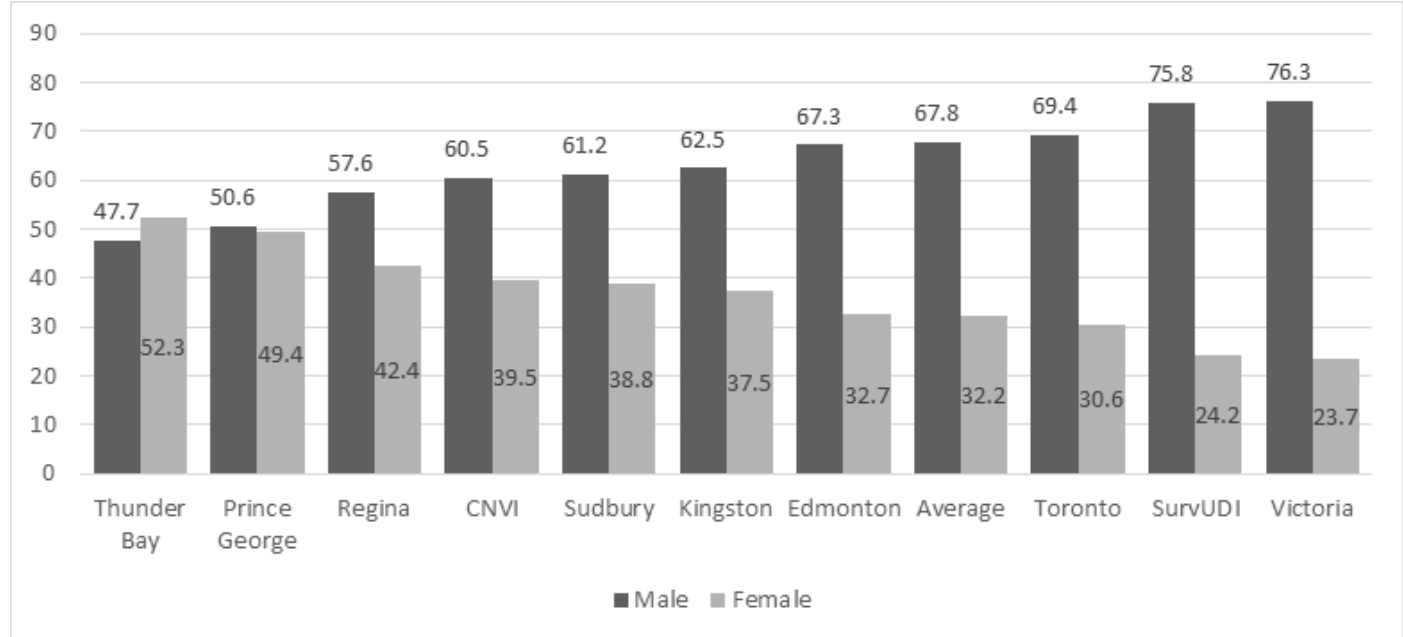
conditions in which such people are more likely to engage in unsafe injection procedures, including injecting more drugs in a single sitting. However, Milloy et al., in examining overdose rates at Insite, found no such statistically significant correlation (2008a, 504). In addition, an investigation in Germany found notable reductions in overall rates of fatal overdose after the establishment of an SIF there. Indeed, that site, Vancouver's Insite, and the SIF in Sydney, Australia, have seen a reduced number of overdoses and no fatalities (Milloy et al. 2008a, 500). Another study demonstrates that, following the creation of Insite, the rate of fatal overdose within 500m of the facility decreased by 35 percent (Marshall et al. 2011, 1433).

Some concerns have been raised within Vancouver's community of PWID regarding some of the limitations of Insite as a facility. Among reasons for not using the Vancouver SIF, surveyed PWID cited its limited opening time, waiting times for booths, and the presence of police working too close to the facility (Petrar et al. 2007, 1091). These issues, however, are largely due to the rigid restrictions placed on the facility in order to allow it to continue to operate. The first two concerns are challenging to address given regulatory and funding constraints that limit the facility's ability to expand physically or in terms of personnel. The long wait times are due to the fact that the facility is able to accommodate only a certain number of booths, and operating hours are based on the need to have nurses and staff available to ensure the safety and care of clients. The presence of police is not a factor the SIF is able to control, but it is notable that a study conducted near Insite determined that around 17 percent of recruited participants had been referred to the Vancouver clinic by the police themselves, and a further 2 percent said they actually had first learned about the SIF from police (DeBeck et al. 2008, 2, 3).

Social Considerations

Female PWID are among the most vulnerable groups; in fact, the likelihood that a female PWID under age 30 will die is 54 times that of the average Canadian woman (Fairbairn et al. 2008, 818). Moreover, because of the already dangerous position in which these women find themselves, violence is an ongoing concern, and women are frequently the target of intense subordination (Fairbairn et al. 2008, 820). Routine exploitation is a reality female PWID face, as a result of the nature of the male-centric street drug culture (Fairbairn et al. 2008, 821). The proportion of women to men on the street and among the PWID population varies greatly by city, as indicated by Figure 6.

Figure 6: Distribution of PWID, by Sex and Region, 2005–08 Survey



Note: CNVI refers to Central and Northern Vancouver Island; SurvUDI is a network of sites located in Abitibi-Témiscamingue, Outaouais, Montreal, Montérégie, Quebec City, Saguenay-Lac St-Jean, Mauricie-Central Quebec, and the Eastern Townships.

Source: Public Health Agency of Canada (2013, 25).

In a 1998 report, demonstrating an opinion that had been developing for almost two decades, Hambrick and Johnson suggested that “[h]omelessness is no longer considered an unusual circumstance; it has become a routine part of the political and social service landscape.” (Hambrick et al. 1998, 29). Kauppi and Lemieux further note that the transition to homelessness for low-income individuals has become easier, as challenges to reach poverty-line income have become more powerful (2000, 41). It is important to understand that homelessness and unstable housing are both common issues for PWID in Canada, leading to high mortality rates in the PWID community.

Homelessness and injection drug use are strongly correlated. For example, it is estimated that in Calgary 80 percent of those who are chronically homeless — defined as more than three months of consistent homelessness — experience dependence on drugs and/or alcohol (Trypuc and Robinson 2009, 12). It has been suggested that the use of affordable housing strategies could reduce the incidence of drug use by providing individuals with security and safety on a daily basis (Patterson et al. 2008, 13). This is because when PWID have access to consistent housing, they are better equipped to deal with their drug use and establish a sustainable life for themselves. Access to a variety of treatment methods, as well as jobs and social services, is eased significantly when individuals have a house or apartment of their own. In addition, the simple aspect of safety and stability that a home offers allows individuals to begin to organize their lives and transition from fear-motivated drug use.

Because of unsafe usage practices, dangerous living environments, and contaminated equipment, PWID face high risks of HIV daily (Marwick et al. 2014, 675). To mediate these issues, voluntary counselling and testing (VCT) is available in many cities, often through local, grassroots organizations. VCT can help PWID access essential health services applicable to them, and provide people who can direct them to the help they need (Marwick et al. 2014, 678). Given the stigma that surrounds dependence and drug use, VCT can help PWID to overcome their illness.

Three decades ago, Goldstein proposed that substance dependence and financial need were the two most significant factors bridging drugs and crime (Goldstein, 1985, 143). He argued that the degree of engagement in criminal activity by drug users was largely because of the lack of legal sources of income, due in large part to the marginalization of these groups. Criminal behaviour on the part of PWID adds pressure on the criminal justice system and on citizens affected by PWID crime.



Theory

Harm-Reduction Approaches to Drug Use

A number of possible harm-reduction methods are used internationally in addition to SIFs — indeed, in many cases, they are the only legal or practical options. Although none provides a full and holistic solution to the problem of drug use, each has its merits in increasing public health, though in different ways than does a SIF, and should be considered when identifying attempts to manage drugs. The need for continued work in this field is significant, and continued efforts to develop new harm-reduction methods are crucial to pursuing increased public health results and community awareness of drug use and prevention methods.

SIFs operate on the principle of “harm reduction.” The principle evolved out of a public health and advocacy movement that understood that stopping drug use might not be possible or preferable, and that developing methods to ensure safer practices and behaviour is the most effective means of dealing with the issue. This is a model of health service provision that presents a less “moralist” idea than that which tends to be pervasive in North American thinking (Ben-Ishai 2012, 43) in the form of drug rehabilitation programs, prison drug treatment, and “drug courts” (see Andresen and Boyd 2010, 74). In terms of the efficiency of public spending, these solutions are not more cost-effective, particularly given high recidivism and “backsliding” (Andresen and Boyd 2010, 75). The costs associated with maintaining injection behaviour can be lower than those of attempting to force PWID into systems that stigmatize them and continually fail to address root issues. Small, Palepu, and Tyndall (2006, 79) suggest that the harm-reduction approach favoured by SIF is “predicated on the belief that addiction is a medical issue and should be approached in a human and care-based way.”

One key to early harm reduction is ensuring that fewer people are introduced to injecting drugs. In the interest of keeping this as a top priority, the US government drafted somewhat controversial legislation banning any government funding for needle exchange programs or SIFs (Kerr et al. 2007, 1228). The reasoning behind this decision was that, by creating areas in which people could safely inject and obtain drug-related equipment, they would be more likely to begin injecting. This theory operates on two assumptions. One is that access to equipment is the main factor limiting new PWID from trying drugs, but this is known to be incorrect based on rates of needle-sharing, peer-injecting, and relatively unhindered access to drugs on the street. The second assumption is that SIFs and needle exchange programs cause a substantial increase in the rate of initiation into drug use, but this too has been countered by a survey

of Vancouver's Insite that estimated that only five people had used the site to inject drugs for the first time since its inception (Kerr et al. 2007, 1228).

Needle Exchange Programs

One of the most common, regional-level harm-reduction tools for addressing drug use is needle exchange programs. Nearly all member nations of the Organisation for Economic Co-operation and Development — and many other states worldwide — have some model for sterile equipment delivery in order to control the spread of HCV, HIV, and other blood-borne illnesses. The WHO recommended in a 2014 report that needle exchange programs were “essential” to ensure harm reduction and reduce the incidence of HIV among PWID (WHO 2014). The United Nations Office on Drugs and Crime has also endorsed prison needle exchange programs as a crucial HIV/AIDS management strategy (see Csete and Wolfe 2007, 14).

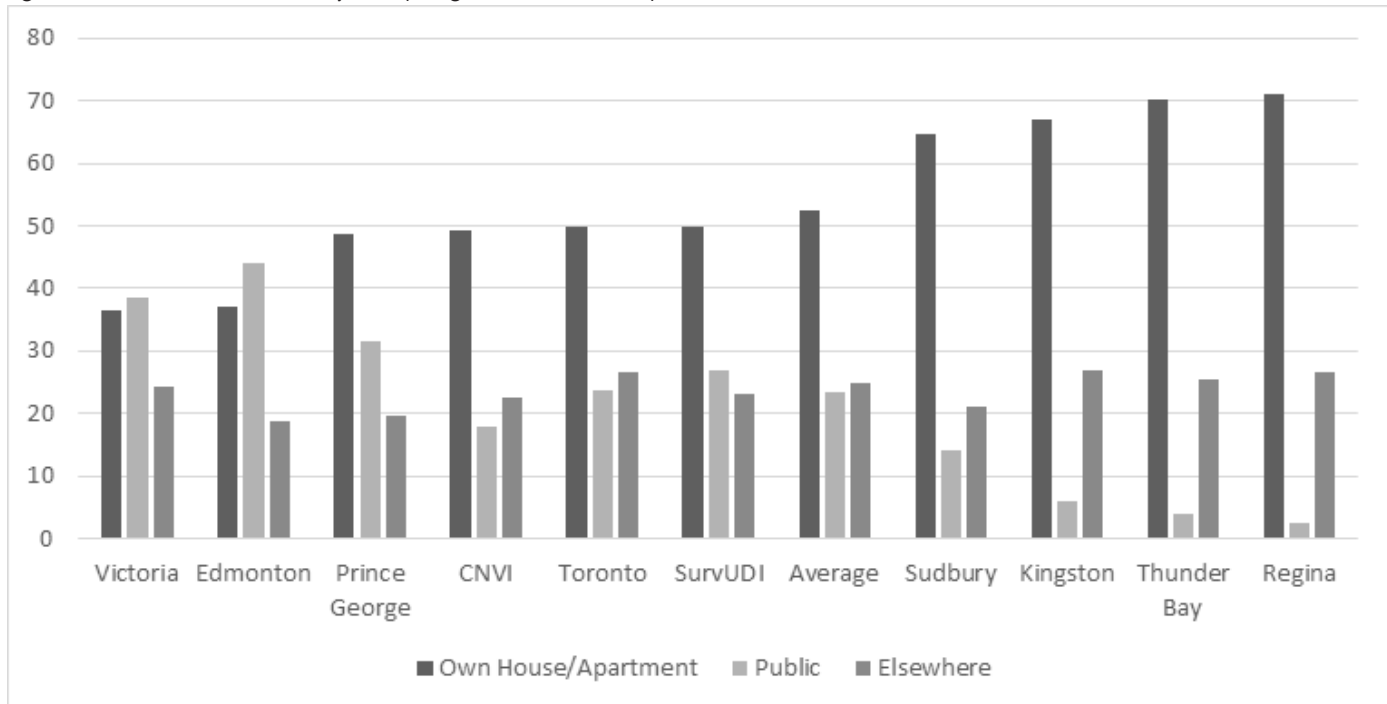
Wodak and Cooney report that 28 studies of needle exchange programs in the Netherlands showed a reduction of risky behaviour such as needle-sharing, leading to reduced rates of HIV in target areas (2005, 33, 34). This is highly relevant, as most SIFs provide clean needles for use and some also provide additional clean needles for later use by clients. A study conducted in New York saw seven needle exchange programs avoid a potential 87 cases of HIV, at a cost of \$2,200 per prevention, significantly less than the annual cost of treatment of \$9,000 (Small 2007, 24). And when Canada's oldest needle exchange program was closed in 2008, Vancouver saw an increase in risky behaviour among PWID in the area (MacNeil and Pauly 2010, 7).

The first government-funded needle exchange program in Canada was created in the 1980s; since then, the practice has become commonplace, with most major cities in Canada hosting at least one needle exchange (MacNeil and Pauly 2010, 1). The facilities themselves, more often than not, serve as locations where PWID and drug users can seek out equipment as well as services and information about best practices for their own health. Most are staffed by volunteers, some of whom may be past or current drug users, who can best connect with PWID from the perspective of being familiar with users' particular problems.

Needle exchange programs also have a role to play in improving and maintaining public safety as it relates

to used syringes. As suggested by their name, needle exchange programs enable drug users to return used needles and receive sterile ones, rather than leaving old needles in public spaces or disposing of them in waste bins or other unsafe locations, which can pose a risk both to the public and to municipal workers responsible for emptying bins (see Broadhead et al. 2002, 341). As evidence of the magnitude of this potential public health issue, Figure 7 shows rates of public injection in a number of Canadian cities.

Figure 7: Location of Places to Inject, by Region, 2005–08 Survey



Note: CNVI refers to Central and Northern Vancouver Island; SurvUDI is a network of sites located in Abitibi-Témiscamingue, Outaouais, Montreal, Montréal, Québec City, Saguenay-Lac St-Jean, Mauricie-Central Québec, and the Eastern Townships.

Source: Public Health Agency of Canada (2013, 76).

Prohibitionist Approaches to Drug Use

The prohibitionist approach to drug use comprises techniques that work to stop drug use “at the source,” targeting the supply of drugs, drug dealers, and drug users. Such methods include incarceration of those involved in the drug trade, increased street-level policing, and the implementation of drug-rehabilitation programs.

In Canada, billions of dollars are spent every year enforcing anti-drug policies and maintaining street-level policing of drug crimes (CPHA 2014, 2). These dollars are committed by governments at all levels to address the production, distribution, sales, and use of drugs across the country and in every municipality. Despite these immense costs, however, it is challenging to demonstrate that equivalent benefits have been achieved. From 2002 to 2012, the societal cost of crime decreased by 6 percent, but the cost to deliver enforcement, administer justice, and house criminals rose by 35 percent, bringing the estimated total cost of crime in 2012 to \$81.5 billion (Easton, Furness, and Brantingham 2014, 96). This dramatic disparity between

the cost of crime and the cost of dealing with crime is one of the major challenges in combatting drug-related crime and ensuring that public safety and individual freedoms can be reconciled in a free and democratic society.

Street-level enforcement is one area where the social and economic costs incurred in dealing with drugs are highly liable to exceed the benefit achieved from enforcement. Although it might seem on the surface to be the most straightforward approach to dealing with issues such as public injecting, drug sales, and public disorder, this is not necessarily the case. In many cases, the targets of drug-related enforcement are previous offenders, who possess drugs for personal use or to sell to fund their own drug use. The Vancouver Police Department, as part a program to identify repeat offenders, found a significant correlation between repeat offences and drug and/or alcohol dependency issues (BC Centre for Disease Control 2014, 95). Furthermore, enforcement can reduce access to crucial health services by causing PWID to avoid certain locations where facilities might be located (CPHA 2014, 6). It is of particular concern that the issue of addiction in Canadian public policy is largely dealt with by law enforcement, which is contrary to the ideals

of both harm reduction and common sense, and which would suggest that addiction — like any medical issue — should be treated by doctors, not by police.

Police “crackdowns” are a method sometimes employed in areas identified as being particularly prone to drug-related crime. They are, however, a serious concern in terms of limiting the ability of PWID to access services, and have also been demonstrated to be unable to promote sustained public order or to manage drug sales or use in the long or short term. A 2003 study conducted near the Vancouver SIF determined that an increase in police presence as part of a “crackdown” led to a number of significant negative public health and safety outcomes. During the period of increased police presence and direct targeting of drug-related crime, the SIF experienced lower-than-average use, and there was an increase in the amount of public injecting around the area. In addition, it was noted that the increased police presence had no impact on reducing drug use or drug price, but it did have an impact on the location of drug use, due in part to a change in where drugs had to be purchased (Wood et al. 2004b, 1551, 1554). This reinforces findings — which have been iterated extensively in the literature — that the criminalization of drugs and drug-use behaviour is ineffective as a deterrent (see, for example, CPHA 2014, 5).

The tactic of incarcerating drug users and dealers has been used in Canada for many years to mask the issue of drug use. It has been assumed that, by removing these groups from the general population, the problem would be fixed. In most cases, however, this approach has had serious, negative public health outcomes. A study carried out by the Center for Drug Use and HIV Research, National Development and Research Institutes, comparing populations in Vancouver and Baltimore, found that incarceration increased the risk of contracting HIV by 64 percent for PWID (Hagen 2003, 911). The inability of incarcerated PWID to access clean syringes is a major public health issue, as it contributes to very high levels of syringe-sharing in prison, which increases the likelihood of spreading diseases such as HIV and HCV. Incarceration has also been linked to reduced access to proper care for HIV, which serves to exacerbate problems caused by lack of access to clean syringes (Milloy et al. 2013, 2). Non-disclosure of HIV positivity among incarcerated PWID has also been noted, leading to the increased likelihood of PWID contracting blood-borne diseases in prison due to contaminated needles (Small et al. 2005, 6). WHO guidelines on the maintenance of health services for incarcerated persons suggest that the provision of sterile syringes for the purpose of reducing the spread of HIV/AIDS should be guaranteed (Small et al. 2005, 8). To that end, the WHO promotes the continuance of health care from the public sphere to prison, including access to tools that can help limit disease.

Prohibitionist approaches involving enforcement also suffer from many systemic flaws. It has been noted that

the pattern of incarceration, discharge, and recidivism is highly prevalent among those suffering from chronic homelessness, addiction, and mental health issues (BC Centre for Disease Control 2014, 95). As these are also common characteristics among PWID, this negative consequences of this incarceration cycle cannot be understated when it comes to ensuring positive health outcomes for vulnerable populations.

Empirical Analysis and Case Studies

Vancouver’s Insite

Insite, located in Vancouver’s Downtown East Side, was the first and is currently the only sanctioned supervised injection facility in North America. Its location was chosen due to both the high prevalence of HIV in the area and a strong public outcry about issues associated with local drug use (Ben-Ishai 2012, 40, 42). As mentioned, Insite has been the subject of numerous studies with a variety of goals, including tracking HIV prevalence and rates of overdose in the Downtown East Side. The results have been remarkably encouraging, and have demonstrated some positive sides of harm-reduction methods. Indeed, studies of SIFs elsewhere, including in Europe and Australia, largely support the conclusions of studies of Vancouver’s Insite (Drug Policy Alliance 2014, 1).

The 2002 election of a new Vancouver mayor, Larry Campbell, was a significant occasion in the city’s history, as his drug strategy involved the creation of an SIF in the Downtown East Side as a top priority (Kerr et al. 2005, 267). The SIF was created as a result of the desire for a “cleaner” downtown, and eventually opened its doors in 2003 (Ben-Ishai 2012, 42). To be considered legal, however, the SIF had to include a series of conditions, among which was a mandate to operate as a research facility (Fairbairn et al. 2008, 818). Insite’s operation has been estimated to cost about \$3 million per year, while the presence of the site is estimated to have resulted in a net saving of about \$17.6 million per year, in terms of avoided health care costs, the prevention of HIV transmission, and gains in life expectancy (see Andresen and Boyd 2010, 71; Bayoumi and Zaric 2008, 1149; and Canadian Nurses Association 2013, 7). Research from as little as three years after the opening of Insite showed that rates of public injection, overdose deaths, new HIV cases, and openly discarded needles had dropped in the Downtown East Side (see Andresen and Boyd 2010, 72; Drug Policy Alliance 2014, 1; Pinkerton 2010, 1434; Small 2007, 20; Tyndall et al. 2006b, 4).

Registration numbers at Insite are a testament to the facility’s success, with over 12,000 PWID registered, and thousands of referrals to treatment services and assistance for these individuals (Vancouver Coastal

Health 2015). Research into the condition and health of Insite users shows that the facility has attracted a range of high-risk PWID, and has also served as a location for lower-risk injectors interested in maintaining their health in regards to their injecting practices (Tyndall et al. 2006b, 1). This includes a range of young, daily heroin users with unstable housing, who make up more than half of the under-30 population at Insite (UHRI 2009, 22). Based on the health studies conducted through Insite by the Urban Health Research Initiative, the individuals most likely to be affected by HIV are indigenous people, those who share needles, those who have been in jail or prison, and those who inject cocaine on a daily basis. Together, these groups make up about 17 percent of the total surveyed population of the facility (UHRI 2009, 21). Contrary to previous public concerns, based on the insignificant change in relapse rates or overall drug-use rates after the creation of Insite, data from the Downtown East Side suggest that positive changes have occurred in the surrounding community. High-risk behaviour has been reduced without the creation of negative externalities regarding drug-use patterns (Kerr et al. 2006, 222; UHRI 2009, 22, 30).

In the first two years of its activity, Insite led to nearly 20 percent of a studied cohort entering a treatment program. As well, weekly Insite visitors were 370 percent more likely to seek out some sort of treatment service (UHRI 2009, 26; Wood et al. 2007, 917). Public concerns earlier had suggested that the presence of an SIF might deter drug users from seeking out treatment, but this has proved not to be the case. Instead, the availability of education, treatment options, trained professional staff, and a variety of information regarding alternatives have all been strong factors in encouraging users to seek out assistance. During the early to mid-2000s, around 600 PWID were accessing Insite per day, the majority of whom attended between 2 and 25 times per month. Around 20 percent did not go there to inject, but instead used the facility to seek out equipment or forms of assistance (Tyndall et al. 2006a, 194–6).

A common public concern about SIFs is that they lead to an increase in local crime rates and overall levels of public disruption. This concern stems, in part, from notion that a centralized location for drug users will lead to a “honey-pot” effect that brings large numbers of criminals into a small area (see, for example, Dolan et al. 2000, 338). Around Insite, on the contrary, there has been a notable decrease in the overall crime rate — including vehicle thefts and break-ins and drug trafficking — suggesting that Insite has caused no statistically significant increase in the overall crime rate in the surrounding community (UHRI 2009, 29). In addition, the prevalence of bio-hazardous waste, such as used syringes and other paraphernalia, decreased markedly after the creation of Insite (Wood et al. 2004a, 732).

Overdoses at Insite are a known phenomenon, as each injection comes with a very small (0.0013 percent) chance of overdose (Milloy et al. 2008a, 500). One study found, however, that, of the overdoses that did take place, 87 percent were treated only with oxygen (UHRI 2009, 31). Furthermore, there has never been a fatality resulting from a drug overdose at Insite (Milloy et al. 2008b, 4). In contrast, the BC Coroners Service determined that, between 2009 and 2013, an average of 79 deaths occurred annually due to overdoses of illicit drugs (whether by injection or other means) in the Vancouver Metro area (British Columbia 2014, 1). In more than two-thirds of opiate-specific overdoses, heroin was the drug used (Milloy et al. 2008b, 2).

The prevalence of needle-sharing among Insite patients is 70 percent lower than among those who do not attend the facility. Furthermore, those who share syringes are seven times more likely to inject drugs in public, another factor of concern leading to more dangerous injection practices (UHRI 2009, 37–8). Studies of Insite and other SIFs show that regular users of SIFs are nearly 70 percent less likely to share needles. Insite users also are more likely to engage in safer injecting practices, such as the use of sterile solution and “cooking” before injecting (UHRI 2009, 39, 43). According to one survey of Insite users, more than half said the facility had encouraged them to practice safer methods of syringe disposal, and three-quarters said they had become safer injectors as a result of having accessed the facility’s education and information resources (Petrar et al. 2007, 1088).

Sydney’s Medically Supervised Injection Centre

Towards the end of the 1990s, there was increasing support for the establishment of an SIF in the King’s Cross neighbourhood of Sydney, Australia (Strike et al. 2014, 950). A Catholic religious group, the Sisters of Charity, which had been operating a public hospital, had proposed opening an ad hoc SIF, but the plan was vetoed by the Vatican (Dolan et al. 2000, 342). Indeed, concern for the health of PWID was not prevalent nationally, and despite the success of needle exchange programs in reducing the incidence of HIV (Bastos and Strathdee 2000, 1772), two such programs were closed in Australia between 1999 and 2002 due to heavy negative media coverage, prompting a debate about the need for more balanced news coverage of harm-reduction methods (MacNeil and Pauly 2010, 6).

According to estimates, the Sydney Medically Supervised Injection Centre (MSIC) is responsible for savings of over \$650,000 per year. The efficiency of the SIF is such that cost-neutrality for the facility could be achieved by saving only 0.8 of a life (City of Toronto 2013, 17), a cost estimate based on the costs of HIV treatment and a variety of additional factors.

Domestic and International Legal Reaction to SIFs

In 2011, the Supreme Court of Canada ruled that Insite was legal and that the federal government must allow it to continue to operate. In 2013, in response to the ruling, the federal government introduced Bill C-2, an amendment to section 56 of the Controlled Drugs and Substances Act, which allows for a controlled substances exemption based on scientific, medical, or public interest considerations (Canadian Nurses Association 2013, 1), and which was passed on March 23, 2015. According to the 2011 Supreme Court ruling, "Insite saves lives. Its benefits have been proven, there has been no discernable negative impact on the public safety and health objectives of Canada during its eight years of operation" (Drug Policy Alliance 2014, 2).

Bill C-2 nevertheless was controversial. The Canadian Medical Association, for example, argued that "Bill C-2 does not strike a balance between the public health and public safety goals of the [Controlled Drugs and Substances Act]" (2014, 5). Moreover, the bill was seen as providing a legal basis for denying PWID access to the services they need, as fostering a negative image of such people, and as promoting an ideological NIMBYism (Canadian Nurses Association 2013, 8). Despite these concerns, however, many professional health organizations — including the Canadian Medical Association, the Canadian Nurses Association, Public Health Physicians of Canada, the Registered Nurses Association of Ontario, and the Urban Public Health Network — have spoken out in favour of SIFs (City of Toronto 2013, 4). A common phenomenon in controversial policy is a public reaction that is more emotional than pragmatic, often to the detriment of those involved (see Des Jarlais, Arasteh, and Hagan 2008, 1106). This reaction can have a significant effect on the development of progressive social policy. One clear example of this phenomenon is the comparison of approaches by Vancouver and nearby Abbotsford in dealing with drug-related issues. While Vancouver hosts numerous needle exchanges, rehabilitation clinics, and North America's only SIF, Abbotsford has banned outright any attempts to establish a needle exchange program or drug treatment facility (Small 2007, 23).

Internationally, legislation has been established through the United Nations to govern the use, trafficking, and control of illicit substances in the form of the 1961 Single Convention on Narcotic Drugs as amended by the 1972 Protocol, the 1971 Convention on Psychotropic Substances, and the 1988 United Nations Convention against Illicit Trafficking in Narcotic Drugs and Psychotropic Substances. These conventions have been widely ratified, and represent the developing international mindset toward the management of drugs (Takahashi 2009, 749). The United Nations Office on Drugs and Crime is primarily responsible for dealing

with the investigation and reporting of issues related to drug use, trafficking, and production, and administers much of the research on which these conventions were created. It should be noted that funding for the United Nations body's work depends on an influx of donations and contributions primarily in the form of "earmarked giving." This means that donations are accompanied by a list of recommendations, suggestions, or requirements, whether implied or physical. Because the Office represents the interests of the international community, this creates a particularly tenuous situation, particularly when wealthy states are able to "sell" the international application of their domestic policy via donations — indeed, the US government has been accused of such behaviour since 2004 (Takahashi 2009, 751).

The United States has shown a particular disdain toward harm-reduction measures, including an outright ban by the federal government on the use of funds for needle exchange programs (Kerr et al. 2007, 1228). This is somewhat surprising given that, even in some states where criminalization of drugs is taken very seriously, systems exist to allow PWID access to needles to help reduce the spread of HIV (Takahashi 2009, 764). There is thus an increasing disconnect between international law, which purports to speak to the needs of humanity, and domestic law that is specific to needs of the people in a particular country. In Canada, Vancouver's Down Town East Side experienced this phenomenon when the Insite project was proposed and ran up against federal rules that were created for the "average Canadian community."

How Effective Are SIFs?

Addressing Barriers

The success of the Insite project seems to have led to a significant increase in support among Ontarians for a supervised injection facility in this province — as of 2009, half of Ontarians were in favour of the use of an SIF to reduce rates of fatal overdose, disease, and neighbourhood drug use (Strike et al. 2014, 949) — reflecting an increasing realization that the negative impact of drug use is a community-wide concern. The Insite model, however, could be improved upon. One of Insite's limitations, for example, is its lack of available space for smoking, as opposed to injecting (DeBeck et al. 2009, 85). As well, even though there are more than 5,000 PWID in greater Vancouver, Insite has just 12 stalls, and patients have suggested that long wait times for their use are a reason for continued public drug use or for avoiding the facility altogether (McKnight et al. 2007, 324; Petrar et al. 2007, 1092). Thus, any pilot SIF in Ontario should ensure that sufficient stalls are available for use by patients who need them. Moreover, as observed from the success of detoxification referrals at Insite, the value of treatment, rehabilitation, and education as part of a new SIF cannot be understated. Not only would a referral process calm public concerns

that the facility would act to prolong drug use; it would also provide solutions for PWID and, in turn, help the long-term reduction of drug use.

One of Insite's greatest advantages compared to other SIFs around the world is that it is legally required to operate as a research centre. Although this role is no doubt a challenging one, it has also been responsible for Insite's being the most studied SIF ever, which has produced an unprecedented body of work on the facility, its patients, and its effect on the community. Thus, any new SIF should examine Insite's experience with meticulous record-keeping and data management and try to replicate that facility's system. The assistance of experts familiar with Insite would also be extremely valuable.

Another essential measure of a successful SIF is a strong level of community support, since an SIF is unlikely to become an "established" part of the community without it. Insite was created with the resounding support of the local population, and became part of the election strategy in Vancouver's mayoralty campaign. Communities generally have a strong sense of the social, economic, and political issues they face, but not necessarily of an issue such as drug use. The taboo nature of drug use forces many drug users into the shadows, while society tends to turn a blind eye to the homeless and the at-risk, of which PWID form a large part. It is therefore possible that a community might not be aware of the scope of the drug issue it faces or of the number of people affected by it. As with homelessness, however, many find it easier simply to ignore issues relating to the economically marginalized and politically voiceless. Bringing drug use to light through hard, fact-based research would allow communities to better assess the issue and understand the value of proposed solutions. In the case of Barcelona, for example, the idea of a mobile SIF had more positive community support than a fixed facility, which was opposed primarily by businesses (Dietze, Winter, and Pedrana 2012, 258; Elliott, Malkin, and Gold 2002, 13). In addition, housing alternatives for homeless PWID could be implemented concurrently with more general efforts to tackle homelessness.

A SIF for Northern Ontario?

In addition to the Vancouver site and based on the data gleaned from that experience, SIFs have been proposed for other Canadian cities, including Toronto, Ottawa, and Montreal (see City of Toronto 2013; Lessard and Morissette 2011; UHRI 2009; and Walby 2008). In the context of Northern Ontario, however, good data on PWID, homelessness, and overdose rates are virtually non-existent. Some local NGOs — such as the North Bay Drug Strategy, Sudbury's OxyContin/Narcotic Abuse Task Force, and the Thunder Bay Drug Strategy (TBDS) — do collect data on local drug use (City of Greater Sudbury 2005; Saad 2013; TBDS 2011). Thunder Bay has perhaps the most detailed data on drug use, from sources such as the police, the Ontario Student Drug Use and Health Survey, and local groups, all of whom collaborate and provide information for reports produced by the TBDS (2011, 10). Unfortunately, for other Northern Ontario municipalities, suggestions to improve harm-reduction services must be based in large part on anecdotal evidence.

To date, feasibility studies for an SIF in Northern Ontario have not been published, and harm-reduction measures have not been widely researched or made available publicly. That being said, harm reduction is recognized in both the North Bay and Thunder Bay Drug Strategy programs, and has been identified as a consideration in reducing concerns about drug use. This suggests that the body of research on drug use in Northern Ontario could be expanded effectively to include a focus on several key pieces of information, including regional data on PWID populations, homeless populations, hospital visits due to overdose, regional overdose deaths, arrests due to drugs and drug offences, and the number of needles exchanged and provided regionally. These metrics could be used to measure the rates and prevalence of drug use in regions of Northern Ontario in order to have a basis of comparisons not only between the regions, but also between them and larger cities in Canada and internationally.

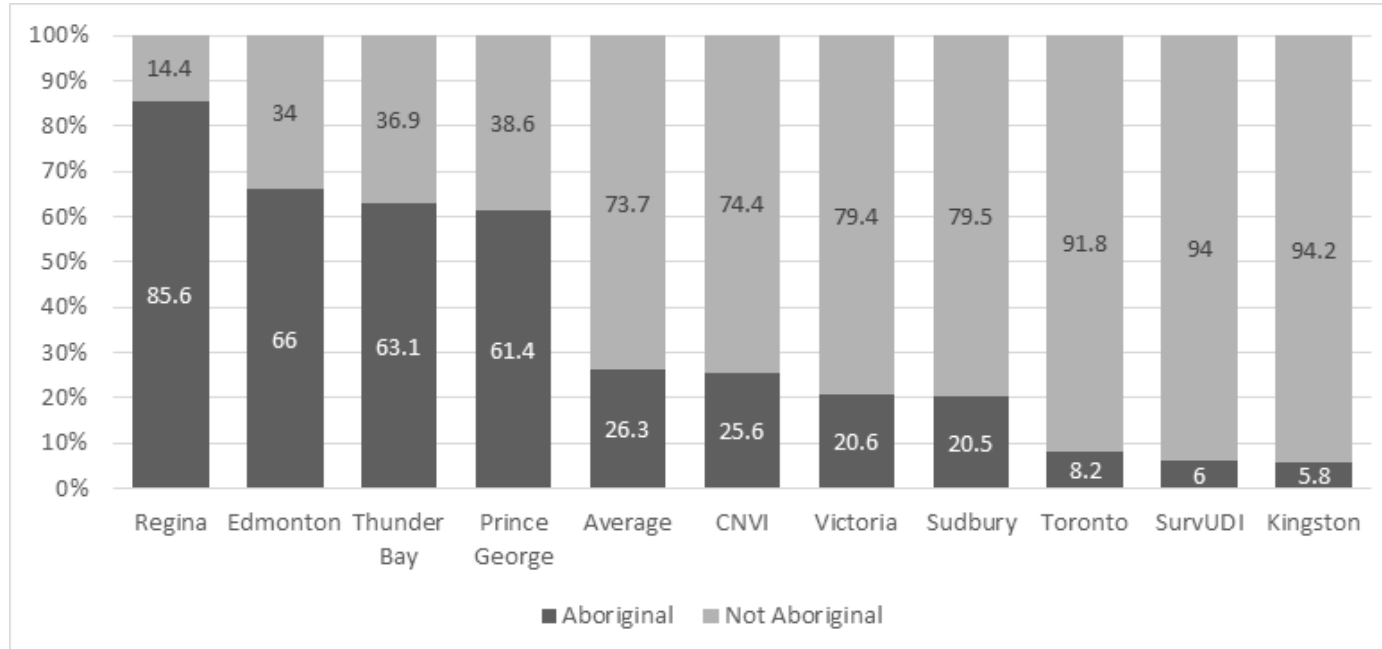
More generally, Northern Ontario, particularly its rural areas, presents a picture of health that leaves something to be desired. Although life expectancy in the province is nearly 80, in rural Northern Ontario it ranges from 75 to 77 years. This situation is not helped by the widespread lack of access to pharmacies, health care services, and infrastructural funding that can aid rapid access to hospitals (Gheihman 2012, 2).

Indigenous Considerations

The specific issues relating to health and drug use are especially distressing in the context of Northern Ontario's indigenous populations. Based on data available for 2007, 898 prescriptions for opiates were provided per 1,000 indigenous people, of which 13 percent were for oxycodone, a substance responsible for a 500 percent increase in narcotic-related deaths since 2000 (Canada 2010, 6; EWGNA 2012, 9). The health care effects of this drug in 2007 were estimated at over \$40 000 annually per person, resulting in an overall estimated cost in the hundreds of millions to the province of Ontario. More surprising still is that full treatment programs would cost only a seventh of this amount, and the expenses would be sustained for only a year or two per individual due to the rehabilitation aspect of treatment (EWGNA 2012, 12).

Across Canada, between 3 percent and 3.5 percent of the population self-identifies as indigenous, but among the cohort of PWID examined by the Public Health Agency of Canada, participants a disproportionate percentage identified as being indigenous (see Figure 8). Almost 10 percent of indigenous people are affected by HIV, and new infections among indigenous people are occurring 3.6 times more frequently than among other demographic groups. Of these new infections, 57 percent result from the use of injection drugs, and almost half of those newly infected are women, compared with less than 24 percent among non-indigenous women (Canada 2010, 26).

Figure 8: Self-Identified Aboriginal Persons, by Region, 2005–08 Survey



Note: CNVI refers to Central and Northern Vancouver Island; SurvUDI is a network of sites located in Abitibi-Témiscamingue, Outaouais, Montreal, Montérégie, Quebec City, Saguenay-Lac St-Jean, Mauricie-Central Quebec, and the Eastern Townships.

Source: Public Health Agency of Canada (2013, 32).

Addiction to prescription drugs has been recognized as damaging indigenous community health for many years. In the mid-2000s, Constance Lake First Nation identified prescription drugs use as a key concern and strong contributing factor to negative changes in the community and its values. Drug use among the population exceeded 50 percent, and was perpetuating cyclical poverty, unemployment, destitute conditions, and serious social issues. Within a year, the community had established a treatment facility offering a methadone program, and the rehabilitation of the community had begun (Chiefs of Ontario 2010, 63). Identifying and addressing issues relating to drug use is challenging for communities that must come to grips with the scope of such a taboo issue. Nevertheless, by establishing that a problem exists, communities can begin to address the root causes of these issues and take steps to rebuild.

Studies of the federal drug benefits program indicate that, as of 2012, almost half (49 percent) of claims made for OxyContin, a highly addictive form of oxycodone, were to First Nations and Inuit people in Ontario (EWGNA 2012, 88). Estimates from Northern First Nations communities suggest that some areas have addiction rates above 70 percent, with Sioux Lookout reporting rates as high as 80 percent (EWGNA 2012, 4; Uddin 2013, 391). The issue is evidently ongoing, but escalations in the past decade were such that, in 2009, 49 communities in the Nishnawabe Aski Nation entered a state of emergency due to overwhelming addiction rates to prescription medications. It took nearly two years for a

widespread solution to take hold. Suboxone treatment — inspired by the Fort Hope drug treatment program — was widely pursued, although the relative lack of health care infrastructure limited follow-up (Uddin 2013, 391). Long Lake #58 First Nation has also been severely affected by drug addiction and substance abuse, with estimates in 2012 suggesting that 85 percent of the adult population were facing concerns relating to opioids (EWGNA 2012, 20).

Thunder Bay

Thunder Bay faces serious issues concerning substance use and related community effects, including Ontario's highest rates of arrest for public intoxication in past years. Substance use leads to over \$1 million spent annually on enforcement of drug-related crime in Thunder Bay, where issues of addiction and use are disproportionately higher than elsewhere in Northwestern Ontario (North West LHIN 2013, 1). The number one cause of accidental death in Northwestern Ontario as of 2011 was fatal drug overdose (North West LHIN 2013, 3). Drug-related arrests in Thunder Bay were largely related to cannabis, with less than 1 percent resulting from heroin, although this can be attributed to relatively low public injection rates (TBDS 2011, 10). Thunder Bay provides withdrawal management services to more than 1,300 patients affected by drug use, although the demand is nearly double this number. Eight emergency hospital visits per day are attributed to drug and alcohol use (North West LHIN 2013, 1). The Thunder Bay Municipal Drug Strategy, created in 2011 on advice from the District Health Unit, has suggested that this issue be dealt with without delay in order to alleviate this public health concern. The TBDS has also developed an audit for the community that identified over 20 priorities for improving the community's substance issues. Finally, Thunder Bay also has a Superior Points program that assists in the exchange of over 700,000 used syringes and methadone treatment for over 1,000 people (North West LHIN 2013, 3).

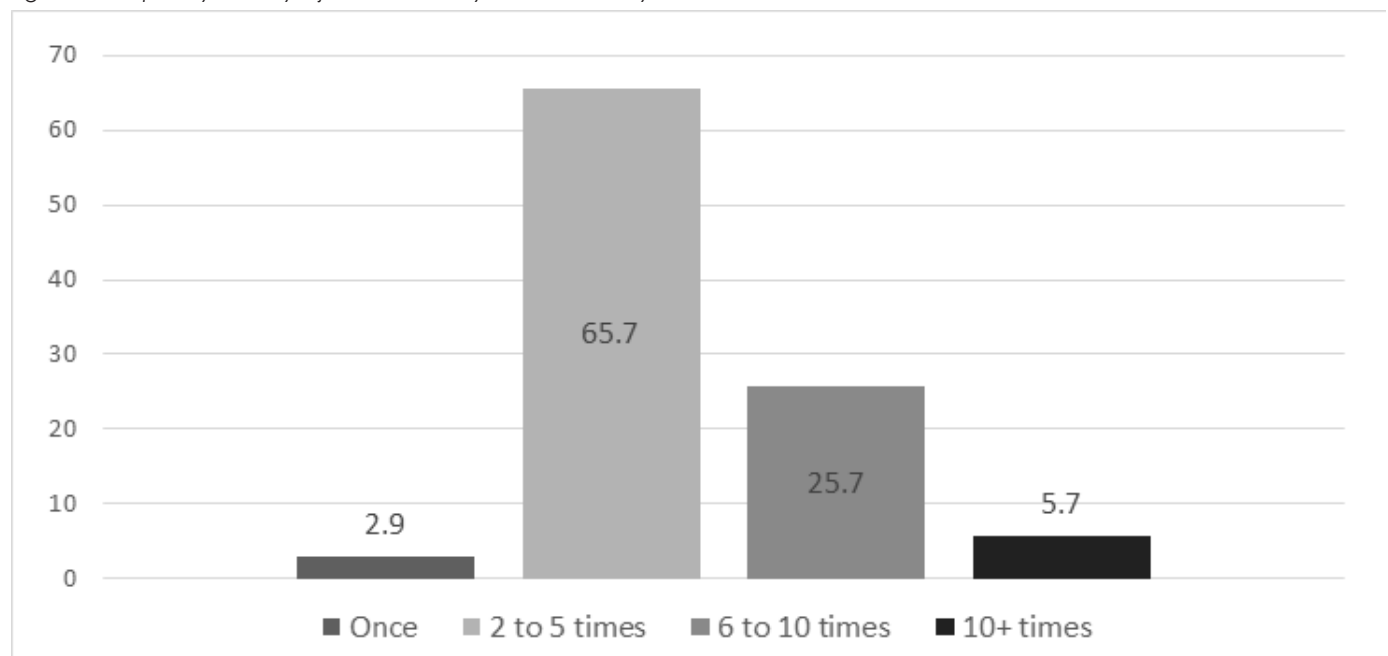


The Case for Sudbury

Greater Sudbury has faced a serious narcotics issue for many years (see City of Greater Sudbury 2005). In addition, there has been a steady rise in the usage of cocaine and crack among students in Northern Ontario. A 2007 study found that cocaine and crack were the two most commonly injected drugs in Sudbury, while crack was the most commonly used drug among surveyed PWID, higher even than alcohol and cannabis (Leonard 2007, 19, 20). Up to 60 percent of the PWID surveyed engaged in the practice of needle-sharing, and most reported that they disposed of needles in garbage cans (Leonard 2007, 39). In addition, nearly 70 percent of the respondents claimed they tested positive for hepatitis C (Leonard 2007, 48). At that time, moreover, Sudbury's needle exchange program did not provide any form of safe smoking equipment (Leonard 2007, 35).

As we have seen, a strong link exists between homelessness and drug use, so that it is particularly worrying that an average of 65 Sudbury residents use the city's emergency shelter every day (City of Greater Sudbury 2012, 1; Sudbury Community Foundation 2013, 10). Furthermore, it is estimated that over 20 percent of Sudbury's population of PWID population is indigenous, and that nearly 40 percent began injecting drugs before age 16 (Public Health Agency of Canada 2013, 32, 47). The frequency with which PWID in Sudbury partake in injecting practices is indicated in Figure 9.

Figure 9: Frequency of Daily Injection, Sudbury, 2005–08 Survey



Source: Public Health Agency of Canada (2013, 82).

The Demographics of Sudbury's Drug Problem

Over the course of the seven-year period from 2002 to 2008 that the Public Health Agency of Canada gathered data for its survey, it interviewed 466 PWID in Sudbury (Public Health Agency of Canada 2013, 202). It is quite likely that the survey did not capture responses from PWID who did not habitually reach out to a needle exchange program or other community health initiative associated with the collection of data for the survey, which could have an effect on generalizable data.

From a demographic perspective, Sudbury's population of injection drug users is relatively typical. Around 40 percent of PWID are female, the majority between the ages of 30 and 40 (Public Health Agency of Canada 2013, 25–6), and more than half began injecting before age 16 (Public Health Agency of Canada 2013, 49). Sudbury's PWID also exhibit low rates of education and employment: more than 60 percent do not have a high school education, and almost all of these are unemployed (Public Health Agency of Canada 2013, 29). The mobility of PWID in Sudbury is also quite high, with around 30 percent having lived in another city in the six months prior to being surveyed (Public Health Agency of Canada 2013, 37). The migratory nature of homeless or unstably housed injectors poses a significant problem for social service providers, as they lose the ability to track local populations effectively or to provide ongoing services. Another problem is the lack of evidence that new arrivals of PWID in Sudbury tend to concentrate in any one area, which

poses a significant challenge for service centres that generally operate from a fixed location.

Housing and Community Resources

In 2013, 959 people took advantage of available shelter services in Sudbury. Of this total, 30 percent were age 18 or younger (Kaletka 2013, 2, 4). In 2012, almost 15,000 people — close to 8 percent of the local population — accessed Sudbury-area food banks (Sudbury Community Foundation 2014, 10). Of these people, 85 percent were unemployed and living in poverty (Reszczyński 2012, 9), a variety of insecurity that puts these individuals into the growing category of those “at risk of homelessness” (Trypuc and Robinson 2009, 5). An important consideration for the provision of harm-reduction services is the willingness of the target audience to use them. The existence of community resources does not imply that these services are wanted or needed, and the importance of assessing the value of such resources cannot be overstated. Although housing assistance, food banks, and shelters are clearly valuable assets to the Sudbury community, new resources might not necessarily fill the same gap if they are not created out of a place of need. Particularly in the context of creating services for at-risk individuals, the value of every dollar of funding towards such programs should be carefully considered.

Drug Use and Injection Practices

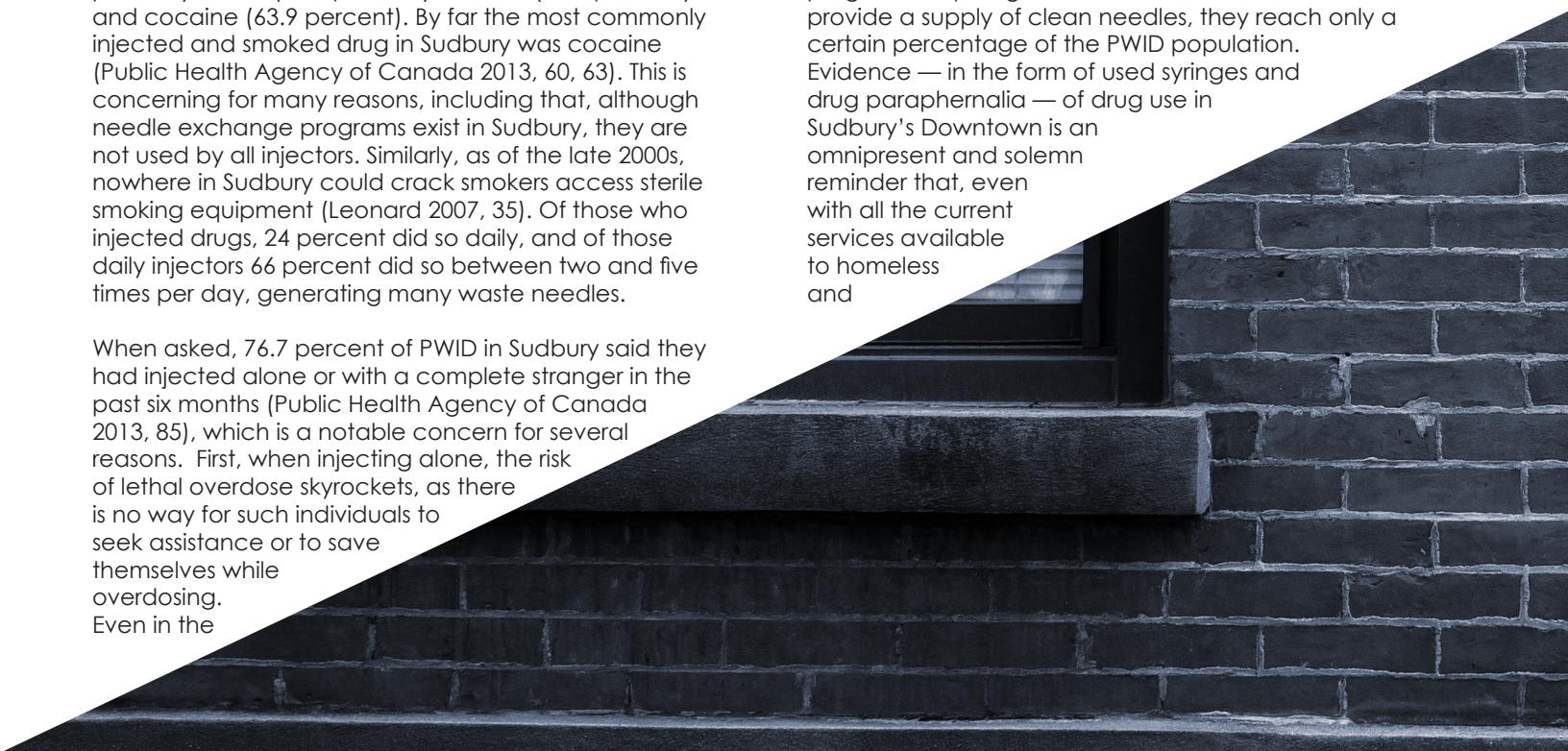
The types of drugs used by PWID in Sudbury vary by demographic group and even by year, but the bottom line is that drug use is alive and well in Sudbury. In the six months prior to a survey in the late 2000s, the top non-injection drugs used by PWID were cannabis (77.8 percent), crack (69.4 percent), alcohol (66.2 percent), and cocaine (63.9 percent). By far the most commonly injected and smoked drug in Sudbury was cocaine (Public Health Agency of Canada 2013, 60, 63). This is concerning for many reasons, including that, although needle exchange programs exist in Sudbury, they are not used by all injectors. Similarly, as of the late 2000s, nowhere in Sudbury could crack smokers access sterile smoking equipment (Leonard 2007, 35). Of those who injected drugs, 24 percent did so daily, and of those daily injectors 66 percent did so between two and five times per day, generating many waste needles.

When asked, 76.7 percent of PWID in Sudbury said they had injected alone or with a complete stranger in the past six months (Public Health Agency of Canada 2013, 85), which is a notable concern for several reasons. First, when injecting alone, the risk of lethal overdose skyrockets, as there is no way for such individuals to seek assistance or to save themselves while overdosing. Even in the

case of non-lethal overdose, many serious risks can lead to a fatality once the person has lost consciousness. Second, when injecting with a stranger, this problem can be exacerbated if the other individual leaves them unconscious and vulnerable. Third, when injecting with others, whether strangers or not, the risk from sharing equipment increases greatly. Twenty-two percent of respondents said they had shared needles with a complete stranger or someone they did not know very well (Public Health Agency of Canada 2013, 93), which can lead to the transmission of disease, as well as infections and abscesses due to dull needles. Needle reuse is a serious issue, with significant consequences for the spread of disease, especially of HIV and HCV. In Sudbury, 18 percent of PWID said they injected with used equipment, 21.5 percent said they shared their own used syringes, and 8 percent of those always injected with used equipment (Public Health Agency of Canada 2013, 91, 99, 105).

Sudbury's Needle Exchange Program

Sudbury's needle exchange programs offer critical support to PWID who are concerned about the spread of disease as well as about their own health. Of those interviewed by the Public Health Agency of Canada, 76.7 percent said they had used a needle exchange and 82.3 percent had taken advantage of the ancillary services offered by these facilities (Public Health Agency of Canada 2013, 135, 137). Although this presents a somewhat optimistic picture of the outreach capabilities of a needle exchange program, this public health issue cannot be combatted effectively with such a program alone. Although needle exchange programs help to get used needles off the street and provide a supply of clean needles, they reach only a certain percentage of the PWID population. Evidence — in the form of used syringes and drug paraphernalia — of drug use in Sudbury's Downtown is an omnipresent and solemn reminder that, even with all the current services available to homeless and



drug-using individuals in Sudbury, the problem persists and access to alternatives is stunted.

Based on a 2007 report, 40 percent of PWID in Sudbury dispose of their loose used syringes in a garbage can, many in a public washroom (Leonard 2007, 39). Thus, city workers who change public trash cans, service staff at fast-food outlets, and wastewater treatment personnel are all at risk of being stabbed by used syringes contaminated with life-threatening diseases such as HIV and HCV. From the perspective of disease and disease-risk, few behaviours so rampantly spread terminal illness as injection drug use. The rate of disease among injection drug users and their lack of awareness of whether they are infected with these diseases is thus quite alarming. According to the Public Health Agency of Canada survey, about 13 percent of Sudbury's injectors tested positive for HIV, and of those, one third were completely unaware that they were infected (2013, 161, 163), meaning that a significant percentage of PWID might unknowingly have been infecting others through needle-sharing and risky sexual behaviour, the two most common methods of HIV transmission. Another study reports that 69.2 percent of Sudbury's PWID tested positive for HCV (Leonard 2007, 48). These statistics suggest the urgent need for frequent testing of PWID, for the health of these individuals and those around them. Given the immense costs associated with lifetime HIV treatment, and the ability of injectors to access

taxpayer-funded medicine and health care, those who oppose the creation of prevention centres and education for PWID about blood-borne illness testing should consider the costs of allowing these individuals to continue to share needles without knowing their HIV status.



Conclusion: Is a Sudbury SIF Viable?

Action needs to be taken to ameliorate the issues associated with injection drug use in Sudbury. Needle exchange programs are reaching out to almost three-quarters of users, but not consistently. Health clinics are providing services, education, and clean equipment, but only to a small percentage of users. Local organizations are mobilizing to raise awareness and meet with injectors on the street level, but they too are limited in their access. One overarching solution to these issues would be to create a supervised injection facility in Sudbury. Outlined below are nine key benefits of an SIF.

Sudbury PWID would have access to resources. An SIF would provide clean needles, cooking equipment, and on-site staff, but, more important for harm reduction, PWID would have a physical location where they can safely inject, receive information about treatment options and education about diseases and health, attend nurse-delivered demonstrations of proper injecting practices, have access to peer support where they can talk with recovered PWID who can help them move beyond addiction, and access blood testing services to ensure that they are aware of their status with respect to HIV, HCV, and other blood-borne illnesses.

An SIF would lower rates of disease and infection. International evidence suggests that an SIF reduces local rates of HIV and HCV by creating an environment in which drug users can inject in a safe and sterile environment, with sterile equipment, and with health care professionals on hand to demonstrate methods of safer injection and proper disposal procedures for syringes. This added element of safety would reduce the likelihood of users putting themselves and others at risk when injecting, ultimately lowering the risk of disease and the associated health care burden. By ensuring that PWID have access to sterile equipment with each injection and referrals to health services, skin and soft-tissue infections could also be dramatically reduced, which, in turn, would reduce hospitalizations.

Health care costs associated with treating HIV in Sudbury would decrease. As noted earlier, a French study suggests that the health care costs associated with someone living with HIV/AIDS for 27 years amount to €534,800 (in 2010 euros) (Sloan et al. 2012, 50). Although costs of care in France and Canada are not directly comparable, the costs to taxpayers of HIV treatment in Canada are no less significant, with hospital visits, drug costs, and appointments estimated to amount to more than \$570 million per year (Small 2007, 24). Thus, by reducing the causes of HIV at the source, the overall societal costs associated with the virus could be reduced dramatically.

An SIF would reduce the public risks associated with drug use. Public injecting is not only dangerous, it is also illegal, which can lead to rushed injecting and even more unsafe injecting procedures, in turn leading to injury and hospitalization. In addition, public injection virtually guarantees some form of public needle disposal, whether on the ground or in a garbage can. In either case, the public is at risk when walking or emptying these bins. An SIF would ensure that all equipment used on the premises is disposed of properly, which would reduce the amount of litter and bio-hazardous waste in the area of the SIF. By educating users about the need for proper disposal and by creating proper disposal habits, the system would promote a long-term positive outcome.

An SIF would reduce fatal overdose rates. Fatal overdose due to injecting drugs is a common, if avoidable, phenomenon, although the often hidden nature of drug use means that the collection of precise data is difficult. With access to education and resources, users could learn about methods of avoiding overdose, fatal or otherwise. After the opening of Vancouver's Insite, the fatal overdose rate in that city declined by 35 percent, attributable in part to rapid medical response and more responsible injecting practices on the part of drug users (Marshall et al. 2011, 1433).

A Sudbury SIF could serve as a model for the applicability of SIFs elsewhere in Northern Ontario, where rates of addiction and drug use tend to be higher. Sudbury has the distinct advantage of pre-existing, harm-reduction infrastructure, such as needles exchange sites, methadone clinics, and community resources, into which an SIF could be effectively integrated. By creating a more developed network of assistance within the city, injection drug users could better protect themselves and the Sudbury community. If it works, a Sudbury SIF could then serve as a model for potential sites elsewhere in Northern Ontario.

By implementing an SIF, Sudbury could contribute significantly to the data and literature regarding SIFs around the world, as well as on local drug use rates and at-risk populations. To best address the needs of any community, outreach is key. Unfortunately, reaching out to drug users — some of whom may be homeless — cannot be effectively carried out through a door-to-door survey, a census form, or a phone call. As such, a "boots-on-the-ground" approach is necessary to capture data and information that can then be used to help these groups. Data on homeless and drug-using populations are notoriously difficult to capture, but by using an SIF as a central research location and headquarters for information on drug users, it would be possible to amalgamate results and data more effectively.

An SIF would be able to draw on the operational discoveries of facilities elsewhere in the world to service its clientele more effectively. Institutional knowledge from the operations of other SIFs regarding, for example, the appropriate number of stalls and the provision of sterile smoking equipment or smoking rooms, and the value of intensive research and the incorporation of peer-to-peer services not only would make an SIF more effective, but also obviate the need for a Sudbury SIF to undergo trial-and-error.

Above all, an SIF in Sudbury would help PWID, one of city's most volatile populations. An SIF would serve to help PWID improve their livelihood and overall health. These individuals, many of whom suffer from mental illness and face a lifetime of abuse, deal with addiction on a daily basis. The associated health risks are often seen as inevitable, but this does not have to be the case.

Final Recommendations

A supervised injection facility in Sudbury would be effective in carrying out a number of key health care goals, improving community wellness, and reducing the incidence of incurable disease. The steps needed to reach this point are numerous, and the pitfalls along the way could be significant. To determine if an SIF would be viable, several key considerations should be taken into account.

First, an SIF would be only as successful as its ability to respond to the needs of its clientele. As was discovered in the follow-up studies of Vancouver's Insite, not all PWID were interested in using an SIF; in fact, some refused to do so. So, is there a service gap that an SIF to fill? Is there, indeed, a problem that it would fix? Such questions are the beginning of the process that would be required, prior to all other considerations. In addition, the highly diffuse nature of Sudbury's PWID population and its significant geographical area should be considered when examining the location and type of facility that would be provided. *Thus, to determine if an SIF is required, it would be important to consult with local PWID and propose the idea to them.*

Second, an SIF would have to adhere to the increasingly stringent specifications for new facilities set forth by the federal government over the past decade. It has been suggested that any new SIF would face the challenge of measuring up to the successes of Insite, and would thus have difficulty obtaining a legal exemption for its establishment (Hyshka, Bubela, and Wild 2003, 471). As it stands, simply interpreting the various laws and rulings would be the first challenge in even considering an SIF, a responsibility best left to experts. It is conceivable that a lower court might accept a combination of SIF efficacy from Insite, paired with local evidence of need, and allow an exemption for an SIF in Sudbury (Hyshka, Bubela, and Wild 2003, 471). *Accordingly, the legality of an SIF would*

require additional research before plans for a site are considered.

Third, even if a sufficient degree of community support exists, the establishment of an SIF could not progress legally without the support of the surrounding community (Hyshka, Bubela, and Wild 2003, 473). This implies the need for a period of lobbying in which those for and against the creation of the facility would attempt to convince the public of their case. With so many community organizations in support of harm-reduction methods and so many groups involved in the improvement of lifestyle factors for the homeless, it is possible that a lobby in favour of such a facility does exist in Sudbury. At the same time, many individuals would support the NIMBY argument, particularly if an SIF was seen as highlighting to the rest of the world that Sudbury does indeed have a drug problem. *As such, a community study and poll would be required before considering the creation of an SIF.*

Finally, any proposed SIF would need to be assessed as to its cost and likely cost-effectiveness. Without extensive health care data from PWID themselves and a greater level of information from the Sudbury and District Health Unit, it would be challenging to gauge properly the costs associated with drug use in Sudbury. Given that most data are suppressed due to confidentiality, such an analysis would be part of an incremental process that would require the anonymization of health records, data analysis, and a great deal of collaboration and data-sharing. In addition, it would be necessary to cost out an SIF for Sudbury from the top down, including location, lot price, construction/renovation, materials, staff, and so on. These datasets would then have to be compared to determine if money spent on an SIF ultimately would be money saved, and that an SIF would indeed be a cost-effective option that would not be redundant, given the services already provided across the city. *As such, multi-modal data collection and analysis on health records would be necessary, long before considering the creation of an SIF.*

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