

**A CRITICAL REVIEW OF THE EFFECTIVENESS OF SAFE INJECTION
FACILITIES AS A HARM REDUCTION STRATEGY**

by

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B.S., Indiana University of Pennsylvania, 2011

Submitted to the Graduate Faculty of
Infectious Diseases and Microbiology
Graduate School of Public Health in partial fulfillment
of the requirements for the degree of
Master of Public Health

University of Pittsburgh

2013

UNIVERSITY OF PITTSBURGH
GRADUATE SCHOOL OF PUBLIC HEALTH

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ABSTRACT

Injection drug use is associated with several public health issues, primarily the spread of serious blood-borne diseases such as human immunodeficiency virus (HIV) and hepatitis C virus (HCV). Injection drug users often participate in risky behaviors such as the sharing of drug paraphernalia. Blood-borne diseases such as HIV and HCV are very easily transmitted between injection drug users through shared drug paraphernalia. In the United States, over one million people are infected with HIV, and one third of these infections are related to injection drug use in some manner.

There are many traditional interventions and programs currently being implemented in an attempt to address the public health issues associated with injection drug use; however, a controversial intervention focused on harm reduction is the focus of this paper. Safe injection facilities are relatively new interventions aimed at reaching high-risk injection drug users. These facilities provide a safe place in which injection drug users can take their own drugs and inject them under the supervision of medical staff. The benefits of this type of intervention are many. Injection drug users are able to inject in a safe environment in which they do not feel rushed, easy access to clean drug paraphernalia to use for injections, and trained medical staff are able to respond to overdose situations in a rapid manner. Safe injection facilities have an excellent

record of reducing overdose deaths, in some cases to zero. There is potential for safe injection facilities to be of great public health significance in helping to control the spread of diseases and improving the quality of life for drug users.

Safe injection facilities are common in Europe, but are viewed with great hesitation and concern in North America and some other countries. This paper is a critical review of the literature, examining studies conducted on the various issues surrounding safe injection facilities, and their potential role as an important public health intervention.

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PREFACE

Acronyms and Abbreviations:

ART – antiretroviral therapy

BCCS – British Columbia Coroners Service

CDC – Centers for Disease Control and Prevention

HCV – hepatitis C virus

HIV – human immunodeficiency virus

IDU – injection drug user

MSIC – medically supervised injecting center

SIF – safe injection facility

WHO – World Health Organization

1.0 INTRODUCTION

The use of injection drugs and the associated burden of health problems is a serious public health issue not only in the United States, but also worldwide. Blood-borne diseases such as human immunodeficiency virus (HIV) and hepatitis C (HCV) are two of the most common diseases transmitted among injection drug users (IDUs). It is generally thought that HIV is a sexually transmitted disease; however, drug injection is a major route of transmission. Worldwide, 148 of the approximately 196 countries have been found to have injection drug users; and, of those 148 countries, 120 have been found to have HIV infection present in the IDU communities (Mathers, 2008).

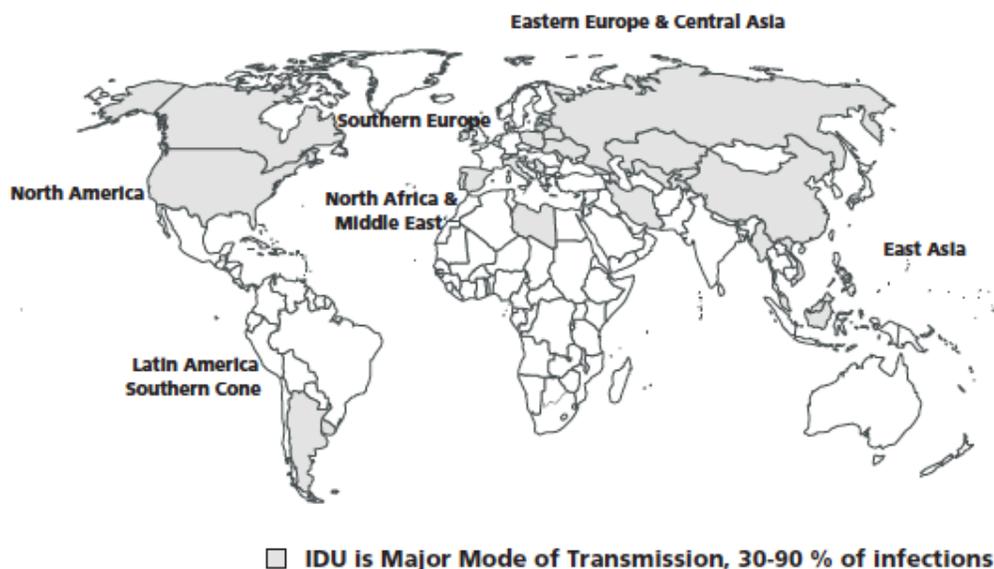


Figure 1. Magnitude of HIV Transmission in IDUs (World Health Organization, 2004).

In the United States, more than one third of all cases of HIV infection have been either directly or indirectly associated with injection drug use (Center for Disease Control and Prevention, 2002). Sharing of syringes and drug paraphernalia is a very effective mode of transmitting these diseases among IDUs. It has been found that the levels of infection of HIV can rise very rapidly within IDU communities once the virus has been introduced. In some cases, the rates of infection have doubled in as little as two years (World Health Organization, 2004). These are serious statistics alone, but it should also be remembered that HIV can also be spread through sexual contact between IDUs to non-IDUs as well as from an HIV-infected mother to an unborn child. In the United States, there are over one million people infected with HIV; one in five do not know that they are infected (Center for Disease Control and Prevention, 2010).

In contrast to HIV, it is generally thought that HCV is primarily transmitted through sharing of drug paraphernalia; this is true, however, HCV can also be transmitted through sexual contact, and from an HCV-infected mother to her unborn baby (Center for Disease Control and Prevention, 2008). It is clear from these facts and statistics that disease in injection drug populations is a serious public health issue. It is extremely important for the IDU populations to be reached and prevention interventions implemented in order to control the spread of serious diseases not only within the IDU populations, but also into the general population.

There are many types of prevention interventions and health programs available to injection drug users; however, many countries have implemented safe injection facilities (SIFs) in an attempt to reach high-risk injection drug users who may not be reached through the typical interventions and programs. Safe Injection Facilities (SIFs) are safe and hygienic locations

where injection drug users can go to inject pre-obtained drugs under the supervision of trained staff. Some SIFs simply provide a safer place and clean injection equipment, while others offer a network of services that can include health, social, and drug treatment services (Broadhead, Kerr, Grund, & Altice, 2002). SIFs are not to be confused with “shooting galleries” which are run by drug dealers. SIFs are run by professionals, most often nurses and/or social workers (Fisher, 2000).

The establishment of SIFs is surrounded with controversy. These controversies are focused around legal, ethical, and effectiveness issues. There are many SIFs operating throughout Europe, and much literature has been published both in North America and around the world supporting the effectiveness of safe injection facilities; however, there is still much resistance to adopting the use of safe injection facilities in various parts of the world. Particularly, in North America and Australia, the issues are still being investigated with advocates and opponents battling to come to a consensus regarding these issues. The purpose of this review is to critique the literature regarding the effectiveness of safe injection facilities as a harm reduction strategy.

2.0 BACKGROUND

2.1 HISTORY

Safe Injection Facilities have existed in the Netherlands for quite some time, but it has only been since the mid-1980s that government sanctioned SIFs have come into operation in Europe. Many of the original SIFs were actually cafés that were not meant to have a room specifically for injecting, but these cafés evolved to include injection rooms as well as supervision, medical care, and counseling options offered to IDUs who use the SIF (Elliott, 2002).

The first government supported SIF was in Switzerland in 1984, followed quickly by several in the Netherlands. Government supported German SIFs became operational in the early 1990s. These were original non-government funded operations, but became government approved in 2000. Australia has attempted to start three non-government sanctioned SIFs in the late 1990s, but only one was legally approved of in 2001 (Elliott, 2002). The only government approved SIF in North America, was opened in Vancouver, Canada, in late 2003 (Small, Palepu, & Tyndall, 2006).

2.2 NUMBER OF SIFS WORLDWIDE

Safe Injection Facilities have been operable in various places in Europe since the early 1980's. An article about drug consumption rooms in Europe, written in 2000, reported a total of 46 such facilities (Dolan, 2000). In a 2004 report, the number of SIFs in the world had grown to 64. While Switzerland had closed down a few of their SIFs, Germany and the Netherlands had added many new ones. In Spain, 3 SIFs were started in 3 different cities, in Australia 1 SIF was started in Sydney, and in Canada 1 SIF was started in Vancouver (Hedrich, 2004). A factsheet from 2010 reports that there were over 75 active SIFs in the world at that time; however, I could not find documentation to confirm this number (Ministry of Healthy Living and Social Government, 2010).

2.3 OBJECTIVES

The general focus of SIFs is to reduce risky behaviors of injection drug users, reduce mortality from overdose, reduce nuisances in public places, and increase access to drug treatment programs (Logan & Marlatt, 2010).

Most SIFs were opened as a harm reduction strategy in response to rates of diseases such as HIV and HCV sharply increasing within the IDU community. It was thought that the SIF might help to reduce the instance of disease by providing education about safe injection practices and providing a safe place to inject drugs, which would also reduce the public nuisance behaviors of public injecting and discarded drug paraphernalia in public places (Elliott, 2002).

3.0 METHODS

This chapter describes the development of my research question and then outlines the search strategy and selection criteria adopted for this literature review. The planning of this literature review included consulting with my committee members for direction regarding how to conduct a critical evaluation of literature, consulting with a librarian, and reading literature review guidebooks.

3.1 DEVELOPMENT OF RESEARCH QUESTION

I first heard about a safe injection facility in 2009 when I came across a news article about the Vancouver SIF. The article described the controversy that surrounded the SIF and discussed some harm reduction principles. I lived in British Columbia, Canada for several years, although not in Vancouver, so I had a personal interest. Also, I found the harm reduction principles described to be quite intriguing from an academic perspective. This was the first time I was exposed to the harm reduction ideal. Two years later, I began classes at the Graduate School of Public Health in Pittsburgh, PA, and I was exposed to many more harm reduction strategies. When it was time for me to choose a topic for my Masters thesis/essay, I originally thought I would look at HIV/HCV co-infection in some population. I met with a librarian to learn search methods, and while we were searching, I noticed a reference to Vancouver's SIF. I did some

preliminary research to better understand the controversy surrounding SIFs and harm reduction, and found that there were many conflicting claims about the effectiveness of SIFs. I was determined to write this paper in an effort to sort through the controversy and attempt to develop a clearer answer to the question of the effectiveness of SIFs as harm reduction strategies.

3.2 SEARCH STRATEGY

Articles for this literature review were obtained using PittCat+ and Pub Med databases at the University of Pittsburgh. Google Scholar was also used to obtain many articles. A total of five different searches using these databases were performed. The first search used the terms *safe injection facilities* and *drug consumption rooms* in the PittCat+ database, yielding 281 results. The search was refined using the following limits: a) Journal Articles (78), b) Full-text online (78), c) Scholarly publication (57), and d) Peer reviewed (50). A total of 25 articles were chosen for possible inclusion based on appropriateness to topic. The second search was done in the Pub Med database using the search terms *safe injection facilities* and *drug consumption rooms*. This search yielded 87 results. A total of 11 articles were chosen for possible inclusion based on the following criteria: a) English only articles, b) role of SIF, and c) alternative health care settings. A third search was performed in the Pub Med database using the search term *safe injection sites*. This search yielded a total of 485 articles. Of these, six articles were chosen for possible inclusion based on the following criteria: a) English only articles, b) SIF, c) harm reduction, d) support for SIF, and e) needle exchange. The fourth search was done in the Pub Med database and used the search term *Vancouver Injection drug user study*. This search yielded a total of 195 results, from which 23 articles were chosen for possible inclusion based on the following criteria:

a) English only, b) supervised SIF, c) use of SIF, d) access to SIF, and e) cost of treatment for IDU. The fifth and final search was done using the Google Scholar database with the search terms *safe injection sites* and yielded a total of 344 articles. Forty-six of these articles were chosen for possible inclusion based on the following criteria: a) harm reduction, b) IDU, and c) Vancouver, Canada. Other articles used in this literature review were identified via citations from articles found in the above searches.

Table 1: Search Results

Database	Search Terms	#Returns / #Selected for relevance
PittCat+	“safe injection facilities”; “drug consumption rooms”	281/25
Pub Med	“safe injection facilities”; “drug consumption rooms”	87/11
	“safe injection sites”	485/6
	“Vancouver Injection Drug User Study”	195/23
Google Scholar	“safe injection sites”	344/46

3.3 LITERATURE SELECTION CRITERIA

Detailed examination of the resulting papers was the next step. Any papers that did not directly relate to safe injection facilities and the objectives of such were excluded.

Due to the fact that there are few studies for each aspect of safe injection facilities, both quantitative and qualitative based studies were critiqued for this review. The majority of studies were either cohort studies trying to determine links between factors related to the effectiveness factors of safe injection facilities or cross-sectional studies to assess information at a given time. Because safe injection facilities have been operating in Europe since the 1980's, and because the literature is limited, no publication date was set for exclusion.

The literature included in this review was restricted to English only, and as such, the literature included most often focuses on two particular SIFs: the one in Sydney, Australia, and the one in Vancouver, Canada. Effort was made to include any results that could be obtained regarding European studies; however, it was not possible to critique many European studies due to the language barrier.

4.0 RESULTS

4.1 HOW DO SIFS WORK?

In Europe, three types of SIFs have been identified based on how they are run. The first type is the integrated type. This is the most common type of SIF in Europe. It is usually part of a larger network of services aimed at IDUs and homeless people, and often consists of a special room within a large facility that an IDU can use for injecting drugs. There is supervision but access to this type of SIF is often limited to those that use the larger facility or to a certain number of clients (Hedrich, 2004).

The second type of SIF that has been identified in Europe is the specialized facility. This type of SIF was set up in direct relation to an open drug scene, its purpose is to provide a safe and hygienic place in which IDUs can inject the drugs they have just purchased. This type of SIF usually includes a needle exchange program, medical care, and referral to rehab programs (Hedrich, 2004). The SIF in Vancouver, British Columbia, Canada, and the SIF in Sydney, Australia are both considered a specialized facility. In Vancouver, IDUs take their own drugs to the facility. Upon entering, they must register. They are then allowed to go to one of the 12 private cubicles in which they can inject the drugs that they have brought with them. They are not allowed to share drugs with anyone else in the facility (Kerr, Wood, Small, Palepu, & Tyndall, 2003). Medical staff are on hand to address health needs and respond to overdoses. An

addiction counselor is present to counsel with and refer IDUs who want to seek rehabilitation treatment (Wood, Tyndall, Montaner, & Kerr, 2006).

The third type of SIF identified in Europe is the informal SIF. This type of SIF is not run by government or health organizations, but rather by former drug users. The informal SIF has only been identified in the Netherlands (Hedrich, 2004).

4.2 EXPECTED RISKS & BENEFITS

The first expectation of SIFs is that they will attempt to engage the target population: high-risk IDUs. The expectation is that if this group can be reached, then maybe they can be helped to get into treatment (Kimber, Dolan, van Beek, Hedrich, & Zurhold, 2003). The risk is that the SIF may provide a place for others and encourage more drug use (Hedrich, 2004).

A second expectation is to improve the health of IDUs through treatment for medical issues and education about risky behaviors. If IDUs have easier access to medical care in an SIF, it is thought that this will improve uptake of other treatments such as drug rehabilitation (Kimber et al., 2003). The concern is that IDUs may use the SIF for injecting drugs and never take advantage of the other social and health services offered (Hedrich, 2004).

A third expectation is to reduce drug overdoses. Drug overdoses vary from location to location, but it is hoped that a supervised SIF that offers quick medical attention could reduce the number of drug overdoses in the IDU population (Kimber et al., 2003). The proposed risk is similar to that of engaging the target population, in that there is concern that providing a place for injecting will encourage IDUs to use more drugs and actually increase drug overdoses instead of reducing them (Hedrich, 2004).

The fourth expectation is to reduce public nuisance related to an open drug scene. Public nuisances such as a visible drug scene and discarded drug paraphernalia in public places are common community concerns. It is thought that SIFs would help to reduce these problems (Kimber et al., 2003). The concern is that an SIF could actually attract more IDUs to an area creating a greater problem instead of reducing it (Hedrich, 2004).

The final expectation is that SIFs could decrease crime due to the restrictions that no dealing is allowed within the facility. However, it is also feared that the SIF will attract more drug dealing crimes instead of reducing them (Hedrich, 2004).

4.3 ETHICAL ISSUES AND HARM REDUCTION

Injection drug use is a serious public health problem around the world, sometimes resulting in epidemics of infectious diseases, particularly blood-borne diseases such as HIV and hepatitis C. Additionally, injection drug often results in overdose deaths and is considered a public nuisance in many communities due to IDUs injecting in public places (Wood, Kerr, Montaner, et al., 2004). Many programs have been implemented in order to reduce drug use and thus reduce the negative results that are associated with the injection drug use both for the user and the communities in which they live. There are two main approaches to dealing with drug problems, both of which have difficult ethical issues to consider.

The predominant approach in North America has been abstinence based. This type of approach requires that the users stop using the drugs completely (Christie, Groarke, & Sweet, 2008). However, the abstinence-only approach in North America has not been very effective in reducing the number of IDUs, the availability of illicit drugs, the spread of infectious diseases,

the number of overdose deaths and other related medical issues among IDUs, or the amount of public nuisances (Wood, Kerr, Montaner, et al., 2004). In fact, the abstinence-only approach has been criticized for not producing the positive effects that were desired (Christie et al., 2008).

An alternative approach to these serious public health issues is the harm reduction approach. Harm reduction aims not to focus on abstinence, but rather on reducing the negative effects of various behaviors (Logan & Marlatt, 2010). The focus of harm reduction in this paper will be in relation to injection drug use; however, it should be noted that this approach can be applied to many different situations where it is desired to reduce negative outcomes such as binge drinking among college students or nicotine replacement therapy among smokers (Logan & Marlatt, 2010). Harm reduction interventions have been criticized as sending the wrong message, that injecting drugs is acceptable, but have been shown to have fewer negative consequences than abstinence based interventions (Christie et al., 2008).

Safe injection facilities are interventions following the harm reduction approach. Their goal is to reduce the negative impacts to both the IDUs themselves as well as to the communities in which they are located (Wood, Kerr, Small, et al., 2004). Studies regarding the effectiveness of SIFs have been conducted and will be discussed later in this paper.

4.4 ACCEPTABILITY

SIFs have been accepted in European countries rather easily; however, the acceptability of SIFs in North America is a controversial issue. In order for an SIF to be put into operation in any city, there needs to be support from the local communities, government, and the IDUs themselves must be willing to use the sites in order for the objectives of the SIF to be realized.

4.4.1 Acceptability by Communities & Governments

Communities often respond to the suggestion of the installation of an SIF with fear. They worry that the SIF will increase IDU traffic to that community, making it more visible. They fear that the number of IDUs in the community will increase, and they fear that crime will increase within their community. It is often thought that an SIF is an invitation or acceptance of illicit drug use.

4.4.2 Acceptability by Injection Drug Users

While acceptability of SIFs is most often thought of as an issue for the local community in which it is desired to establish an SIF, the acceptability from the point of view of the IDU must also be considered. Many IDUs fear that an SIF is simply a way to implement tighter controls over them and will not use the SIF.

For SIFs to operate effectively, these acceptability issues must be addressed and overcome by local communities, government leaders, and the local IDU community. In most cases over time, the fears of all involved diminish once it is established that the fears are unfounded on all accounts.

4.5 LEGAL ISSUES

The primary legal issue related to opening and operating an SIF is to the drug control and regulation laws of the country in which it is to be established. In the European countries of Switzerland, Germany, and the Netherlands, there are laws that allow the operation of SIFs

within certain parameters. In Spain, they operate within the regulations of a local public health organization. In both Australia and Canada, special legislation was passed in order to allow SIFs to operate during a certain time period in order to evaluate if they were an effective method in reducing harm within the local IDU populations where they were established (Hedrich, 2004).

Legal issues are a critical aspect in the establishment of effective SIFs. Even though there have been many scientific studies establishing that SIFs have many positive effects, there is a chasm between the studies and policy. In Canada, a “user-run” SIF was under constant surveillance by police, which intimidated anyone from using the site. The positive result of this conflict was that attention was drawn to the fact that constant police surveillance was harmful to the effectiveness of the SIF. Eventually, the “user-run” site was closed and the government sanctioned site known as INSITE was opened (Kerr, Oleson, & Wood, 2004).

The United States is known for its punitive views, having very harsh sentencing laws for drug users and dealers (Lundy & van Wormer, 2007). This punitive viewpoint complicates the situation for the implementation of an SIF in the US. A study in 2008 showed that for an SIF to be successful, it must have police support. Coordination between police and public health efforts can help to reduce public order issues as well as public health issues (DeBeck et al., 2008).

4.6 ABILITY TO REACH TARGET POPULATIONS

Reaching the IDU population to provide social services, to provide counseling, or to promote treatment programs can be a difficult task, but reaching the target population is one of the main goals of any SIF program. Needle exchange programs provide an opportunity to interact with

IDUs, but an SIF provides an opportunity to spend more time with each IDU in a more relaxed atmosphere (Kerr, Kimber, DeBeck, & Wood, 2007). The ability of SIFs to reach the IDU population is primarily restricted to the willingness of the IDUs to use the SIF; however, secondary issues that influence their willingness include police activity, requirements that they must identify themselves when entering an SIF, and lack of room in the SIF to accommodate the number of IDUs that desire to use it at any one time.

Several studies show that SIFs are effective in reaching the IDU population of various cities. A cross-sectional study was conducted in Vancouver, Canada in 1996. A total of 587 people who had used drugs in the last month were recruited to fill out a questionnaire asking them about their willingness to inject drugs in an SIF. In this study, 33.6% of the respondents said that they would be willing to use an SIF if one were available, particularly those IDUs who had a hard time finding sterile injecting equipment, needed help injecting, were frequent heroin users, were sex workers, or who had traditionally injected in public places (Wood et al., 2003).

A feasibility study was conducted during April and May of 2003 in Vancouver, Canada prior to the opening of the SIF, INSITE. In this study, 458 IDUs were recruited from the street, and interviewed about their willingness to use an SIF. Results of this study showed that 92% said they would be willing to use the SIF, particularly those IDUs who traditionally injected alone. However, once the rules of the SIF were described, only 31% said they would be willing to use it, and only 22% said they would use it if there were police nearby (Kerr et al., 2003).

A similar study was conducted in Australia prior to the opening of the SIF in Kings Cross, Sydney. A total of 178 IDUs who had attended a needle exchange were interviewed, and 71% said they would have preferred to inject in an SIF. The results for IDUs who inject alone

were similar to the Vancouver study in that more IDUs that inject alone expressed that they would have preferred to inject in an SIF rather than alone (van Beek & Gilmour, 2000).

These studies only support that there was potential to reach the target IDU population, but the samples did not necessarily reflect the actual population that would be using each SIF in question. Although there was a fairly high interest to use SIFs among high-risk IDUs, if certain rules had to be followed or if there was a police presence nearby, the rate dropped dramatically. The particular drug scene in individual cities around the world are often quite different from each other, so studies such as these would have to be conducted for each area, and results should be interpreted with the knowledge that they do not necessarily reflect or apply to all cities around the world in the same manner. Also to be considered is that these studies do not address the frequency of drug use among the cohort studied; hence, the statistics may not be as strong as they appear. While it seems that SIFs do have the ability to reach high-risk IDU populations, the exact effect is difficult to tell with these studies.

4.7 CHARACTERISTICS OF SIF USERS

A cross-sectional study of the IDUs who utilized the Vancouver SIF daily during the time period between December 2003 and July 2004 found the following characteristics:

- Average age = 38
- Gender = 70% male
- Race = 18% Aboriginal
- Involved in sex trade = 38%
- Currently homeless = 17%
- History of incarceration = 80%
- Daily heroin use = 51%
- Daily cocaine use = 33%
- Ever share injection equipment = 58%

- Ever need help injecting = 74%
- Ever received addiction treatment = 45%
- Reported a non-fatal overdose = 59%

This study indicates that those IDUs that attend the SIF on a daily basis have association with many risky behaviors such as sharing injection equipment. This study also found that homelessness is a common factor among those who used the SIF frequently. Considering that a homeless person would not necessarily have a safe place to inject, it should not be surprising that this particular group of IDUs might be more willing to utilize SIFs on a regular basis. This could also help to explain why other studies have shown a marked decrease in public drug use after the opening of an SIF in the local area (Wood, Tyndall, Qui, Montaner, & Kerr, 2006).

A similar study consisting of repeated cross-sectional surveys was conducted at the Sydney SIF during the time period from 2000 to 2002. The results of this study are as follows:

- Average age = 31
- Gender = 63% male
- Race = 15% Aboriginal
- Involved in sex trade = 16.5%
- Currently homeless = 28%
- History of incarceration = 53%
- Daily heroin use = 50%
- Daily cocaine use = 12.33%
- Ever share injection equipment = 17.33%
- Ever need help injecting = 48%
- Ever received addiction treatment = 66.6%
- Reported a non-fatal overdose = 49.66%

This study showed that IDUs who attended the Sydney SIF on a frequent basis were likely to be associated with many of the risk behaviors listed (MSIC Evaluation Committee, 2003). Several studies of a similar nature to these have been conducted at various SIFs in Europe with similar results. The average age of the typical European IDU who uses SIFs is 30. The majority of European users are male, ranging from 70-90%. Homelessness is also an issue,

but varies from country to country. In Germany, it was found that approximately 27% of SIF users were homeless, while in some areas of Spain, the rate of homelessness among SIF users is as high as 60%. A history of imprisonment also varied from country to country, with Spain having 38% and Switzerland having between 50% and 75% (Hedrich, 2004).

All of these studies were cross-sectional in nature and were conducted over a similar time frame of one to two years. The limitations of such studies are the reliance on self-reports and lack of longitudinal data. Future studies should be conducted over longer periods of time, and should focus on other outcomes such as rates of blood-borne infections as well as the outcomes that have been included in these studies.

4.8 SERVICE UPTAKE

High-risk injection drug users need more than just a safe environment in which to inject drugs. Injection drug users often suffer from a long list of maladies such as homelessness, mental illness, joblessness, physical illnesses from infectious diseases, and overdose. It is thought that IDUs may not have the social networks that would enable them to connect to drug treatment, medical treatment and other services that could be of help to them. Advocates of SIFs argue that the harm reduction atmosphere in SIFs allows a much greater opportunity for counselors to educate IDUs about treatment and other services that could help them. Studies at both Vancouver and Sydney support this claim, indicating that SIFs act as a gateway to addiction treatment as well as other treatments (Beletsky, 2008). SIFs target the many and varied health issues associated with IDUs that are not addressed by other programs such as needle exchange, education interventions, and other conventional services.

4.8.1 Utilization – Degree to which Services are used

There are two common measures of determining the success of SIFs in increasing access to service programs. The first is to measure the utilization of the SIF by IDUs. Utilization includes the use of the SIF itself and also the use of other services such as social, health, and drug treatment services.

A cross-sectional study of the Vancouver SIF cohort was conducted to evaluate characteristics of drug users over a six-month period to see if there were changes in variables that could potentially be associated with daily use of the SIF. It was found that two months after opening the SIF, the average number of visits per day was approximately 500. There was a monthly average of 104 visits with the addiction counselor (Wood, Tyndall, Qui, et al., 2006). This translates into only 6% of the users having visits with addiction counselors at this facility.

A similar study of a cohort of 874 people made up of a random sample of people who used the Vancouver SIF attempted to determine the prevalence and correlation of getting education regarding safer injection practices at the SIF. It was found between May 31, 2003 and Oct 22, 2004, that 293 (35%) had received education regarding safer injecting procedures. Education reportedly received included how to find a vein, how to insert the needle correctly, and other information that was previously not known by the IDU that reported (Wood, Tyndall, Stoltz, Small, Zhang, et al., 2005). While this was a preliminary study, it does show that a significant number of SIF users were receiving education services from the SIF.

A study investigating factors associated with drug cessation was conducted at the Vancouver SIF. More particularly, this study attempted to determine if the SIF enabled further drug use, or if perhaps it might influence IDUs to seek out and either reduce the amount of drugs they inject or cease injecting entirely. The cohort was randomly chosen from people who used

the SIF and found a 23% increase in injection drug cessation after two years. This increase was shown to be positively associated with having contact with the addiction counselor at the SIF and having a history of engagement in addiction treatment before. This study indicates a positive link between attending an SIF and entry into addiction treatment programs (DeBeck et al., 2011).

A unique study was conducted at the Vancouver SIF starting in 2003. The purpose of this study was to examine the rate of enrollment into detoxification programs by SIF users in the year before the opening of the SIF and in the year after the opening of the SIF. In this study, a random cohort of SIF users was chosen and then, using databases, they performed a retrospective and prospective linkage to the local addiction treatment centers. This allowed them to determine that the number of IDUs entering the program before the opening of the SIF was 21.6 per month; while after the opening of the SIF, the number was 31.3 per month. These findings suggest that the SIF was acting as a strong referral mechanism for entrance into addiction treatment programs through sustained contact of the SIF with the IDUs, which facilitated the IDUs to seek addiction treatment (Wood, Tyndall, Zhang, Montaner, & Kerr, 2007).

A slightly different study was performed to determine if SIF use decreased entrance into addiction treatment. A cohort made up of a random sample of SIF users filled out questionnaires. The data obtained was analyzed with a Cox regression to assess factors associated with time to entry into detoxification programs. It was found that SIFs are unlikely to hinder IDUs from entering into addiction treatment programs (Wood, Tyndall, Zhang, et al., 2006).

4.8.2 Referrals

The second measure of uptake is referrals. At the Vancouver SIF, data has been collected in a database since the opening in September 2003. To determine attendance rates, drug use patterns, and the number of referrals made, the data was analyzed and it was found that between March 10, 2004 and April 30, 2005, 4,764 people registered at the SIF with 79.2% of these visits for injection purposes. During this time, 2,171 referrals were made, with 37% of those for addiction counseling (Tyndall et al., 2006). In a similar study at the Sydney SIF, during the first two years of operation, a total of 4,719 IDUs were registered as having visited the SIF. During this same time, 1,800 referrals were made, and 44% were for addiction treatment (van Beek, 2003). The specific details of the following studies are not known; however, the findings are included here for the sake of comparison. In a German SIF, it was reported that 91 out of 168 or 54% of participants in a survey said that they had been referred for addiction treatment, and at an SIF in Geneva there was a 37.5% referral rate during one year (Hedrich, 2004).

In the case of utilization, it looks as though SIFs make a difference in providing easier access to many services that might otherwise be unavailable to many high-risk IDUs. However, more studies need to be conducted to determine if these services are actively promoted, and how uptake of these services could be increased. Regarding referrals, when compared with reports of referral statistics from European SIFs, the findings from studies at Vancouver and at Sydney are similar. It should be pointed out that while the number of referrals seem to be fairly impressive in the SIFs listed in this paper, these numbers are only telling us of the potential uptake, but don't tell us anything about actual uptake that occurred from the referrals. More longitudinal studies should be conducted to determine actual uptake.

4.9 IMPROVEMENT OF HEALTH

The health of drug users is often poor due to various factors such as poor hygiene, lack of seeking medical care, and risky behaviors. Risky behaviors include the following: 1) needle sharing, 2) using unsanitary equipment, and 3) hurried injections. SIFs seek to provide a safe and sanitary place for IDUs to inject, in order to try to minimize the risky behaviors listed, as well as to provide medical care in case of an overdose emergency (Broadhead et al., 2002; Fisher, 2000).

A prospective cohort study of SIF users in Vancouver, Canada was conducted to determine what factors are associated with the risky behavior of needle sharing. Needle sharing was defined as sharing, borrowing, or lending used needles/syringes in the last six months. Researchers compared those who reported injecting most or all of the time at the SIF to those who stated that they had only used the SIF a few times or had never used the SIF. The investigators used multivariate analyses; and, after adjustment for confounders, found that those who used the SIF were much less likely to share needles. Logistic regression confirmed that use of the SIF was independently associated with reduced needle sharing by the IDUs in the Vancouver cohort (Kerr, Tyndall, Li, Montaner, & Wood, 2005).

A similar study, also conducted at the Vancouver SIF, examined the factors associated with needle sharing among SIF users. In this study, a random cohort was chosen from known SIF users. An interviewer administered a questionnaire that included variables potentially associated with needle sharing practices. The questionnaire was first administered six months after the opening of the Vancouver SIF and again seven months later. The results of this study showed that 16.5% were still reporting sharing needles. The study also showed that the group

who reported needle sharing was associated with using cocaine on a daily basis as well as visiting shooting galleries (Wood, Tyndall, Stoltz, Small, Lloyd-Smith, et al., 2005).

A more recent study at the Vancouver SIF attempted to evaluate these other risky behaviors: use of unsanitary equipment and hurried injection practices. A sample was randomly chosen from the cohort of SIF users. An interviewer administered a questionnaire and venous blood samples were taken at the start of the study and at six-month follow-up intervals during the time period between July 2004 and June 2005. Comparisons were made between regular users of the SIF and inconsistent users of the SIF on several variables. The study found that, in general, those who were regular users of the SIF were more likely to have reduced their use of needle sharing, increased their use of sanitized equipment, and were less likely to inject in hurried situations (Stoltz et al., 2007).

At the Sydney SIF, surveys were conducted in a cohort of randomly sampled SIF users in 2000, 2001, and 2002. The results indicate that the proportion of IDUs that reported using new needles was 64% in 2000, 75% in 2001, and 79% in 2002. The proportion of reported sharing of needles did not change much, with reports of 19% in 2000, 16% in 2001 and 18% in 2002. Sharing of unsanitary equipment was not significantly reduced during this time period (MSIC Evaluation Committee, 2003).

In the first Vancouver study, a causal relationship was not shown; however, the prospective nature of the study did show that there was a change in syringe sharing after the opening of the SIF. The second study shows that some minority groups within the IDU community still tend to share needles, even though the rate of needle sharing as a whole has been reduced. The reduction shown in the second study confirms the findings of the first. The third study shows positive change by consistent users of the Vancouver SIF. The Sydney study shows

positive change in reduction of shared needles, but no significant difference in the other risky behaviors. It should be noted that all of these studies could be influenced by self-reporting bias due to socially desirable response influences, which could result in under reporting. Longitudinal studies are needed to determine if these relationships stay the same, improve, or become worse over time. Overall, these studies indicate that SIFs can have a positive effect in helping stabilize the health of IDU populations.

4.10 REDUCTION OF OVERDOSE AND OVERDOSE MORTALITY

Drug-related overdose has been and continues to be a concern for the injection drug user communities worldwide. Unsupervised overdoses are a primary source of fatality in IDUs. In San Francisco, overdose has been determined to be “the single largest cause of accidental death” (Davidson, 2003). Non-fatal overdoses are also of concern since they often result in severe disabilities (Darke, 2003).

Due to the serious repercussions of drug overdoses, reduction of fatal overdoses is a large motivation in the establishment of SIFs. Studies have been conducted to determine how a medically supervised SIF might influence the numbers of fatal overdoses. The focus of one study of the Vancouver SIF was to determine the incidence of overdoses within this particular community. Data was obtained for all unique events during the period between March 2004 and August 2005. It was found that there were 1.33 overdoses per 1,000 injections. This translates into an average of 16 overdoses per month for the Vancouver SIF. Of these overdoses, there were no fatalities or serious disabilities due to the fact that there was immediate medical care given to the IDU within the Vancouver facility. This study also found that overdoses were more

likely to occur in less experienced injectors, and it was suggested that these persons be targeted for interventions when first coming to an SIF (Kerr, Tyndall, Lai, Montaner, & Wood, 2006).

A retrospective population-based study was conducted in Vancouver using data obtained from the British Columbia Coroners Service (BCCS). The BCCS maintains a highly accurate registry of unattended and unexplained deaths. Thus, deaths caused by overdose would be registered in this database. Overdose deaths were obtained for the period before the opening of the Vancouver SIF, January 2001 to September 2003, and also for a period after the opening of the Vancouver SIF, September 21, 2003 to December 2005. The location of each death was determined from records obtained from the BCCS and were plotted on maps of Vancouver. It was found that one third of the deaths prior to the opening of the SIF were within 500 m of the SIF. There was a 35% reduction in the number of deaths in this area after the opening of the SIF. It should be noted that deaths on other parts of the city differed by only 9% during the same time periods (Marshall, 2011).

Another study also by Kerr, investigated the effect of microenvironments such as social context in modifying drug overdose risk. This study was of a qualitative nature and consisted of interviewing a sample of 50 SIF users chosen to represent the local IDU population in regards to age, ethnicity, gender, and drug of choice. The IDUs in this study were asked for their opinions and experiences with overdoses at the Vancouver SIF. It was found that there were many perceived benefits of using an SIF. Some of the benefits were 1) rapid response time to an overdose with equipment and medicines readily available, 2) feeling safe at an SIF so the IDU can take their time injecting, which allows them to monitor each dose more carefully, 3) they weren't injecting alone, and 4) saving the lives of overdose victims that would most likely have been lost if they had not been at the SIF. While these benefits are positive in nature, they would

be more likely to be supportive with other drug intervention programs (Kerr, Small, Moore, & Wood, 2007).

While the first study suggests that there are significant lives saved by the intervention of SIF medical supervision, these results are only reflective of the Vancouver SIF IDU community. There were various methods used for coding of an overdose, which could result in over or under reporting, and the information was largely based on self-reports. However, it is thought that an SIF has a role in reducing drug overdose fatalities (Kerr et al., 2006).

The findings from the population-based study of overdoses confirms the findings of the first study, and strongly indicates that SIFs are effective interventions in relation to reducing drug related overdose deaths.

The second study suggests that SIFs play an important role in helping to reduce overdose fatalities by providing a safer micro-environment/social context in which IDUs can inject drugs. This study also reflects only the Vancouver IDU population, and some perspectives may not apply to all SIFs (Kerr, Small, et al., 2007).

4.11 REDUCTION OF NUISANCES IN PUBLIC AREAS

One of the main community-level concerns regarding SIFs is the issue of public nuisance and disorder associated with the drug scene. Injecting in public places and leaving injection litter in public places are the two main public nuisance issues.

The first issue to consider is that of public drug usage. Many studies have suggested that the presence of an SIF in a community actually decreases drug usage; however, most of the studies done in Europe are based on respondents' claims as to how frequently they used an SIF

as opposed to taking drugs in a public place. These studies are based on qualitative data from interviews where an IDU reported that they used “less” drugs than they had (Hedrich, 2004).

The second issue to consider is that of “litter” from drug use. This litter consists of various combinations of syringes, syringe wrappers, paper and plastic dope bags, syringe caps, “cookers”, bleach, filters, water containers, and match books (Broadhead et al., 2002; Wood, Kerr, Small, et al., 2004).

A study was conducted in Boston to determine the effect of a needle exchange program on the number of discarded needles after two years. Data was obtained by counting the number of discarded drug paraphernalia in 32 randomly chosen blocks within the city. Nonparametric estimations were applied to examine change over time. It was found that the needle exchange program did not increase the amount of discarded drug equipment (Doherty, 2000).

At the Sydney SIF, a study of syringe counts from August 1999 to January 2002 was conducted to determine if there was an increase or a reduction in discarded syringes and drug litter. The results showed a significant decrease in some areas but a slight increase in other areas. It could not be established that this decrease was significantly associated with the presence of the SIF (MSIC Evaluation Committee, 2003).

The strongest evidence to date comes from a carefully designed study done in Vancouver. The study was designed to gather specific data prior to the opening of the Vancouver SIF, and again 12 weeks after the opening of the SIF. The study design was based on very specific indicators and measures so as to obtain the most statistically significant data possible. The results showed a significant reduction in discarded litter and in public drug usage, which appeared to be independent of potential confounders (Wood, Kerr, Small, et al., 2004).

The European studies do not show quantitative results, and thus the findings are not conclusive in showing a positive difference in public drug use after the opening of an SIF. The study in Boston shows that needle exchanges do not increase the amount of discarded needles. The Vancouver study produced qualitative results, but is the only study of its kind. Definitive conclusions cannot be made with so few studies. It is possible that SIFs in some areas are more successful in reducing public nuisance than in other areas. I would suggest that more studies of this nature and with longer follow-up should be conducted to provide further support to the findings.

4.12 STABILIZATION OR REDUCTION OF LOCAL CRIME LEVELS

The establishment of SIFs is accompanied by concerns that they will attract more drug users to the area and increase crime. There have been few studies conducted to address the topic of crime levels related to the opening of an SIF; however, the studies that do exist show that SIFs do not lead to an increase of crime in the area. There have been some studies related to crime conducted for European SIFs; however, they are not documented in the English language. Information was found for three SIFs in Europe, those located in Groningen, Netherlands; Beil, Switzerland; and Geneva, Switzerland. The studies of crime related to the SIFs in each of these locations found that the presence of the SIFs did not lead to an increase in crime in any of these locations (Hedrich, 2004).

In Sydney, a single study was conducted to address the impact of the SIF in Sydney on crime. Acquisitive crimes – robbery and theft – were examined by acquiring police records from before and after the opening of the Sydney SIF. It was found that there was a significant

increase in acquisitive crimes just prior to the opening of the SIF, which was explained by a shortage of heroin during that time. After the opening of the SIF, the trends showed no increase or decrease in acquisitive crime rates (Freeman et al., 2005).

Similar to Sydney, there has only been a single study of the Vancouver SIF regarding the impact it has had on crime. The Vancouver study included assaults and vehicle break-ins as well as robbery and theft, because these criminal acts were attributed directly to the drug scene in that area. Rates of crime were determined by comparing the average number of monthly charges for each of the criminal acts listed before and after the opening of the Vancouver SIF. The comparisons were done using paired t-tests due to the fact that there were limited data points to compare. It was found that there were no apparent differences in the rates of crime for the two time periods (Wood, Tyndall, Lai, Montaner, & Kerr, 2006).

Even though there have been few studies regarding crime rates related to the opening of SIFs worldwide, all of the existing studies seem to be consistent in concluding that the opening of SIFs do not lead to an increase in crime. However, none of the studies looked at how police presence and practices may have had an influence on these results. Further studies should examine if police presence was increased when the SIFs were opened to determine if this was a factor in the levels of crime not changing.

4.13 COST EFFECTIVENESS ANALYSIS

The costs of illicit drug use to communities are very high and include providing care to IDUs with abscesses and other infections, and also in the cost of ambulances responding to overdose emergencies as well as the cost of drugs to treat those infected with diseases such as HIV. The

United States estimates the cost of drug treatment for a person infected with HIV to be \$25,000 per year (Schackman et al., 2006). With such high stakes financially, the cost effectiveness of interventions such as SIFs is of great importance. Resources are limited and funding should be allocated to the programs that give the best return. No information for cost/benefit analyses for European SIFs could be located; therefore, this section will only address the Sydney and Vancouver SIFs, both for which information regarding cost/benefit could be found.

The Sydney cost/benefit analysis compared current operation costs to assumed future operation costs. Several assumptions had to be made such as the value of death averted and the future costs of the SIF. Two estimates were calculated: a lower estimate and a higher estimate to account for assumptions made in value of deaths averted and future costs. The results found that the lower estimate had a cost ratio of 0.72 while the higher estimate had a cost ratio of 1.20. These estimates were based on the present operational capacity. Estimates for optimal operational capacity were 1.19 to 1.96 (MSIC Evaluation Committee, 2003).

The Vancouver SIF cost/benefit analysis used current operation costs, medical costs of HIV infection, and value of averted deaths in their analysis. Low figures were used for all values, and only tangible costs were considered in the value of averted death data. Four different mathematical models were used to determine odds ratios. The average odds ratios ranged from 3.0 – 8.04 with an average of 5.12 (Andresen & Boyd, 2010).

The Sydney study does not include benefits that were unquantifiable such as discarded needles or needle stick injuries. Thus, the estimates are not exact.

The Vancouver study shows a very clear benefit, greater even than that seen in Sydney. To provide a comparison, drug treatment programs typically have odds ratios of 1.33 – 4.34 (Andresen & Boyd, 2010). With this comparison in mind, it would appear that the Vancouver

SIF has a high economic benefit. However, for both studies, many assumptions had to be made, and future studies should try to define more of the unquantifiable benefits so that the results are more complete.

5.0 DISCUSSION

From the literature reviewed in this paper, it was found that most studies support the effectiveness of SIFs as a harm reduction strategy; however, it is difficult to evaluate SIFs because there are so many questions that still need to be answered regarding their effectiveness.

The types of studies that have been conducted at SIFs need to be examined. While there are longitudinal studies currently being conducted and some before and after studies have been conducted, most of the studies addressing the many issues regarding SIFs have been cross-sectional in nature. Cross-sectional studies provide a snapshot view of how things are at one point in time, but do not capture changes over time. Some studies used a before and after method to try to capture changes over time; however, it should be noted that the time period between the before and after was relatively short; in many cases consisting of only a few months. It would therefore be very important for more longitudinal studies to be performed in order to capture changes over time that could be very important in assessing the effectiveness of SIFs.

Another issue regarding studies is that so far, studies have been conducted at each SIF individually. I found no studies that looked at multiple SIFs to compare them to each other in order to identify variation between facilities. In the cost effectiveness studies critiqued in this paper, it was found that both the Vancouver SIF and the Sydney SIF fell within standards that would define them as successful; however, it should be noted that the difference between the two was rather dramatic. The odds ratios for the Sydney SIF were just within the successful range,

while the odds ratios for the Vancouver SIF were actually well above the successful range. This suggests that there are factors outside of what has been studied so far that may be affecting the cost-benefit success of SIFs. Why are these rates so different? Is the SIF in Vancouver being run more efficiently in some way? If so, could this same model be incorporated at the Sydney SIF? Could the same model be applied at other SIFs? Questions such as the ones posed here could be addressed in studies that compared various SIFs to one another. Comparative studies could also identify aspects of SIFs that need to be part of the core structure at each SIF, and those aspects that could vary from SIF to SIF and yet not diminish their overall effectiveness. I also think that there should be more collaboration among currently operating SIFs in order to share knowledge with one another. There are numerous literature articles published about European SIFs, but due to language barriers, that knowledge may not be shared equally. It would be helpful to establish some type of International symposium in order for the various countries that are interested in establishing SIFs to be able to share knowledge and experiences.

The claims in the studies need to be considered. All of the studies in this review indicated that the target population of IDUs is being reached; however, it should be noted that the majority of participants in the studies at both Vancouver and Sydney were white males. Is this truly a representation of the actual IDU populations of those cities? A study of drug abuse conducted in the United States in 2007 found that the average age of IDUs ranged from 35 – 49 years of age, that there are more male than women IDUs, and that the majority of IDUs were white (Armstrong, 2007). This study suggests that in the United States, there actually are more male IDUs, but this data only reflects on the IDU population of the United States, and does not explain why SIFs are not utilized as much by female IDUs. A study conducted in Vancouver found that HIV infection rates among women are about 40% higher than in men. This same

study found that the reason for the higher rate in women might be explained by the differences in male and female drug users. Women tended to be of Aboriginal ethnicity, younger, have more nonconsensual sex, and need help injecting (Spittal, 2002). SIF rules do not allow anyone to help another inject within the SIF. This could be one reason why there are fewer women IDUs that use the SIF for injecting.

A recent study of urban Aboriginal young people in Canada found that Aboriginal people are over-represented among IDUs. This study found that 55% of the participants had reported using injection drugs. The median age of this group was 23 years old, and 48% were female, and that females are twice as likely to inject drugs than their male counterparts (Miller et al., 2011). This study supports the idea that women as a group are not being effectively reached by the Vancouver SIF, but it also suggests that race is a serious issue that has not been addressed by any studies of the Vancouver SIF. The characterization study found that only 18% of those that utilized the Vancouver SIF were Aboriginal (Wood, Tyndall, Qui, et al., 2006). There is clearly a discrepancy between how many Aboriginal people use drugs and how many Aboriginal people are utilizing the Vancouver SIF. It is also possible that the Vancouver SIF is not culturally competent in its ability to reach the Aboriginal population. Cultural competency would be an important issue to study in relation to SIF implementation in other places. I found no studies that addressed this issue directly, and both the Vancouver and the Sydney characterization studies only differentiated between Aboriginal and Non-Aboriginal peoples. There could be a very broad range of differences among both of those groups that could hinder the ability of SIFs to effectively reach those populations. These findings suggest that both race and gender can influence the effectiveness of SIFs in reaching their total target population. Future studies are needed to determine how to compensate for this disparity.

It may seem obvious that SIFs should be located near the population that they are targeting; however, it may be possible that the low numbers of Aboriginal people utilizing the Vancouver SIF could be partially explained by the fact that the SIF is not located in an area close to where most of the Aboriginal people live. The Vancouver SIF is located in the heart of the open drug scene in Vancouver. Placing SIFs in the middle of open drug scenes makes sense, since that would be the place that a majority of IDUs would have easy access to such a facility; however, cities are often delineated by cultures and race. The study discussed here referred to urban Aboriginal people, and it is possible that they are grouped into neighborhoods within urban settings, and that those neighborhoods are not located within convenient range of the Vancouver SIF. While it is not expected that a single SIF would be able to reach an entire city's population of injection drug users, it would be important to know exactly which population was to be targeted and then plan the location accordingly.

The characterization studies indicate that a certain age group tends to utilize SIFs; however, this does not reflect all age groups of IDUs. The characterization studies in Vancouver, Sydney, and in Europe show a similar range of 30-40 years of age for the majority of IDUs that utilize those SIFs on a regular basis (Hedrich, 2004; MSIC Evaluation Committee, 2003; Wood, Tyndall, Qui, et al., 2006); however, several recent studies suggest that the profile of IDUs is changing. A recent report of drug use in Australia shows that young people are less likely to use heroin or cocaine and more likely to use pharmaceuticals and ecstasy (Roxburgh, Ritter, Grech, Slade, & Burns, 2011). These results suggest that the administration of SIFs need to be aware of this difference of age demographic and may need to modify their focus to attract the younger IDUs.

I found an interesting reference in a European report on SIFs that suggested that most users of SIFs in Europe are men, except in those SIFs that are specifically for drug-using sex workers (Hedrich, 2004). This suggests that SIFs can be tailored for target populations based on socio-demographic factors such as race, gender, location, and age. Tailoring SIFs to specific populations may seem to be overcomplicating the issue; however, it seems reasonable that if an SIF is going to be established, and if it is to be effective, then tailoring the SIF to the particular population based on the location, racial makeup, and other socio-demographic factors would be very important. It may be that in Vancouver, there is a real need for a second SIF that is formed with the Aboriginal culture in mind and placed in a location that is central to Aboriginal populations within the city. Studies of SIFs tailored in such a way should be designed and conducted in order to determine if the idea that a “one-fits-all” style of SIF is sufficient, or if tailored SIFs are more effective.

Public health significance should be considered. Studies in both Vancouver and Sydney found a dramatic reduction in occurrences of overdose and mortality from overdose. The Vancouver SIF has experienced 0 overdose deaths since its inception (Kerr et al., 2006). SIFs also appear to have the potential to reach a population that is known to be associated with the transmission of serious diseases such as HIV and HCV. The lifetime cost for treatment of HIV with antiretroviral drugs (ART) in the United States is between \$300,000 and \$600,000 (Schackman et al., 2006). Lifetime treatment costs would be different in each country, depending on the resources available and the type of treatment approved in those countries. The potential of SIFs to aid in the reduction of overdose deaths and the transmission of infectious diseases such as HIV and HCV that are very expensive to treat, suggests that SIFs could lead to a very significant public health outcome; however, public health resources are limited, and it has

yet to be proven that this potential would be reached. Again, more longitudinal studies need to be conducted in order to obtain specific mortality, transmission, and cost reduction outcomes.

Many of the studies evaluated in this paper suggest success because there was a reduction of risk behaviors or an increase in positive behaviors. It should be noted that simply because there is a reduction of something bad or an increase in something good does not mean that it is substantial. The question that should be carefully considered is: “How much of a reduction in risk behaviors or the increase of good behaviors warrants the title of success?”

It is important to point out that SIFs are different than needle-exchange programs. Some might think that SIFs are intended to replace needle-exchange programs; however, I feel that they should be incorporated as additional harm-reduction programs and not replacement programs. Needle-exchange programs and SIFs are similar in that they both focus on harm-reduction and both provide clean drug paraphernalia and referral to counseling and addiction treatment; however, there are differences. SIFs have been shown to prevent overdoses because IDUs using the facility are supervised and medical help is immediately available in overdose situations. Also, it is possible that each type of program attracts a different population of IDU. IDUs that are willing to use an SIF may be more ready and willing to seek counseling or treatment, while IDUs that utilize needle-exchange programs may not be as ready to seek treatment, or may not be as comfortable with that type of environment. Finally, SIFs are operated in a permanent location that requires IDUs to come to the SIF to utilize it. Needle-exchanges can be operated from permanent locations as well, but often are operated from a van that goes to locations that are frequented by IDUs. These differences suggest that both types of programs are needed to reach all IDU populations; however, studies should be conducted to provide evidence to confirm that both types of programs are both needed and necessary.

While SIFs are generally accepted in many European countries, there is much resistance to the idea in North America. Many would say that SIFs will never be implemented in America; however, it was not long ago, that the same thing was said about needle exchange programs, but there are currently many such programs in America, and they are much more accepted now. Implementation of SIFs in America could not happen without great change. First, it would need to be recognized that the current approach, the “war on drugs” has not produced the desired result, but has instead driven the drug industry underground and possibly even made the problem worse.

Next, how drug abuse is viewed would need to change from the prevailing moralistic and punitive views to ones that humanize drug addiction, realizing that drug addicts are people too, and finding ways to work within the situation instead of against it (Hathaway & Tousaw, 2008). Finally, there would need to be a significant amount of policy change. Currently, laws and law enforcement do not work well with SIFs, when drug users may fear that they will be arrested for possession of drugs as they approach an SIF. Staff members may also be fearful of legal action against them for aiding in unlawful behavior of drug addicts. Both the Vancouver SIF and the Sydney SIF had to obtain special legal exemptions from drug laws in their respective countries (Wood, Kerr, Tyndall, & Montaner, 2008) (MSIC Evaluation Committee, 2003). The fact that these exemptions were obtainable suggests that change is possible, but it also highlights that there are many legal obstacles that require changes to existing policies before SIFs could be implemented without fear of legal repercussions in many countries, including America.

Finally, Healthy People 2020 (goals set by the United States Department of Health and Human Services to promote health and prevent disease) defines four main goals:

1. Increase quality of life free from preventable disease

2. Improve health equality among all populations
3. Promote good health through positive social and physical environments
4. Promote healthy behaviors (Center for Disease Control and Prevention, 2011).

The studies examined in this paper suggest that SIFs could play an important role in helping to achieve the goals of Healthy People 2020; however, the questions posed here, and many others, need to be answered before any definitive conclusions can be drawn regarding the effectiveness of SIFs as a harm reduction strategy.

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