INJECTION SETTINGS AND DRUG-RELATED HARM IN VANCOUVER, CANADA

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ABSTRACT

Ecological approaches to addressing injection-related risk seek to reduce drug-related harm by identifying and removing environmental barriers to risk-reduction. While the settings where drugs are injected represent a key location for these efforts, further knowledge regarding the role of injection settings is required to understand and address context-specific barriers to risk-reduction. This thesis sought to employ the risk environment framework and use ethnographic methods to examine two key types of injection settings, public injection venues and a local supervised injection facility (SIF), in the Downtown Eastside (DTES) of Vancouver, Canada.

Ethnographic fieldwork, including naturalistic observation of activity within drug use settings and 50 in-depth interviews with local injection drug users (IDUs), generated information regarding local public injection settings and the SIF. Generating detailed descriptions of the settings investigated, and the use of analytical approaches drawing on the risk environment framework, permitted identification of the influence of various ecological forces upon risk production/reduction in relation to these settings.

In Vancouver, public injecting often occurs in spaces characterized by unsanitary conditions and a lack of adequate amenities for hygienic injecting, where the threat of street violence or arrest impedes individual ability to employ safer injecting practices. While the SIF fosters risk-reduction by addressing many of these contextual features which pose barriers to safer injecting, the perspectives of IDUs emphasise that they inject at the facility because it addresses multiple salient risk priorities, including health concerns as well as "everyday risks" associated with injecting. A contextualised understanding of the operation of Insite highlights how the ***interactions*** between macro-level forces (e.g., regulatory mechanisms), operational features of the facility, and the local drug using context shape utilisation of the SIF by local IDUs.

This work highlights the importance of developing contextualized understandings of injection settings in order to identify barriers to risk-reduction, and inform the development of safer injecting environments. While initiatives fostering injection safety within existing injection settings must be pursued, these should be complemented by efforts to remove barriers to accessing SIFs.

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DEDICATION

To my parents.

CO-AUTHORSHIP STATEMENT

This statement is to certify that the work presented in this thesis was conceived, written and disseminated by the PhD candidate. The co-authors of the manuscripts that partially constitute this thesis made contributions only as was consistent with committee or collegial duties. The co-authors reviewed each manuscript prior to submission for publication and offered critical evaluations; however, the student was responsible for overseeing and conducting data analyses, preparing the initial drafts of all manuscripts. In addition, the candidate was responsible for revising the manuscripts based on the suggestions of the co-authors, submitting manuscripts for publication and preparing final revisions based on the comments of the journal editors and external peer reviewers.

CHAPTER 1:

BACKGROUND, RESEARCH JUSTIFICATION, AND OBJECTIVES

1.1 Introduction

The settings where illicit drugs are injected represent a crucial dimension in the social-structural production of drug-related harm. Accordingly, there has been growing interest in the development of interventions that aim to create safer injection environments. However, existing research on injection settings and associated interventions has primarily been epidemiological in nature and focused on individual behaviour that is de-contextualised from the broader social-structural environment in which injection drug use occurs. Using an ecological perspective, in particular the 'risk environment' framework, as well as ethnographic research methods, this body of work seeks to build upon past research on injection settings by: providing a detailed contextualised understanding of public injection settings in Vancouver, exploring injection drug users' motivations for injecting within a sanctioned supervised injection facility, and examining the influence of regulatory forces and the operational characteristics of Vancouver's supervised injection facility on access to its program. Contextualised understandings of injection settings in relation to local risk environments will serve to inform the development of appropriate strategies to reduce injection-related risk in unregulated settings, as well as help to identify barriers to safer injecting environments that enable risk reduction.

1.2 Injection Drug Use, HIV and Drug-related Harm

Current estimates indicate that over 15 million individuals worldwide inject drugs (Aceijas et al., 2004; Mathers et al., 2008), and that a third of new HIV infections outside of Africa result from injection drug use (UNAIDS, 2006). These trends indicate that the injection of illicit drugs continues to play a major role in driving the global HIV

epidemic, as well as the elevated prevalence of HIV in Canadian cities, most notably Vancouver and Montreal (McInnes et al., 2009; Bourgois & Bruneau, 2000). There is great variation between the character of drug 'scenes' across different settings in terms of the drugs consumed, common injecting behaviours, and availability of preventative and harm reduction interventions (Rhodes, 2002; Institute of Medicine, 2007; Aceijas et al., 2004). However, regardless of differences across these environments, significant health consequences stemming from injection drug use include infection with the blood-borne viruses HIV and hepatitis C, fatal and non-fatal drug-related overdose, as well as bacterial and viral infections related to unhygienic injection practices (Mathers et al., 2008; Aceijas & Rhodes, 2007; Warner-Smith, Darke & Day, 2002).

1.3 Public Health Interventions and Injection Drug Use

A range of public health programs target IDUs and seek to address negative health outcomes related to injection drug use. These include initiatives providing: targeted primary health care through community clinics, health outreach in street settings, voluntary HIV/HCV testing and counselling, safer injection education, access to sterile syringes, methadone maintenance therapy and buprenorphine substitution therapy, overdose prevention education, and the prescription and distribution of naloxone to drug users (Institute of Medicine, 2007). While some of these programs aim to increase access to and uptake of health services among IDUs, minimising various forms of injection-related harm, including blood-borne virus transmission, viral and bacterial infections, and morbidity and mortality stemming from drug-related overdose, represent primary objectives for public health interventions seeking to promote risk-reduction.

The dominant public health response to the harms associated with injection drug use has involved delivering educational interventions intended to modify individual

behaviour (Rhodes, 1997; Rhodes, Singer, Bourgois, Friedman & Strathdee, 2005). The limitations of such approaches have been increasingly recognized, and estimates indicate that individual-focused interventions can at best reduce HIV risk behaviours by 25 to 40% (Heimer, Bray, Burris, Khoshnood & Blankenship, 2002). Recognition that injection-related risks are partially shaped by social, structural and environmental influences beyond the control of individuals (Moore & Dietze, 2005; Galea & Vlahov, 2002) has led to calls for structural interventions that alter "the context in which health is produced or reproduced" (Blankenship, Bray & Merson, 2000). Interventions that target the social, economic and political forces that "shape and constrain, individual, community, and societal health outcomes" (Blankenship et al., 2000) recognize the importance of concomitantly altering the risk environment (while complementing ongoing individual-focused education) and that this broader approach may "enable" individuals to adopt risk-reduction strategies (Rhodes et al., 2005; Moore & Dietze, 2005).

Providing sterile syringes to IDUs is a public health strategy that targets both social relations (e.g., syringe sharing between individuals) and structural issues (e.g., limited access to essential prevention materials) to reduce infectious disease risks (Blankenship et Al., 2000). State-sanctioned and "underground" needle exchange programs (NEPs) are an important mechanism through which sterile syringes are supplied to IDUs. However, these initiatives have not been implemented as widely as educational prevention efforts (Institute of Medicine, 2007). The availability of NEPs varies widely across settings, and their implementation depends heavily on national drug policy and relevant regional legislation (e.g., the legality of syringe possession) (Bluthenthal, Kral, Lorvick & Watters, 1997; Burris et al., 2004). However, even where needle exchange is state-sanctioned, social-structural contexts heavily influence the capacity to provide IDUs with sterile syringes, as law enforcement initiatives may

discourage injectors from carrying syringes (Koester, 1994; Burris et al., 2004) and the marginalization of IDUs creates further barriers to engagement with public health programs (Rhodes, 2002; Rhodes et al., 2005).

1.4 Injection Settings and Drug-related Harm

A reliance on technical, *objective* assessments of individual risk that de-contextualise behaviours from the environments in which they occur impedes the development of effective and comprehensive intervention strategies (Rhodes, Stimson & Quirk, 1996; Duff, 2003; Rhodes, 2009). Rhodes' (2002) "risk environment" framework represents an explicitly ecological model of injection-related risk, and its adoption within the field of substance use research has brought increased recognition of how social, structural, economic and political conditions shape both the potential for drug-related harm, as well as opportunities to attenuate risk (Rhodes et al., 2005). As a heuristic tool, the risk environment framework emphasizes how environmental conditions in specific locales shape the character of local drug use, as well as responses to injection drug use, and the impact of the interventions that are implemented. Risk in this framework is defined as the product of complex and dynamic interactions between individuals and micro-, meso-, and macro-level features of the social, economic, physical and political environment(s) in which drug use occurs (Rhodes, 2002; Rhodes et al., 2005). The interactions amongst differing environmental levels and types of influence have been shown to exert a great influence upon the course of blood-borne virus epidemics, the distribution of disease within drug user populations, and the impact of public health interventions (Rhodes et al., 2005).

The risk environment framework represents an explicit attempt to correct the over-emphasis on individual level behaviour characterizing public health perspectives on drug use, and was formulated as a tool for guiding the development of effective

responses. Considering local drug scenes as particular risk environments permits the identification of factors that function to "produce" drug-related harms and undermine the impact of existing protective or harm-reduction interventions, while enhancing the development of non-individually focused interventions (Rhodes et al., 2005). In drug use research, risk is increasingly conceptualized as being socially constructed and socially mediated (Rhodes, 2009). Modifying contextual features to target social-structural factors implicated in the production of drug-related harm is a growing priority for interventional efforts.

Although macro-level structural forces, including legal frameworks which criminalize drug use, represent important determinants of health among IDUs (Burris et al., 2004; Rhodes et al., 2005), the role of contextual influences that operate at more micro-levels within the settings where drugs are injected also are being recognized as important research and intervention foci (Kerr, Kimber & Rhodes, 2007). The micro-environments where drugs are injected (i.e., *injection settings*) play a unique role in the social-structural production of injection-related risk (Rhodes et al., 2005) and represent a strategic location for interventions seeking to reduce drug-related harm (Rhodes et al., 2006; Weeks et al., 2001). Injection settings consist of the immediate physical environment and social context in which consumption occurs, but are also influenced significantly by the wider socio-cultural context (Moore, 1993). Research examining settings where drug users customarily inject reveals that the social context and physical environment shape potential for harm by either facilitating risk reduction practices, or limiting individual ability to adopt such strategies (Rhodes, 2002; Ouellet, Jimenez, Johnson & Wiebel, 1991; Page, 1990). Potential for harm in these venues is heavily influenced by the availability of sterile syringes at both the neighbourhood level (Singer et al., 2000) and within the settings where drugs are actually injected (Page, 1990; Ouellet et al., 1991). In addition, the ability to enact safer injecting routines without

disruption is impacted by the character of the location where the injection occurs; heightened potential for interruption in the midst of the injection process also may reduce individual ability to enact risk-reduction measures (Rhodes et al., 2006). Ethnographic research examining the contexts where drugs are consumed suggest that injection settings represent an important site where IDUs navigate multiple and sometimes competing forms of drug-related harms (Dovey, Fitzgerald & Choi, 2001; Rhodes et al. 2006).

While the influence of the physical environment and social context of injection settings upon risk is recognized, there is a lack of detailed description and contextualized understandings of such settings within the international literature (Rhodes et al., 2006). Although "shooting galleries" and prison environments have been extensively examined (Carlson, 2000; Ouellet, Jiminez, Johnson, & Wiebel, 1991; Sarang et al., 2006; Small et al., 2005), other types of injection settings, including the public injecting venues that exist in many cities, have not been adequately documented and analysed (Carlson, 2000; Rhodes et al., 2006).

1.5 Contemporary Research on Injection Drug Use

Research, especially conventional epidemiological research, examining injection drug use has predominantly used quantitative methods to examine the correlations between demographic characteristics, patterns of drug use behaviours, and drug-related harms (e.g., HIV and hepatitis C infection; overdose) (Rhodes, 1997; Rhodes et al., 2005). However, these approaches have not provided in-depth understanding of the impact of social, structural and environmental forces on the production of drug-use related health risks and harms. Ecological perspectives inform the current study, which aims to investigate how cultural (e.g., situated risk perceptions among injectors), structural (e.g., legislation and policy shaping the delivery of harm reduction

programs), and spatial (e.g., physical context of particular injecting environments) aspects shape injection drug use and drug-related harms (e.g., HIV).

Within the fields of public health and drug research, there is a significant move towards exploiting ethnography's capacities to provide essential information regarding the lived experience of drug injectors, as well as the social processes and structures that shape these experiences and the potential for drug-related harms. Emerging "environmental perspectives" have yielded important insights regarding the social-structural production of risk (Moore & Dietze, 2005; Rhodes, 2002), and the potential for undertaking structural interventions to reduce drug-related harm – particularly injection-related harms. While some research has documented associations between specific forms of drug-related harm and particular injecting environments, the comparative impact and mediating characteristics of *all* injection settings, especially within the Canadian context, have yet to be fully investigated (Rhodes et al, 2005; Celantano et al., 1991; Latkin et al., 1996).

1.6 Safer Injecting Environment Interventions

Recognition of the significant role played by injection settings in the production of drug-related harm has led to a focus on interventions targeting drug consumption venues. While a range of structural interventions may influence the character of local injection settings, "safer injection environment interventions" represent explicit attempts to alter contextual features to reduce risk in venues where drugs are injected (Rhodes et al., 2006). Some safer injection environment interventions target existing venues where IDUs inject, while another approach involves the creation of purpose-built drug consumption venues. Both approaches seek to minimize "the likelihood of police or public interference, the disruption of injecting safety and hygiene routines and the need for hurried or hasty injection" (Rhodes et al., 2006). They also maximize

opportunities for reducing injection-related risk by enhancing the availability of sterile injecting equipment, sterile water, adequate lighting, clean working surfaces, and syringe disposal. Interventions directed at modifying conditions within existing injection settings have attempted to enhance access to sterile syringes, encourage syringe decontamination with bleach, or provide an element of monitoring within these venues (Weeks et al., 2001; Fitzgerald, Dovey, Dietze & Rumbold, 2004; Rhodes et al., 2006).

Purpose-built venues where IDUs can inject are commonly referred to as supervised injection facilities (SIFs) (Broadhead et al., 2002), which provide a sanctioned space for the hygienic consumption of pre-obtained drugs in a non-judgmental environment under professional supervision (Hedrich, 2004; Kimber, Dolan, van Beek, Hedrich & Zurhold, 2003). The earliest SIFs were established in Switzerland, Germany and the Netherlands during the 1980s, and during the past decade SIFs have also been established in Spain, Australia, and Canada (Hedrich, 2004).

1.7 Injection Drug Use in Canada and Vancouver's Downtown Eastside

An estimated 120,000 Canadians inject drugs (Federal, Provincial, and Territorial Advisory Committee, 2001). As in other settings, injection drug use within Canada is associated with various adverse outcomes including infectious disease, overdose, loss of economic and social functioning, criminal activity, engagement with the criminal justice system and incarceration (Tyndall et al, 2001; Fischer et al., 2004; Wood, Kerr, Spittal, O'Shaughnessy & Schechter, 2003a). Elevated rates of infection with HIV and the hepatitis C virus (HCV) have been identified among IDUs in Vancouver and Montreal (Wood et al., 2001; De, Jolly, Cox & Boivin, 2006). Fatal drug-related overdose is a major cause of mortality among Canadian IDUs (Tyndall et al., 2001), and high rates of non-fatal overdose have been identified among IDUs in a number of Canadian cities (Kerr et

al., 2007a; Fischer et al., 2004). Cutaneous infections, including cellulitis and abscesses may result from unhygienic injection practices (Lloyd-Smith et al., 2005) and represent a leading cause of hospitalization and emergency room visits among IDUs (Palepu et al., 2001; Kerr et al., 2004).

Approximately 15,000 individuals who inject drugs live in the Vancouver area, representing between 11% and 18% of the total number of IDUs in Canada (McInnes et al., 2009). Vancouver's Downtown Eastside (DTES) is a low-income neighbourhood where a range of health and social problems exist, many of which are linked to injection drug use (Wood & Kerr, 2006). The current health and social problems in the DTES have been shaped by the public policies of previous decades which greatly reduced the availability of social housing and concentrated a large population of highly marginalized individuals within a small geographic area (Wood & Kerr, 2006). A unique risk environment emerged in the DTES which featured a large open drug market and outdoor injecting scene, an active sex trade, as well as large numbers of drug users living within sub-standard housing in single room occupancy (SRO) hotels (O'Shaughnessy, 2009; Wood & Kerr, 2006). In combination with increasing levels of cocaine injection and inadequate levels of syringe access among local injectors (Wood et al., 2007a), these environmental conditions provided opportunities for rapid HIV spread among IDUs in the DTES (O'Shaughnessy, 2009; Wood & Kerr, 2006).

In 1997, elevated levels of HIV infection emerged in the DTES and an annual HIV incidence rate of 18% was identified among IDUs (Strathdee et al., 1997). Approximately 17% of the IDU population in the DTES are HIV positive (Tyndall et al., 2006a), and over 80% are infected with HCV (Wood and Kerr, 2006). In addition, large numbers of local injectors have died of drug-related overdoses (Wood et al., 2001; Tyndall et al., 2001). Cocaine injection has been identified as playing a particularly important role in the local HIV epidemic as epidemiological analyses have found that

individuals who frequently inject cocaine are more likely to become HIV positive, and intense cocaine injection is a strong predictor of HIV infection among local injectors (Tyndall et al., 2003).

A NEP began operating in Vancouver in 1988, and epidemiological research conducted as HIV was first emerging among local injectors documented that frequent use of this NEP was associated with increased odds of HIV infection (Strathdee et al., 1997). While that particular study ignited a debate regarding the effectiveness of NEPs in preventing HIV, the study findings can be explained by the fact that individuals who utilized the exchange on a daily basis were more likely to be cocaine injectors and display other markers associated with elevated HIV risk, including being homeless or residing in an SRO, as well as participation in sex trade activities (Wood et al., 2007a). Subsequent analyses determined that when models are adjusted to control for confounding factors including cocaine injection and other risk factors, the association between daily NEP use and HIV infection does not reach conventional statistical significance (Wood et al., 2007a).

While methodological refinement has untangled the association between frequent NEP use and HIV infection (Wood et al., 2007), increased consideration of the influence of the local context and features of the local needle exchange have also helped clarify why HIV spread so rapidly in the DTES despite the operation of the NEP. Operational and programmatic features of the local NEP reduced its ability to provide local injectors with adequate access to syringes (Wood et al., 2002a; Wood et al., 2002b; Spittal, Small, Wood, Johnston & Schechter, 2003). The program was governed by a strict unitary exchange policy (which provided 1 new syringe for each used syringe returned), had limited operation during night-time hours, and covered only a restricted geographical area (Spittal et al., 2003; Wood & Kerr, 2006) at the time the Vancouver HIV epidemic emerged. These programmatic features resulted in difficulty in accessing

syringes for many local IDUs, particularly cocaine injectors, and a number of epidemiological analyses have identified difficulty in accessing syringes as a primary factor driving syringe sharing locally (Wood et al., 2002a; Wood et al., 2002b). Additionally, large numbers of injections were taking place within SRO hotels, where syringe availability was low, and $10 re-entry fees for residents and guest fees for visitors discouraged individuals from leaving hotels to obtain sterile syringes during evening and night time hours (O'Shaughnessy, 2009; Wood & Kerr, 2006). In response to the public health issues related to inadequate syringe access in Vancouver, policies and programs were modified in 2002 to expand access to syringes through a needs-based "distribution" model (Small et al., 2008), which no longer supplied new syringes based upon the number returned but rather provided syringes as requested by drug users (exchange of used syringes for new ones was no longer required). Additionally, more needle exchange outlets were established and local health clinics also began to distribute syringes. These efforts have largely addressed the previously identified barriers to acquiring syringes, and appear to have contributed to reductions in syringe sharing and HIV incidence among IDUs in Vancouver (Kerr et al, In Press).

It is clear that a broad range of social, structural, and environmental factors interacted to influence the ability of the Vancouver NEP to provide local injectors with access to sterile syringes. While NEPs vary widely in their design, operation, and program delivery (Small, 2005), important variations between programs as well as the contexts in which they operate have not been adequately considered in the discussion of needle exchange as an HIV prevention measure (Bourgois & Bruneau, 2000; Kral & Bluthenthal, 2003; Rhodes et al., 2005). The emergence of the Vancouver HIV epidemic has been cited as an important example of how the potential for drug-related harm is shaped by local environments, and as well as how interventions are impacted by the context in which they are deployed (Rhodes, 2002). The lessons learned regarding the

Vancouver needle exchange exemplify how features of the local environment can limit the impact of public health interventions (Rhodes et al., 2002), highlighting the importance of understanding contextual and programmatic factors shaping program coverage, barriers to accessing services, and the limitations of particular aspects of interventions.

Within the DTES, injecting behaviour occurs within three primary types of injection setting: public injection settings (located in streets, alleyways and parks), SRO hotels, and Insite (the local SIF). A large volume of public injecting has historically occurred in the DTES, and outdoor venues where drugs are injected represent a key local injection setting (Wood & Kerr, 2006). Among a community-recruited sample of IDUs in Vancouver, approximately 22% reported frequently injecting in public venues (DeBeck et al., 2008). Public injection settings are often utilized because drug users lack access to private space to inject drugs, due to homelessness or an inability to perform injections within their living quarters (Rhodes et al., 2006; Ouellet et al., 1991). IDUs often expedite injection processes in order to reduce exposure to police or street-predators within public injection settings (Maher & Dixon, 1999; Small et al., 2006). Existing research from other settings indicates that public injecting often occurs in hidden locations, which reduces the potential that individuals will be discovered and assisted when overdoses occur, due to a lack of witnesses who can call for emergency assistance (Dovey, Fitzgerald, & Choi, 2001). These features of public injection settings partially explain why public injecting, in a range of countries, is associated with increased risk for abscesses, injection-related vascular damage, syringe sharing, and HCV infection (Klee & Morris, 1995; Suh, Mandell, Latkin & Kim, 1997; Latkin et al., 1994), as well as greater potential for non-fatal overdose (Klee & Morris, 1995; Darke, Kaye & Ross, 2001).

While mobile needle exchange services and health outreach programs regularly visit public injection settings in Vancouver, a number of law enforcement efforts have intermittently increased police presence within public injection venues over the past decade (Wood et al., 2004a; Wood et al., 2003b). These initiatives have resulted in unintended public health impacts among street-based injectors, including decreased access to health services and sterile syringes, as well as the adoption of high-risk injecting practices within public injection settings during periods of increased police presence (Small et al., 2006). In addition, increases in police presence have resulted in displacement of outdoor injecting behaviour, with injectors temporarily re-locating to different venues within the DTES (Wood et al., 2004a), as well as geographic locations outside the neighbourhood (Small et al., 2006).

In cities throughout the world, a large proportion of local IDUs regularly inject within public settings (Bless et al., 1995; Rhodes et al., 2006), but there is a lack of detailed information describing the extent and character of public injection settings in the DTES. While the majority of research examining public injecting has focused upon health risks, fewer studies have examined the lived experience of public injectors by exploring drug user narratives regarding injection in public venues, or the social meaning of injecting in public places (Rhodes et al., 2006; Rhodes et al., 2007).

1.8 Supervised Injecting in Vancouver

In response to the public health crisis among local IDUs, a government-sanctioned SIF was opened in Vancouver in September 2003 (Wood et al, 2004). The facility operates legally under an exemption under Section 56 of the Canadian Controlled Drugs and Substances Act, and was established as a pilot project to scientifically evaluate the impact of supervised injection (Wood et al, 2006). The stated objectives of the facility are to reduce overdose and infectious disease risks, facilitate

increased uptake of health services among injectors, and address public injection drug use and unsafe disposal of used syringes in public spaces (Wood et al., 2006). The Vancouver SIF, known as Insite, is a three-stage clinical-model SIF consisting of a reception area and waiting room, an injecting room, and a "chill-out" lounge where clients can spend time prior to exiting to the street (Broadhead et al, 2002; Wood et al., 2006). The injecting room has 12 individual booths where IDUs inject pre-obtained illicit drugs under the supervision of nursing staff who respond to onsite overdoses and provide other nursing care to SIF clients (e.g., wound care). The facility provides addiction counselling onsite as well as referrals to health and social services and multiple forms of addiction treatment (Tyndall et al., 2006b).

Evaluation research has documented a range of impacts related to the Vancouver SIF. These include reduced levels of public injecting in the immediate vicinity of the facility (Wood et al., 2004b), reductions in syringe sharing among IDUs who utilize the SIF (Kerr et al., 2005), and reduced levels of participation in public injecting among Insite clients (Petrar et al., 2007). Use of the facility has resulted in increased uptake of detoxification services and addiction treatment among SIF clients (Wood et al., 2007b). It appears that the service model addresses barriers to service commonly experience by IDUs (Small et al., 2009); and, large numbers of IDUs are referred to health and social services by Insite staff (Tyndall et al., 2006b). Insite has successfully managed over 1000 overdoses since opening, and a mathematical model suggests that the facility prevented between 8 and 51 fatal overdoses over 52 months of operation (Milloy et al., 2008). However, the effectiveness of the SIF in addressing all aspects of its clients' needs is affected by many factors, including current federal guidelines that prohibit assisted injections and the division of drugs by clients within the SIF (Wood et al., 2006). Both of these practices are common among local injectors, with approximately one-third of local injectors regularly requiring assistance with injections (Wood et al., 2003c). This

particular behaviour, receiving assistance with injection, has been associated with heightened risk for HIV-infection among Vancouver IDUs (O'Connell et al, 2005).

1.9 The Need for Ethno-epidemiological Approaches

Improved understandings of injection-related risk and drug-related harm among IDUs require further information and knowledge regarding relationships between individuals and specific risk environments (Rhodes, 2009), as well as the interaction between injection settings and drug consumption behaviours (Rhodes et al., 2006). We lack detailed knowledge regarding local injection settings in Vancouver, including public injecting venues and the SIF in the DTES, and how these relate to the production or reduction of drug related harm. Improved understandings of both the supervised injection setting and the public injecting scene could make an important contribution to knowledge regarding the role of injection settings within the risk environment framework, efforts to develop tailored safer injection environment interventions and optimise SIFs, as well as understanding the operation of SIFs in relation to the wider risk environment in a specific locale. Public injection settings are common to urban drug scenes in North America, Australia, Europe, and Asia (Rhodes et al., 2006); however, the character of these venues and their impact upon drug-related harm and risk reduction has not been thoroughly investigated in many settings, including Vancouver. There is also a need for further in-depth documentation of the operation of the Vancouver SIF, as the international literature regarding SIFs does not include ethnographic research on the perspectives of IDUs who use these facilities (Rhodes et al., 2006), as well as detailed descriptions of their operations and the behaviour of clients within supervised injecting environments (Koester et al., 2005; Bourgois, 2002).

Ultimately, the processes *within* the SIF that might contribute to improved health outcomes are embedded in and intersect with the DTES environment as well as macro-

level policy and regulatory contexts. More research is needed to examine the relationships amongst the functioning of the SIF, the DTES risk environment, and the policy/regulatory context. To date, efforts to evaluate Insite have relied mainly on descriptive epidemiological research that employs quantitative techniques. While epidemiological approaches have been useful in describing important aspects of this complex phenomenon, the current dissertation uses ethno-epidemiological approaches to investigate *how* the social context and drug use patterns within the local risk environment of the DTES intersect with the legal and regulatory operating context of the SIF to affect clients' access to and experience of using the facility.

In order to develop contextualized understandings of injection settings in the DTES, this dissertation makes use of multiple methods and data sources. Ethnographic research is often mistakenly regarded as being solely "qualitative", when in fact ethnographic research commonly utilizes diverse sources of data including historical documents, institutional records, demographic information, and quantitative data (Moore, 2005). The convention of employing multiple and varied data sources reflects a desire to obtain a holistic understanding of the subject being studied within ethnographic research.

While the data analysed in this dissertation was primarily collected through in-depth interviews and naturalistic observation, additional forms of data were also collected and analyzed, including photographs, information generated through a structured environmental survey of public injecting venues, review of documents related to the regulatory framework governing supervised injecting in Canada, as well as quantitative data from the Insite database. These data were integrated by developing a detailed description of each type of injection setting, which drew on all of these types of data, to create the most complete and accurate understanding possible (Bluthenthal & Watters, 1995). Subsequently, as the analysis progressed, the influence of each type of

environmental influence (e.g., social or structural) was identified in order to illustrate how the interactions between various forces affects behaviour within these settings, as well as shaping the very character of the settings themselves. Employing both data triangulation and methodological triangulation (Janesick, 1998) within this project permitted unique insights into the injection settings examined, which resulted in greater understanding of these settings than would have been possible if only a single methodology or type of data had been utilised (Bluthenthal & Watters, 1995). Triangulating data from different sources also serves to reduce the potential for misinterpretation, which could occur if findings were based solely on data collected through a single method, which may provide a skewed impression of a particular facet of the phenomena being studied.

1.10 Research Objectives

The objectives of the current study are to:

1. Generate contextualised understandings of social relations and consumption practices within local injection settings in Vancouver, including public injection venues and the local supervised injection facility, and describe the relationship between these two settings;

2. Identify how various cultural, structural, and spatial forces influence social relations and consumption practices within these injection settings and shape the potential for drug-related harm;

3. Use the new information gathered in the current study to identify research opportunities and promising interventions that are informed by the local drug-injection environments as well as macro-level policy and regulatory contexts.

The current study used ethnographic fieldwork techniques, including observation of activity within drug use settings and in-depth interviews with local

injection drug users (IDUs). Observational work was undertaken to generate information regarding drug user activity within public injection settings and the local SIF, as well as the operation of the SIF. In-depth interviews with local IDUs were utilised to generate detailed understandings of IDUs' perspectives regarding these particular local injection settings, including the physical environment and social context. By generating detailed descriptions of the settings investigated, and using analytical approaches informed by the risk environment framework, the influence of various forces (e.g., local and distal) upon risk production/reduction in relation to these injection settings was documented.

The aforementioned objectives, and the research activities that flow from them, are informed by the perspective that public health research examining drug-related within injection settings has been characterised by an excessive focus on the relationship between knowledge of risk and risk avoidance, and by consequence an overemphasis on the individual as the primary unit of analysis. Throughout the research that follows, arguments and supporting data are presented to emphasise that assessments of risk in which individual behaviour is de-contextualised from the environment(s) in which it occurs impede the development of effective and comprehensive intervention strategies.

The settings where drugs are injected are known to play an important role in the social-structural production of injection-related risk, and therefore constitute important locations for intervention efforts. In the chapters that follow, it is argued that, in order to minimise the harm arising within injection settings and maximise the potential of interventions to promote safer injecting environments, understandings of injection settings and the associated harms must move beyond conventional "risk factor" analyses. Work in this area needs to encompass more detailed contextualised knowledge of risk behaviour and risk perceptions in relation to specific drug use

settings and related social, structural, economic and political conditions shaping the production and reduction of drug-related harm.

1.11 Organization of Dissertation

The dissertation consists of five chapters. Following this introductory chapter, the subsequent chapters aim to:

Chapter 2: Use data gathered through ethnographic fieldwork (e.g., field observations, photographs, in-depth interviews with IDUs, and a structured environmental survey) to describe public injection settings in Vancouver's DTES and to illustrate how these settings influence the situated risk perceptions of local injectors and the potential for drug-related harm.

Chapter 3: Use data from 50 in-depth interviews with IDUs who use the SIF, to develop an in-depth description of injectors' motivations for using the SIF and their perceptions regarding their experiences of using the facility.

Chapter 4: Use data generated through ethnographic methods (e.g., naturalistic observation within the SIF, in-depth interviews with SIF users, as well as analysis of documentation regarding the establishment and operation of the facility) to examine contextual and programmatic features influencing IDUs' access to the SIF and how these features are influenced by interactions amongst macro-level forces (e.g., regulatory mechanisms), specific operational characteristics of the facility, and features of the local drug scene.

Chapter 5: Synthesize the findings of the analyses presented in Chapters 2-4 and discuss recommendations and future research directions arising from this work.

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CHAPTER 2:

PUBLIC INJECTION SETTINGS IN VANCOUVER: PHYSICAL ENVIRONMENT, SOCIAL CONTEXT AND RISK[1]

2.1 Introduction

In cities where public spaces are used for the purpose of injecting drugs, concerns regarding community safety and public order frequently focus upon street-based illicit drug use (Bless, Korf, and Freeman, 1995; Fischer, Turnbull, Poland and Haydon, 2004; Wood, Kerr, Small, Li, Marsh, Montaner et al., 2004b). Drug related disorder plays a prominent role in prompting fears regarding the liveability of communities (Fischer, Turnbull et al., 2004; Fitzgerald and Threadgold, 2004; Rhodes, Kimber, Small, Fitzgerald, Kerr & Hickman, 2006), and public injecting scenes are often regarded "as a nuisance and a threat" (Broadhead, Kerr, & Altice, 2002). Urban regeneration and neighbourhood renewal initiatives often combine with community safety movements to highlight public drug and alcohol use as social problems to be eliminated (Cusick, 2007; Rhodes et al., 2006). While the visible signs of injection drug use negatively colour perceptions of community safety, evidence indicates that public injecting has a pronounced impact upon the risk management strategies and overall health of individuals who consume illicit drugs in public spaces (Klee and Morris, 1995; Rhodes et al., 2006). City-based interventions need to address public health and community safety concerns in ways that do not compromise the health and safety of street-based socially marginalized populations.

Existing epidemiological studies suggest that public injection settings can act as micro 'risk environments', contributing to an elevated pattern of drug-related harm

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[1] A version of this chapter has been published. Small, W., Rhodes, T., Wood, E., Kerr, T. (2007). Public injection settings in Vancouver: Physical environment, social context and risk. *International Journal of Drug Policy* 18: 27-36.

among injectors. Drug users who frequently inject in public have been found to display increased risk for abscesses, injection-related vein damage, syringe sharing, HCV infection and overdose (Latkin et al., 1994; Klee and Morris, 1995; Suh, Mandell, Latkin and Kim, 1997; Darke, Kaye and Ross, 2001). While public injecting settings, and injecting venues such as the 'shooting gallery', are increasingly noted as a 'risk factor' (Dietze, Jolley, Fry & Bammer, 2005; Koester, Glanz & Baron, 2005; Page and Llanusa-Cestero, 2006), we require greater understanding of how forces within these environments foster the production of drug related harm (Carlson, 2000; Rhodes, 2002; Rhodes, Singer, Bourgois, Friedman and Strathdee, 2005; Rhodes et al., 2006). Previously attention has focused specifically upon how 'context' in injecting environments influences the impact of harm reduction programs (Galea, Ahern and Vlahov, 2003; Smyth, Barry & Keenan, 2005), but more research exploring the 'lived experience' and social relations of injecting in public places is still needed (Carlson, 2000; Fischer, Rehm, Kim and Robins, 2002; Fitzgerald, Dovey, Dietze and Rumbold, 2004; Page and Llanusa-Cestero, 2006; Rhodes et al., 2006).

The limitations of educational and behavioural health interventions focused on the individual are now well established (Fee & Krieger, 1993; Karpati, Galea, Awerbuch and Levins, 2002), though such approaches have dominated responses to harm reduction associated with injection drug use (Moore and Dietze, 2005; Rhodes 1997). This has led to calls for harm reducing interventions that mediate the role that social, structural and environmental factors play in the production and reduction of risk (Bourgois, 1998; Bourgois & Ciccarone, 2003; Moore, 2004; Rhodes, 2002; Rhodes, Singer, Bourgois, Friedman & Strathdee, 2005). As public health perspectives have recognized the merits of an 'ecological' approach and interest in 'structural HIV prevention' has grown (Blankenship, Friedman, Dworkin & Mantell, 2006), commentators within the field of drug use and the addictions have emphasized the

potential of 'environmental interventions' that alter ecological conditions to facilitate the adoption of harm reduction strategies (Des Jarlais, 2000; Moore & Dietze 2005; Rhodes, 2002).

The physical settings in which drugs are injected comprise one aspect of the micro risk environment amenable to social and structural intervention, and this has led to calls for "safer injecting environment interventions" (Rhodes, et al., 2006). Research has shown how shooting galleries and prison environments act as critical environmental determinants of health among injection drug users (Celentano et al., 1991; Ouellet, Jimenez, Johnson & Wiebel 1991; Small, Wood, Jurgens & Kerr, 2005). Public injecting environments have not yet been sufficiently explored in relation to the production of risk and how social dynamics within such environments may act as mediators of risk (Rhodes, Singer, Bourgois, Friedman and Strathdee, 2005). Previous qualitative work examining public injection settings has described these environments, and emphasized that the presence of high risk behaviour makes them important sites to target with intervention efforts (Dovey, Fitzgerald & Choi, 2001; Weeks et al., 2001). We focus here on describing specific public injecting settings within Vancouver with the objective of exploring how public injecting settings mediate risk, and how existing city-based interventions can be strengthened to create safer injecting environments.

2.1.1 Background

The city of Vancouver's open drug scene is highly concentrated in the Downtown Eastside (DTES), a neighbourhood characterized by high levels of addiction and mental illness (Wood & Kerr, 2006). While low-cost housing is concentrated in the neighbourhood, a large population of homeless individuals is present and drug-related disorder has historically been a feature of the area. It is estimated that over 5,000 IDU reside within the DTES, and thousands of additional injectors regularly visit the

neighbourhood to purchase and consume drugs. Within the DTES, high levels of public injecting have customarily occurred and the majority of local injectors have previously reported injecting in public locations (Kerr et al., 2003b). This large public injecting scene has been the target of both public health and law enforcement initiatives in recent years (Wood, Kerr, Spittal, Li, Small, Tyndall et al., 2003; Wood, Kerr, Small, Spittal, O'Shaughnessy and Schechter, 2004; Wood and Kerr, 2006). Efforts to address the city's public injecting scene have included large scale police operations targeting drug-related disorder, as well as the establishment of North America's first supervised injection facility (SIF) in 2003 (Wood, Kerr, Strathdee, Spittal, Wodak, Tyndall et al., 2003). The SIF seeks to address the public health issues related to street-based injecting by providing an alternate venue for consumption (Wood, Tyndall, Spittal, Li, Kerr, Hogg et al., 2001), and the facility's ability to address public order issues by taking injectors "off the street" is a crucial dimension of its political appeal (Fischer, Turnbull et al., 2004).

Since its establishment, Vancouver's SIF has been found to have improved public order in the vicinity of the facility by reducing the levels of public injecting occurring, as well as the volume of injection-related debris (including discarded syringes) on the nearby streets (Wood, Kerr et al., 2004). The SIF has also attracted high risk injectors and facilitated a reduction in high risk injecting practices among users of the facility (Kerr, Tyndall, Li, Montaner and Wood, 2005). However, given the scale of Vancouver's open drug scene, a single 12 seat SIF has been able to address only a fraction of the public injecting behaviour that occurs in the neighbourhood. While the SIF may accommodate over 600 injections on a busy day, it is estimated that between 10,000 and 15,000 injections occur in the neighbourhood each day (Kerr, Tyndall, Montaner and Wood, 2004).

It is therefore unlikely that any single SIF will provide adequate coverage for all public injectors within a city or eliminate all high risk public injecting. In Vancouver,

the SIF has led to reduced levels of public injecting, though injecting in public spaces persists. It is therefore important to consider the need and scope for community-based interventions to work alongside SIFs by seeking to reduce harms associated with injecting in public settings. We therefore undertook preliminary ethnographic research to describe the physical locations utilized for public injecting within the DTES, and the conditions within these environments that influence injection practices, risk and drug related harm.

2.2 Methods

This study incorporated a structured environmental survey that involved the use of field observations to document the physical locations where public injecting occurs, and analyses of data from qualitative interviews with local injectors regarding public injection settings. This approach enabled the examination of public injection settings with regards to both the built environment and social context by combining data from field observations and IDU narratives regarding the utilization of these physical locations and their meaning. These research activities were undertaken as part of a larger, and ongoing, ethnographic investigation of public injecting that has also utilized participant observation within local public injection settings (Small et al., 2006).

2.2.1 Environmental survey

The use of a structured environmental survey identified the geographical distribution of public injection settings in Vancouver's DTES, and documented these physical locations through field observations and the use of photography. Based upon experience in previous ethnographic data collection activities (Spittal et al., 2004), a study area consisting of approximately 15 city blocks in the DTES was defined. The study area contained the majority of the neighbourhood's high intensity drug market

locations and the alleys where the greatest amount of outdoor injecting had previously been noted.

Field surveys were conducted by a member of the research team (WS) with experience in environmental surveying and mapping methods, and who had previously spent over 3 years conducting ethnographic research in the community. A detailed map of the city blocks comprising the study area was employed to record the presence of persons who were visibly injecting outdoors, publicly discarded syringes and injection related litter. These indicators of public injecting activity permitted the identification of key locales where public injecting frequently occurs. This methodology also allows for the identification of the geographical distribution of public drug using activity (Singer, Stopka, Siano, Springer, Barton, Khoshnood et al., 2000; Dovey, Fitzgerald et al., 2001; Wood, Kerr et al., 2004; Taylor, Cusick, Kimber, Hickman and Rhodes, 2006). Observations were made during daylight hours on a schedule that encompassed morning, mid-day, and afternoon outings on weekdays. We were unable to conduct observations during overnight hours due to limited human resources dedicated to this project. Structured surveys were originally undertaken in the fall of 2003, and were conducted on a quarterly basis until 2006.

We also utilized photographs in order to create a visual record of the physical locations where public injecting often occurs in Vancouver. The contribution that visual methods bring to qualitative and ethnographic drug use research, particularly with regard to describing and analyzing environments which influence risk and risk reduction practices, has been increasingly recognized (Rhodes, Briggs, Holloway, Jones and Kimber, 2006; Rhodes and Fitzgerald, 2006).

2.2.2 Qualitative interviews

In order to explore injectors' perspectives regarding injection settings and risk, this analysis drew upon data from 50 in-depth qualitative interviews conducted from November 2005 to February 2006. Interviewees were recruited from the Scientific Evaluation of Supervised Injecting (SEOSI) cohort of injection drug users in Vancouver (Wood, Kerr, Lloyd-Smith, Buchner, Marsh, Montaner et al., 2004). Interview participants were selected from among persons attending the research office for quantitative interviews on a daily basis, and recruitment efforts intentionally created a sample with differing levels of SIF utilization. Interviews were undertaken by three different trained interviewers (two male and one female) and facilitated through the use of a topic guide encouraging discussion of injection settings, injection practices, as well as perceptions of risk and safety within injecting environments. Interviews lasted between 40 and 80 minutes, were audio-recorded, and were later transcribed verbatim. Qualitative interview participants were reimbursed with an honoraria of $20 CDN to compensate them for their time. The research team discussed the content of the interview data throughout the data collection process, thus informing the focus and direction of subsequent interviews as well as developing a preliminary coding scheme for partitioning the data categorically. The content of transcribed interviews was catalogued using a coding framework focused on injection setting and our analysis here explores emergent thematic patterns in relation to public injecting.

The sample of qualitative interview participants was composed of 21 women, 28 men and one transgendered individual. The age of participants ranged from 25 to 60 years. Twenty-four participants reported injecting in public locations recently, and 16 participants reported both the SIF and public locations as settings where they regularly injected drugs.

2.2.3 Ethics

All participants in the qualitative study provided informed consent to participate, and the study was undertaken with appropriate ethical approval for all components granted by the St. Paul's Hospital/University of British Columbia Research Ethics Board. There were no refusals of the offer to participate in the interview and no drop-outs during the interview process.

2.3 Findings

2.3.1 Public injection settings: The physical environment

In Vancouver's DTES, public injecting activity occurs primarily within a large network of alleyways, which cross-cut the streets of the neighbourhood bisecting many city blocks (see Figure 2.1). While injecting activity also occurs in locations like carparks and abandoned buildings, public injecting is concentrated in extensive 'injecting zones' (Dovey, Fitzgerald et al., 2001) within the alleys. Although partially obscured from the street, alleyways accommodate vehicle traffic and are used by some residents as pedestrian walkways. The alleys also provide service access for businesses in the neighbourhood, as commercial loading and garbage removal take place here. A large volume of injections have customarily occurred in these alleyways, as drug related activities are out of the direct view of the public eye while in close proximity to important locations on nearby streets including drug markets and sources of sterile syringes. This network of alleys has traditionally been heavily patrolled by the Vancouver Police Department, and during enforcement operations targeting the open drug scene an even higher level of police presence is common (see Figure 2.2).

Within the DTES, it is common for injectors to use small recessed doorways and alcoves within the alleyways as "injection niches". These outdoor injection niches are highly marginal public spaces which have been appropriated for the purpose of illicit

drug use (see Figure 2.3). These spaces accommodate public injecting activities by providing limited shelter from wind and rain, thus permitting a degree of physical amenity when engaging in a 'fix'. These niches are not exclusively used for injecting; they are also used for smoking crack, as well as resting and sleeping. Injection niches are sometimes customized to provide better shelter or a greater measure of privacy, and often contain artwork and messages to friends or other members of the drug using community.

Given the lack of adequate surfaces for preparing injections, large garbage bins ('dumpsters'; see Figure 2.2) are often used as tabletops to prepare injections or to lay out equipment. There is a chronic shortage of public toilets in the neighborhood, which results in the alleys functioning as latrines, making these public injection settings highly unsanitary. During our survey activities, urine and faeces were often present within the alleys, particularly within 'niche' spaces. Although sterile water for injecting is provided through needle distribution outlets and programs, the lack of running water in the alleys prevents injectors from following suggested hygiene routines as there is no opportunity to wash one's hands or bodily injection sites prior to injecting.

The recessed alcove and doorway niches offer a limited amount of privacy as they are out of the sight from street, and are often obscured from view unless one is within a few metres. Some public injectors achieve a greater degree of privacy by using cardboard and other debris to create makeshift enclosures, as well as choosing hidden or well-camouflaged spots which better conceal their activities from the public, the police or other drug users. These spatial tactics were evident in one injecting niche in which the alcove was protected by a door that could be closed and locked from the inside, providing a concealed and functionally "private" location for injecting in one of the busiest and most heavily policed alleyways during an intense police crackdown (Small, Kerr, Charette, Schechter and Spittal, 2006).

Despite the attempts of injectors to locate semi-private injecting areas, a number of factors serve to actively deter the use of these public spaces including police patrols and the presence of security guards. Deliberate modification of the built environment, implemented by affected property owners, residents and businesses to discourage injectors, also functions to spatially regulate injecting activities in the alleyways. For instance, the hidden doorway described above offered a concealed location within the alleyway until the removal of the door panels eliminated the camouflage, making it less attractive for street-based users (see Figure 2.4). Other partial 'solutions' to the appropriation of space for injecting include the installation of fences and locked gates to prevent access to locations that are attractive to public injectors. While these modifications often succeed in blocking a particular injection niche, the unwelcome behaviour of injectors is inevitably relocated to other nearby locations.

2.3.2 Risk and the physical injecting environment

The perspectives of interview participants indicate that the alleys, in contrast to private locations, are predominantly seen to be an undesirable venue for injecting. As one interviewee remarked, "I think the alley is probably the worst place you can do it". Another respondent discussed the sense of fear that may accompany injecting in the alley, emphasizing the impact an injection setting may have on an individual's mindset:

> I: What it's like to inject in an alley?
>
> R: It's paranoia, is what it is. Paranoia that you're going to get dirt in a cut. Paranoia that that you're going to get busted once you do your hit. It's paranoia, y'know...you're tweaking out in an alley and... it's filthy. It's not something you want to do. [Respondent #26, female]

The unsanitary character of the physical environment is a primary dimension of how alleys are seen to be unsuitable for injecting.

> There's something about fixing outside in an alleyway...you look down and it's dirty. You're in an alley behind dumpsters...it's dirty back there. Man, these alleys are filthy. People piss and sleep and shit, all over. [Respondent #8, male]

Users were aware of how injecting in an unsanitary setting may precipitate health complications and opportunities for infection:

> There's urine in almost every inch of the alley. Y'know...you could just drop your plunger or your rig and you've contaminated it. [Respondent #47, male]

2.3.3 Risk and the social context of injecting environments

The street as a *physical entity* is associated with particular *social meanings*, and is *constructed* through lived experience. Although individuals were concerned with the unsanitary nature of the injecting environment, the unregulated character of the 'street' fundamentally shapes multiple forms of "risk" that exist in public injection settings.

> I sometimes used to do it down in the lanes here. But I never really felt very comfortable with that, and had a few problems with some people down there too. Yeah, there was a guy who tried to rob me, actually he did rob me once. Pulled a knife on me. [Respondent #11, male]

In addition to fears of being physically assaulted or robbed by 'street associates', the possibility of being assaulted by the police is also a source of anxiety when injecting in public.

> I was in the alley before that....and I was sitting in there, and the bike cops roll up... The woman cop said, "Hey," and I looked up, and she [pepper] sprayed me, and the other cop whacked my arm with the flashlight, knocked the rig out. That was nasty. Couldn't breathe for about forty minutes. [Respondent # 35, male]

Within the alleys, the risk of overdosing is accompanied by the possibility that a person may not receive help in a timely fashion:

> Someone goes down [overdoses] in the alleyway, they're gone. They're not sticking around for the ambulance, they don't want nothing to do with it, right? [Respondent #37, male]

The reality of being unable to access professional assistance was highlighted as one key dimension of how the alleys are unsafe injecting settings that increase the possibility of negative outcomes:

> If somebody gets into trouble, there's nobody qualified to do anything at the moment. I mean, y'know, it's a back alley. [Respondent #25, male]

As noted above, conditions in unregulated 'public' spaces may result in encounters with the police or street predators. These findings emphasize that one key feature of the social relations of public injecting is *heightened risk awareness* or anxiety associated with a fear of interruption or disruption. In turn, this heightened sense of 'risk' impacts upon *health risk* practices and the ways in which individuals inject. As one interview participant emphasized, injecting in the alley equated to a situation where she was preoccupied with "hurrying and worrying" about threats that exist in public injecting settings:

> I'm worrying about different things, y'know? Looking around...we're fixing outside and you're worrying about if the cops are going to come or if someone's going to attack you or rob you.... [Respondent #28, female]

These concerns distract attention from the *practices* of injecting and focus attention on the *environments* of injecting. Preoccupations with risk arguably shift from concerns relating to *health* and the specific harms of injecting, to either *self* and more general concerns to protect oneself from police and other predators. Additionally, the focus upon immediately consuming the *drug,* in order to not lose the hit or the opportunity to prevent withdrawal, exacerbates environmental concerns that detract

attention from injection practices. One consequence of this shift in *risk attention* is potential disruption to injecting safety routines. In many instances of public injection, the need to simply complete the injection supersedes the desire to perform the injection properly or safely. The potential for interruption and a fear of disruption encourages 'rushing' through the injection process, which can precipitate health complications:

> When I do it outside I feel like I'm being rushed or something, y'know, because you're always thinking the cops are going to come, or something's going to happen. So you're trying to really rush it. And when you rush...rush and try to hit yourself, the chance of not getting it right away is really high. [Respondent #16, female]

Watching for police is an element of the perceived pressure associated with public injecting which distracts from, or disrupts, normal injecting routines:

> You got to sit there and fool around and then, y'know, look around, make sure nobody's coming – the cops aren't coming. There's a few times where's it's happened – I just get the vein, and I see a cop driving by or something, and then I go to look at it and try and draw again, and I lost the vein. So I have to look for it somewhere else. [Respondent #28, female]

In the context of perceived threats of police interference, attention may shift from the 'perfect' injection (which requires time) to 'getting it in' (which suffices when there is no time):

> It's rushed, hurried, y'know... not calm. It's just... get it into you as quick as you can before the cops come, basically. 'Cause they're coming, it's just a matter of time. You just do it a lot quicker. You don't really care if it's perfect, y'know, it's just 'get it done'. Yeah, get it in there. [Respondent #23, female]

> Yeah, I just don't feel like I have the time, 'cause, y'know, you just want to get it in and get the hell out. [Yeah, get going]. 'Cause you feel like, y'know, if the cops come, "Oh maybe – can they charge me with the stuff that's in my rig?" I want to get it in before they come. [Respondent #38, female]

These conditions encourage users to employ expedient preparation techniques, the "quickest form of doing it", rather than adhering to safer injection practices. Preparing an injection is often done within a recessed niche, walking along the alley or alongside the large garbage containers. As the cooking and filtering of drugs prior to injection is difficult and time consuming, these steps are often omitted. Preparing drugs directly in the barrel of the syringe, without cooking or filtering, by adding water and simply 'shaking' is a practice commonly employed in the alleys.

> In the back lane, there's no time to cook. So it's just like shake and bake, kind of thing. But that's the only time that I'll do my dope without cooking it, is if I have to use the back alley, or outside period. [Respondent #33, male]

> I will not take time to sit there and play with a cooker and stuff, filter it. That's pretty dangerous, apparently ... I just don't feel like I have the time. [Respondent #42, female]

Cleaning of injection sites with alcohol swabs was also often reported to be omitted from the injection process due to the perceived time constrains in public environments.

Shifts in risk attention – from injecting practices to the injecting environment – accentuate the management of multiple, contradictory and situated forms of risk. Users were aware of the health consequences of adopting expedient injection techniques, rather than the safest ones possible, and acknowledged the influence of public injection settings in discouraging safer injecting:

> See that's another thing... you can hardly prepare it the right way. I mean, you have to do what's called a shaker. I know from experience, that it's one of the most dangerous things to do, because my wife actually had endocarditis from doing shakers. So, I know from experience what the risks are. And apart from that, you can't, like, pull out a spoon and start heating and filtering. [Respondent #48, male]

2.4 Discussion

In Vancouver, public injecting often occurs in spaces characterized by unsanitary conditions, which lack adequate amenities to enable hygienic injecting. More significantly, the social context of these injection settings impedes individual ability to employ safer injecting practices. Within the unregulated public environment, the threat of street violence or arrest encourages rushed injecting and the adoption of the most expedient injection practices possible. This analysis found that public injecting is associated with a heightened awareness of risk associated with a perceived threat of interruption, which we suggest shifts risk attention among injectors from their injecting practices to their injecting environments. One consequence of this shift in risk attention is that context-specific concerns regarding protecting one's self (for example, from police) and one's drug (for example, in not 'losing a hit') may take temporary precedence over other immediate individual health concerns (such as injecting as safely as possible). As ecological features in public injecting settings can promote unhygienic and unsafe injecting practices, these venues are prime locations for intervention efforts (Dovey, Fitzgerald et al., 2001; Weeks, et al., 2001; Rhodes, Singer et al., 2005). We believe that community-based interventions to create safer public injecting environments are warranted (Rhodes, Kimber et al., 2006), and should be considered alongside safer injecting facilities in order to maximise the community impact of interventions seeking to reduce harm among street injectors.

2.4.1 Risk environment and situated risk reality

The risk environment framework emphasizes that an array of context-specific environmental and social factors influence the production of risk, particularly within specific micro-locations such as injection settings (Rhodes, 2002). Fears of encounters with the police are a fundamental dimension of the ecological risks identified by public injectors as physical confrontations, confiscation of drugs, and arrest are seen as threats

to be avoided. Enforcement operations targeting street based scenes result in negative health impacts, both in Vancouver and many other settings internationally (Kerr, Small and Wood, 2005). Police crackdowns may reduce access to sterile syringes and harm reduction programs, as well as fostering increasingly risky injection practices among IDUs engaging in public injecting (Maher and Dixon, 1999; Maher and Dixon, 2001; Aitken, Moore, Higgs, Kersall and Kerger, 2002; Small, Kerr et al., 2006). Police actions in public injection settings may even result in accidental syringe sharing, as IDU attempting to hide or store injecting equipment may unintentionally use another person's syringe (Small, Kerr et al., 2006). Despite knowledge of the harms stemming from enforcement efforts targeting the street based drug scene, reliance on policing initiatives has continued in Vancouver (Wood and Kerr, 2006) and a recent operation was implemented with the explicit goal of discouraging public injecting (Howell, 2005).

IDU perspectives emphasize that public injection settings are far from conducive to injecting in the safest manner possible. The ability to adhere to safer injecting strategies (and protect one's health while injecting) was seen to be overwhelmed by other 'risks', including arrest and assault, which were perceived to be of more immediate consequence and greater priority. The need to prioritize multiple risks provides a rationale for adopting expedient practices although they are known to result in negative health consequences. This is illustrated in the case of 'doing a shaker'. Although the practice is known to increase the potential for infection, the expediency of this method is attractive for public injectors. These 'situated' views of the risks associated with public injecting emphasize the role the immediate environment exerts over injection practices, and the production of risk (Connors, 1994; Moore, 2004).

2.4.2 Public injecting and safer injecting facilities

The establishment of the local SIF reduced the levels of public injecting visible in the DTES (Wood, Kerr et al., 2004), and local SIF users have reported significantly reduced levels of participation in public injecting (Wood, Li, Montaner and Kerr, 2007). However, the total coverage of SIF in various settings is often limited in comparison to the size of injecting populations and open drug scenes. For example, estimations indicate that the SIF is able to accommodate approximately 5-10% of injections that may be occurring in Vancouver's DTES (Kerr, Tyndall et al., 2004; Kimber, Hickman, Degenhardt, van Beek and Coulson, 2005). Problems related to the coverage of SIFs are often a reflection of the unwillingness of policy makers to move beyond tightly-controlled, small-scale pilot studies of SIFs as opposed to unwillingness on the part of IDUs to use such facilities.

The findings presented here suggest that the alternate setting for injecting provided by the local SIF displays great potential to address the ecological factors within public injection settings that impede individuals' capacity to adopt safer injecting techniques. The perspectives of those attending the SIF indicate that the facility enables less 'rushed' injecting (Petrar, Kerr, Tyndall, Zhang, Montaner and Wood, 2006), as well as enhancing individual ability to employ safer injecting practices (Small, Wood, Fairbairn, Montaner and Kerr, 2006). However, the potential of the SIF to impact the public injecting scene has not yet been fully realized, due in part to the limited capacity of the existing facility. Further, IDU who require assistance with injections are prevented from attending the SIF, as the facility is currently unable to permit assisted injections on site (Kerr, Wood, Small, Palepu and Tyndall, 2003). This rule has been the subject of some debate given that local IDUs who require assistance with injections are known to be at heightened risk for HIV infection (O'Connell, Kerr, Li, Tyndall, Hogg, Montaner et al., 2005).

In light of the above considerations and the findings of the current study, there is an urgent need to increase the scope and capacity of the local SIF in order to more completely address harms related to public injecting. Structural factors that perpetuate Vancouver's large public injecting scene should also be addressed through policy interventions increasing access to affordable housing within the DTES. Further, efforts to increase the number of publicly accessible toilets in the neighbourhood would positively impact the public injecting scene by reducing the amount of human waste present in the alleys, as well as enabling hygienic routines (e.g. hand-washing) prior to injecting. Additional interventions that are directly focused on public injecting settings are also required, and have been cited as a potential route to modifying ecological features producing risks and harm (Rhodes, Kimber et al., 2006). By implementing mechanisms to ensure an immediate emergency response in case of an adverse incident (Fitzgerald, Dovey et al., 2004), innovative efforts may enhance personal safety and mediate overdose risks in public injecting venues. Additionally, interventions that foster personal safety would create a context more conducive to safer outdoor injecting. Although innovative measures towards these goals are likely to be met with political opposition in many urban settings, their potential to reduce drug related harm merits their exploration.

2.4.3 The limits of individualism in harm reduction

The explicit and implicit assumptions of individually focused safer injection education messages are often "oblivious to the social and economic constraints that render the implementation of such procedures difficult or impossible" (Briggs, 2003). Educational prevention messages targeting IDUs contain inherent assumptions regarding a "particular type of social context for injecting, one ... characterized by stability and orderliness" (Moore, 2004). As the perspectives presented in the current

study indicate, public injecting occurs in a context which is characterized by unpredictability and disruption. While existing epidemiological research has emphasized the negative public health consequences related to public injecting, this work suggests that attention to a social perspective on 'risk', as articulated by IDUs, would assist the development of safer environmental interventions. By modifying contextual factors that impede injectors' ability to inject safely, interventions creating safer environments would 'enable' the adoption of safer injecting routines (Moore and Dietze, 2005).

2.4.4 The need for further ethnographic research on injection settings

As this study is a preliminary ethnographic investigation of public injecting settings in Vancouver, further inquiry utilising participant observation should continue to investigate the influence of ecological factors upon injection practices. The current study has limitations, as all interviewees had experience of injecting within a supervised environment. Previous experience of injecting within the SIF may have led some interviewees to redefine public injecting settings negatively. However, our qualitative sample was purposively selected to include interviewees with varying levels of SIF use and many interviewees continued to frequently engage in public injecting. As many important questions related to public injecting are beyond the scope of the current study, further ethnographic research is required to understand how these locations figure in the social lives of injectors, as well as the interplay between these social relations and injecting practices, particularly assisted injecting. Understanding the micro-environments of public injecting venues is necessary if we are to enhance existing structural interventions such as SIFs and develop novel 'ecological' interventions that complement individually-focused prevention efforts.

Figure 2.1: Diagram depicting the spatial distribution of public injecting 'niches' in the Downtown Eastside

Public injecting in the DTES most frequently occurs within narrow alleys that cross-cut many city blocks. Within these alleys recessed 'niche spaces' are used for the purpose of injecting.

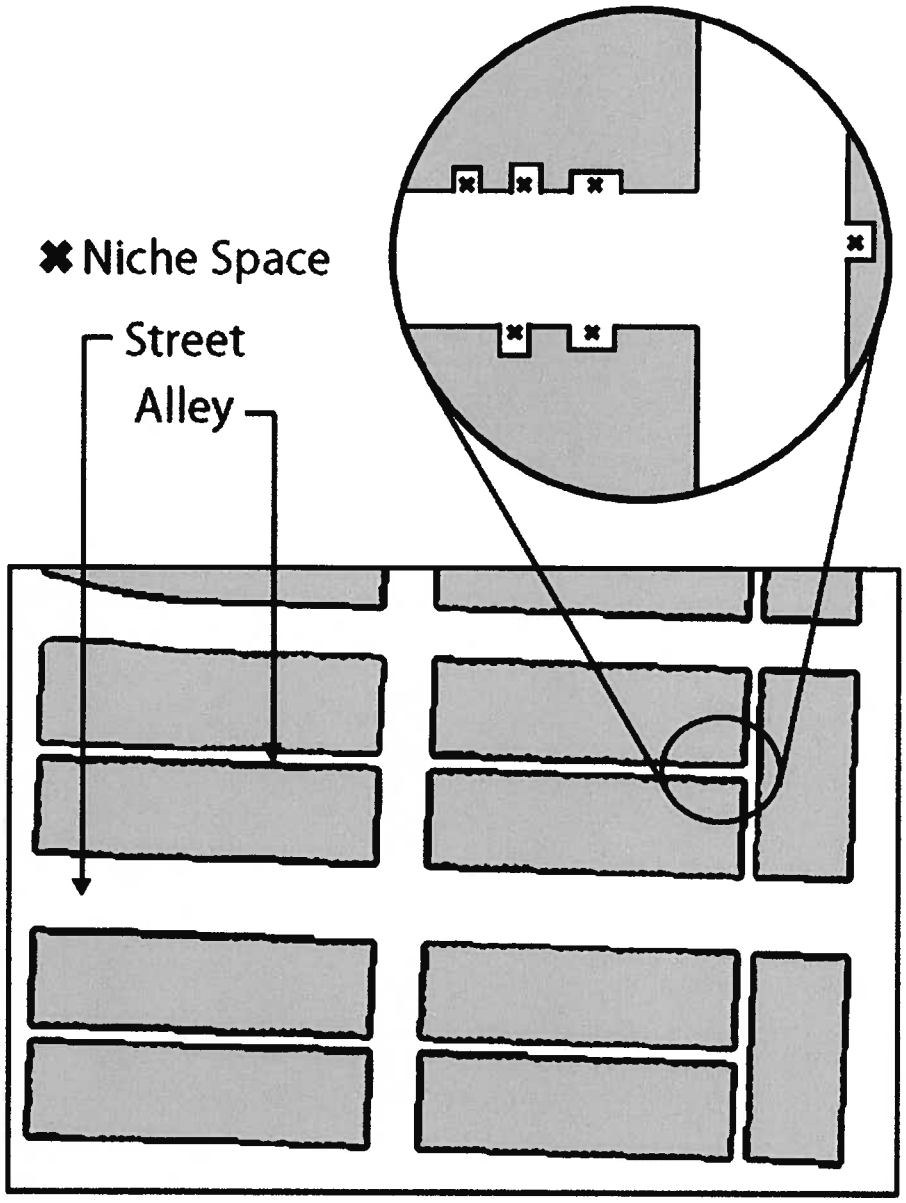

Figure 2.2: Police presence in public injecting venues

Extremely high levels of police surveillance characterize public injecting venues in Vancouver's Downtown Eastside.

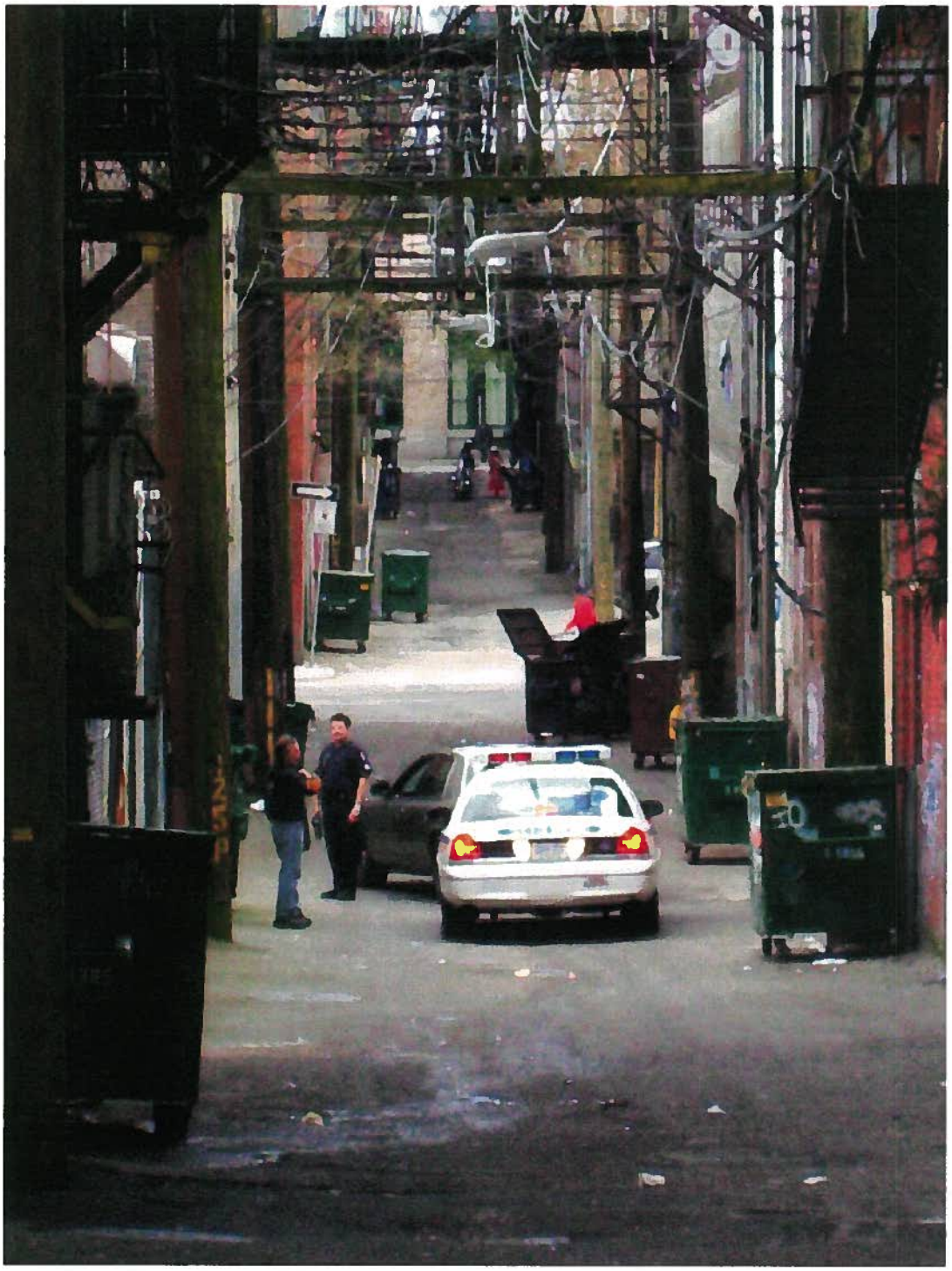

Figure 2.3: A typical injection niche

A typical injection niche in an alleyway provides a small measure of shelter and privacy, but is highly unsanitary.

Figure 2.4: A formerly hidden injection niche

This location was a formerly hidden niche and is no longer camouflaged since the panels were removed from the door.

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CHAPTER 3:

RISK AND SAFETY WITHIN INJECTION SETTINGS: INJECTION DRUG USERS' REASONS FOR ATTENDING A SUPERVISED INJECTING FACILITY[2]

3.1 Introduction

Public health research examining illicit drug use has tended to focus on the relationship between knowledge of risk and risk avoidance, with the individual as the primary unit of analysis (Rhodes, 1997; Rhodes, Stimson & Quirk, 1996). Critiques of this approach have noted that reliance on technical "objective" assessments of risk, in which individual behaviour is de-contextualised from the environments in which it occurs, impede the development of effective and comprehensive intervention strategies (Rhodes et al., 1996; Duff, 2003). Rhodes' (2002) 'risk environment' framework represents an explicitly ecological model of injection-related risk among injection drug users (IDUs); its adoption has brought increased recognition of how social, structural, economic and political conditions shape both the potential for drug-related harm, as well as opportunities to attenuate risk (Rhodes, Singer, Bourgois, Friedman & Strathdee, 2005). Risk in this framework is seen to be the product of complex and dynamic interactions between individuals and environments, situated within and dependent upon the contexts and structures in which drug use behaviour occurs (Rhodes, 2002; Rhodes et al., 2005). Although macro-level structural forces, such as legal and policy frameworks that criminalise drug use, represent important determinants of health among IDUs (Burris et al., 2004), the role of contextual influences operating at the micro-level within the venues where drugs are injected have also become a priority for research and intervention (Kerr, Kimber & Rhodes, 2007). While epidemiological

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studies have documented associations between drug-related harm and specific injecting venues (Rhodes et al., 2005), we require improved understandings of risk behaviour and risk perceptions in relation to specific drug use settings and social contexts (Rhodes, 2009).

Ethnographic research has established that IDUs' risk perceptions are based upon socially and culturally situated knowledge (Bourgois, 1998; Moore, 2004; Rhodes, 1995), emerging from lived experience (Connors, 1992). Injection-related health risks, including HIV infection and overdose, are understood in relation to the "everyday risks" that characterize the lives of injectors including potential for arrest, incarceration, losing drugs to police or predators, drug withdrawal, as well as multiple forms of violence (Connors, 1992; Bourgois, 1998). The concept of "situated rationality" has been utilized to explicate the high-risk behaviours of drug users, which may be viewed as adaptive strategies employed by highly marginalized individuals to manage multiple and sometimes competing forms of risk (Bourgois, 1999; Connors, 1992; Moore, 2005). Within the "cultural logics" of these injectors, some high-risk practices afford an opportunity to mediate exposure to other forms of everyday risk (Bourgois, 1998). For example, when injecting in outdoor settings, hurrying the injection process may reduce the chance of arrest or assault, but increase the risk of overdose or injection-related infections (Maher & Dixon, 1999). Salient risk priorities among drug users are socially and culturally mediated (Rhodes et al., 1996) and the effectiveness of public health initiatives targeting IDUs is hindered when these initiatives fail to incorporate consideration of the lived experience of drug users (Bourgois, 1998; Moore, 2004).

3.1.1 IDU perceptions of risk and safety within injection settings

Micro-environments where drugs are injected (i.e., *injection settings*) play a unique role in the social-structural production of injection-related risk (Rhodes et al.,

2005) and represent a key location for interventions seeking to reduce drug-related harm (Rhodes et al., 2006; Weeks et al., 2001). Injection settings consist of the immediate physical environment and social context in which consumption occurs, but are also influenced by the wider socio-cultural context (Moore, 1993), including public health interventions and public discourses regarding drug use (Rhodes et al., 2006). The social and physical context of injection settings shape potential for harm by either facilitating risk reduction practices or limiting individual ability to adopt risk reduction strategies (Rhodes, 2002; Rhodes et al., 2005; Page, 1990). Potential for harm in these venues is heavily influenced by the availability of HIV prevention materials, such as sterile syringes, at both the neighbourhood level (Singer et al., 2000) and within the settings where drugs are injected (Page, 1990; Ouellet et al., 1991).

Ethnographic research examining specific injection settings suggests that these venues represent an important site where IDUs navigate the potential for drug related harm, and attempt to balance competing forms of risk (Dovey, Fitzgerald & Choi, 2001; Rhodes et al. 2006; Duff, 2003). For example, while some IDUs recognize that "shooting gallery" settings may hold increased potential for exposure to HIV (Page, Smith, & Kane, 1998), these venues function to provide IDUs with an off-street location for injecting, which may confer an element of "safety" by mediating the risk of arrest or street violence (Ouellet, Jimenez, Johnson & Wiebel, 1991; Parkin & Coomber, 2009; Page, Smith & Kane 1998). Similarly, injectors try to balance competing forms of risk when injecting in public venues, managing injection-related risks and the potential for encounters with the police, losing drugs to confiscation or predators, and street violence (Small et al., 2007: Rhodes, et al., 2006).

3.1.2 Environmental interventions and Supervised Injection Facilities (SIFs)

Recognition of the limits of behavioural and educational interventions to reduce drug-related harm has led to increased interest in "environmental" interventions which seek to modify contextual factors surrounding drug use behaviour (Rhodes et al., 2006; Moore & Dietze, 2005). These types of interventions are not intended to replace initiatives encouraging individual behaviour change, but rather seek to complement educational efforts by creating environments that "enable" individuals to adopt risk-reduction strategies (Moore & Dietze, 2005). "Safer injection environment interventions" represent explicit attempts to alter contextual features to reduce risk in venues where drugs are injected (Rhodes et al., 2006) and include efforts targeting existing injection settings as well as the creation of purpose-built drug consumption venues. Both approaches seek to minimize "the likelihood of police or public interference, the disruption of injecting safety and hygiene routines and the need for hurried or hasty injection" (Rhodes et al., 2006), while maximizing opportunities for reducing injection-related risk by enhancing the availability of sterile injecting equipment, sterile water, adequate lighting, clean working surfaces, and syringe disposal. Supervised injection facilities (SIFs) are purpose-built, and sanctioned, venues where IDUs can inject pre-obtained drugs under the supervision of healthcare staff within a hygienic environment (Hedrich, 2004; Kimber, Dolan & Wodak, 2005). The earliest SIFs were established in Switzerland, Germany and the Netherlands (Hedrich, 2004). North America's first and to-date only SIF, Insite, was established in Vancouver, Canada, in September 2003.

3.1.3 Injection drug use settings within Vancouver's Downtown Eastside

Vancouver's Downtown Eastside (DTES) has historically been the centre of the city's open drug scene, and high levels of addiction, homelessness, and mental illness characterize the neighbourhood (Wood & Kerr, 2006). Within the DTES, injecting

behaviour occurs within three primary types of injection settings: public injection settings (located in streets, alleyways and parks), single-room occupancy (SRO) hotels, and Insite (the local SIF).

Public injection settings are often utilized by individuals who are homeless, lack access to private space, reside outside the DTES, desire to consume drugs at the point of purchase, or who cannot inject within their living quarters (Small et al., 2007). These public settings are generally unsanitary and local injectors perceive them to be dangerous injection settings (Small et al, 2007). Many local injectors require help injecting and rely on other drug users to manually administer injections (O'Connell et al., 2005). These individuals often receive assistance with injecting within public settings from so-called "hit doctors" and frequently provide payment for the service with a share of drugs or a small amount of money. Injecting also takes place within the small number of public washrooms that exist in the area, as well as the washrooms of local services and businesses, although proprietors actively discourage injecting in these venues.

Large numbers of injectors live within substandard accommodation in SRO hotels, and a substantial proportion of injections have customarily occurred in these settings (Shannon, Ishida, Lai & Tyndall, 2006). Residents and guests regularly inject in these rooms, and visitors may gain access for the purpose of injecting on the basis of a social relationship, as well as through the provision of a share of drugs. Access to some particular SRO hotels is limited by rules prohibiting visitors during specific hours, and "guest fees" which require visitors to pay for entry to the building (O'Shaughnessy, 2009).

Insite, Vancouver's SIF, is open 18 hours a day and operates from 10AM to 4AM, 365 days a year. The facility is a three-stage clinical-model SIF (Broadhead et al, 2002) consisting of a reception area and waiting room, an injecting room (with 12 individual

injection "booths"), and a "chill-out" lounge where clients can spend time prior to exiting to the street (Wood et al., 2006). Within the SIF, nurses are present at all times to supervise injections, intervene in overdoses, provide education regarding safer injection techniques and guidance with the injection process, as well as to provide nursing care to IDUs attending the facility (Wood et al., 2006). Regulations governing the facility prohibit the sharing of drugs between clients and assisted injections, requiring clients to self-administer injections. Insite operates at full capacity with over 500 injections occurring within the facility on a daily basis (Tyndall et al., 2006). Line-ups to access an injecting booth are common due to the heavy demand for the injecting room.

3.1.4 Study purpose

While ongoing evaluations suggest that SIFs generate a variety of health and community benefits (Hedrich, 2004; MSIC Evaluation Committee, 2003; Wood et al., 2006), most research has utilized conventional epidemiological approaches (primarily using quantitative methodologies), with only a few qualitative studies examining the perspectives and experiences of IDUs regarding Vancouver's SIF (Kerr et al., 2008; Fairbairn, Small, Shannon, Wood & Kerr, 2008). In light of the importance of SIFs as an environmental intervention and the novelty of this type of injection setting in the North American context, the current study used qualitative methods to examine IDUs' motivations for injecting within the Vancouver SIF and to discuss how the supervised injection setting is perceived to mediate experiences of risk and safety when injecting drugs.

3.2 Methods

In order to gather data regarding IDUs' reasons for attending Insite, 50 in-depth individual interviews with SIF clients were conducted. Interviewees were recruited from the Scientific Evaluation of Supervised Injecting (SEOSI) cohort, which is

composed of over 1000 randomly selected SIF users in Vancouver and is representative of the population of IDUs who use the SIF (Wood et al., 2006). Between November 2005 and February 2006, SEOSI cohort members were invited to participate in an in-depth interview. Quota sampling techniques were employed to ensure that the interview sample included male (n=28) and female (n=21) IDUs, as well as Aboriginal (n= 13) and non-Aboriginal (n= 37) participants. Recruiting efforts for in-depth interviews yielded a sample that reflected the socio-demographic profile of the local population of SIF users and included individuals with differing levels of SIF utilization (Tyndall et al., 2006).

Interviews were undertaken in a private research office, located a few blocks from the SIF, and were conducted by three separate interviewers (two male and one female). Interview questions were open-ended and an interview guide was used to encourage discussion of various topics, including: SIF use, reasons for using the facility, barriers to attending the SIF, as well as injection practices when injecting within the facility. All interview participants were asked why they chose to inject at the SIF and further questions elicited a full account of their reasons for selecting the SIF as a setting for injection. The interview guide also contained questions that asked participants to describe situations when they chose to inject elsewhere as well as to provide detailed descriptions of their perspectives on the SIF and other injection settings. Interviews lasted 40-80 minutes, were audio-recorded, and later transcribed verbatim.

The content of the interviews was reviewed throughout the data collection process, thus informing the focus of subsequent interviews as well as the development of a coding scheme for categorising the data. All text segments related to reasons for using the SIF, characteristics of the supervised injection setting, and reasons for injecting in locations other than the SIF were catalogued. This analysis presents excerpts from the interview data to illustrate motivations for attending the SIF and how it was perceived to mediate experiences of risk.

Additional data collected during ethnographic fieldwork regarding the local drug scene and key injection settings conducted by the first author (WS), was used to further contextualise interview data. A detailed account of the ethnographic observational data gathered in public injection setting and the SIF is provided in Chapter 2 and Chapter 4 respectively, although a brief overview of the techniques used follows here. The ethnographic fieldwork investigated the physical environment and social context characterizing drug use settings in the DTES through direct observation of injecting behaviour within DTES public injection settings and Insite.

3.2.1 Ethics

Approval to conduct the interviews and ethnographic fieldwork was granted by the Providence Health Care/University of British Columbia Research Ethics Board. All interview participants provided written informed consent.

3.3 Findings

3.3.1 Interview participants

The sample of interview participants was composed of 21 women, 28 men and one transgendered individual. The age of participants ranged from 25 to 60 years, and the median age of participants was 38. Table 1 illustrates the demographic characteristics of the interview participants in comparison to the overall group of IDUs enrolled in the SEOSI cohort. Table 1 also provides details regarding the drug most frequently used, education, housing status, and estimated monthly expenditure on drugs among interviewees. All interview participants had previously used the SIF, with the majority of participants (39 individuals, 78% of interviewees) performing more than 25% of their injections within the facility during the past 6 months.

3.3.2 The injection setting provided by the SIF

Reported reasons and motivations for injecting at the SIF were related to: accessing an alternative to injecting within public and private venues, mediating injection-related health risks, the sanctioned nature of the injection setting, the regulated injection environment, and mediating multiple hazards which characterize unsupervised injection settings.

3.3.3 An alternative to injecting in public and private venues

In the local setting where large numbers of injectors regularly inject outdoors in public spaces, the ability to inject within an indoor, off-street location was a primary motivation for utilizing the SIF. Many participants reported using the SIF because they were homeless, and the clean, indoor environment of the SIF was often contrasted with the experience of injecting outdoors. The following outlines the reasons for injecting at the SIF described by one 43 year old female drug user who primarily injects speedballs (a combination of cocaine and heroin), illustrating how it is perceived to be a more suitable injection setting than local public injection venues:

> Because I don't have a place. Because it's safer [...] And more comfortable. It's cold out; you can't get a vein in the cold. Like, it's just safer, it's cleaner. [Female Participant # 11]

Additionally, accessing the injection setting at the SIF was reported to provide an alternative to injecting within private residences belonging to other individuals. Injecting in another person's private residence was perceived to be problematic due to the expectation that visitors will provide a share of drugs in exchange for access to the venue, and social conventions which prescribe sharing drugs with other people who may be present:

> I prefer to use Insite due to the fact that a lot of my friends don't use needles. And if they do I don't feel right going there [friend's

> residence] because... y'know, "house favours" or whatever. It's always polite to offer half or at least something. But I don't have that money to be offering it every time, so with Insite everybody's got their own dope. [Female Participant # 38 - 28yrs old, injects speedballs, currently homeless]

The above description emphasises that within the SIF, the obligation to share drugs is eliminated, which some participants perceived to be a benefit of the supervised environment. The ability to inject at the SIF without paying for entry is viewed as being a beneficial alternative to injecting within the private residences belonging to others, as users often lack the resources necessary to compensate others for access to private space or fulfil expectations regarding the sharing of drugs.

3.3.4 Reducing injection-related health risks

The availability of sterile syringes and ancillary injecting equipment, and the associated perception that injecting within the SIF reduced the potential for blood-borne virus transmission, were frequently cited as a reason for injecting within the facility. The following quote, from a 47-year-old male who primarily injects heroin, suggests that users of the SIF recognise that the supply of sterile syringes and other injection equipment reduces the potential for infection with blood-borne viruses:

> Well, you're not likely to catch AIDS. [...]And hepatitis C, I don't see how you could get it there. You're using all sterile equipment. [Male Participant #35]

The physical environment and regulations, which permit only one person to inject within each injection booth and require that each booth be cleaned by SIF staff before the next individual can enter, were perceived to eliminate the potential of unknowingly utilizing another person's syringe:

> I'm not around people. There's no possibility of sharing [syringes] or getting anything mixed up. [Male Participant # 18 - 26 years old, primarily injects heroin]

The segregation of injecting behaviour into individual spaces was seen as another mechanism through which the SIF reduces the potential for blood-borne virus transmission. Although there are other drug users present in the facility's waiting area and in other booths, participants often characterised their injections within the SIF as injecting in "isolation", emphasising that the social interactions that normally surround injecting are altered. While this was perceived to reduce the potential for blood-borne virus transmission, others reported a preference for social interactions during injecting and viewed the individual booths as a negative aspect of the injection setting at the SIF.

Participants often acknowledged that injecting alone in public and private injection settings reduces the potential to be assisted in the event of an overdose, and participants frequently reported that medical supervision was a reason why they injected at the SIF:

> I prefer the Insite because there's staff [...] I've had overdoses in the past, and I know there's nurses there in case I overdose... [Female Participant # 21]

The above comment from a 34-year-old female, who lives in a house and injects both heroin and cocaine, highlights the importance of nurse supervision and the emergency response provided in the case of an opiate overdose, within motivations for injecting at the facility. The emergency nursing response, including the injection of Naloxone (Narcan), was seen to reduce the potential for a fatal opiate overdose as well as the harm resulting from a non-fatal overdose.

In addition to managing overdoses, nurses within the injection room also provide safer injection education, and they often guide clients through difficulties with the injection process and assist with venous access:

> Yeah, yeah I mean, if you ever need any information, or sometimes I have a hard time fixing, right? And I mean, they don't do it for

> you, but they help me, y'know, "Okay, try a different vein," or whatever, right? Y'know, it's just very good for information. [Female Participant #12- 44 years old, regularly injects cocaine]

Information about injection techniques and guidance with the injection process was reported to be another reason that the SIF was preferred over other injection setting.

3.3.5 Sanctioned injecting environment

The government granted the SIF an exemption from the Canadian Controlled Drugs and Substances Act (CDSA), which allows it to operate legally and protects participants from charges of drug possession. This is a key characteristic of the injection setting provided at the SIF, and many participants reported that they injected at the SIF because they would not encounter the police, or be arrested for consuming drugs. Potential for arrest or encounters with police within other types of injection settings were a major concern for IDU, and participants emphasized that the SIF represents a unique type of injection setting because consumption activities are permitted under the law:

> Because it's off the street and I know that the police are not going to interrupt me in the middle of my injection and take my drugs away. [...] And by going – as soon as I go through those doors at the SIS [Insite], I know that there's... an understanding between law enforcement and the people that run it that these injection drug users are safe here. And I know I'm not having my drugs taken away, and that means a lot to me as a drug user. [Male Participant # 17 – 48 years old, injects heroin]

Beyond the potential for arrest, the risks involved in encountering the police also involved the confiscation of drugs, which represents the loss of a scarce resource for injectors. Having drugs confiscated by the police was an important form of "everyday" risk attributed to public injection settings in local alleys, in part because losing drugs may precipitate withdrawal symptoms in the near future:

> It's fucking tense in the alley because... what if you get busted by an asshole cop. He's going to take your dope or fucking make you squirt it out or whatever. Step on your rig. You're fucked. You were just working all day to make ten bucks to get your fix. [Male Participant # 25 - 47 years old, primarily injects heroin]

In addition to precluding encounters with the police, the SIF was also seen as the "correct" place to inject, rather than injecting in public spaces or within indoor venues where drug consumption is prohibited (e.g., community services for drug users) or problematic (e.g., a friends' residence):

> I don't have a home. I didn't have friends that had places, and even if they did, normally I don't feel comfortable...[...] I did not have another option. And I'm not saying I use Insite just because it's now another option, I'm using Insite because it's the way to do it properly. That's the reason I use Insite. Because it's not the alley. [Male Participant # 27- 26 years old, primarily injects heroin]

The SIF was seen as an injection setting that mediates injection-related health risks by facilitating injecting 'properly' rather than injecting in an unsafe manner or setting. Participants also referred to attending the SIF as being "the proper thing to do" (Male Participant #13). For example, a number of participants emphasised that they inject within the SIF because it does not expose local residents and the general public to their injecting behaviour. Engaging with the SIF was characterised as the "responsible" thing for injectors to do.

3.3.6 Regulated environment

The fact that the supervised injection setting at the SIF is a regulated environment, and "not the street", was frequently cited as a reason for attending the facility. Most participants reported the SIF environment to be calm, stable and "hassle-free":

> It's nice and calm. The staff are really helpful and good and stuff. Y'know? There's never any big riots or chaos going on. Once in a

> while, you get people arguing and stuff like that, but otherwise, it's a nice environment, I find. I think it's a safe place. [Female Participant # 23 – 29 years old, injects cocaine and crystal methamphetamine]

The SIF provides an alternative to the potentially unpredictable character of public injection settings, where conflict and violence can quickly emerge:

> 'cause a lot of stuff that happens on the street, it's like, they [clients] have street beefs and, y'know, if they run into each other there, and they start arguing with one another there. That gets shut down right away. If it does [start], it gets shut down real quick. So it's a nice thing.[...] Another safety factor for people there. [Male Participant # 40 – 31 years old, primarily injects speed]

A primary motivation for injecting within the regulated injection environment is that it is perceived to effectively mediate the potential for violence or robbery. This was especially important in the perspectives of female participants, who frequently described how injecting at Insite eliminated concerns regarding being attacked or robbed.

Regulations prohibiting drug sharing and passing drugs to other clients, coupled with the presence of staff, were reported to eliminate the potential for attempts to obtain drugs through begging, coercion or intimidation (often referred to as 'grinding'):

> Well, it's, I feel safe there. Very safe there, and I'm not worried about people robbing me. I mean, I've been down here fifteen years and still, I get people who try to grind you for your dope [...] Like, they're lookin' at you and they're waiting for you. And it's people you see every day, y'know? [Female Participant # 12 – 44 years old, primarily injects cocaine]

The regulated setting at the SIF was viewed as having altered the social relations that normally surround injecting, providing temporary relief from exploitative street relationships and "grinding". This aspect of the regulated setting was discussed by both male and female participants, but was more prominent in the narratives of female drug

users. They described how male drug users often attempt to expropriate their drugs within unsupervised injection settings, although it was acknowledged that these interactions continued to occur outside of the facility.

While the regulated injection setting was often cited as a positive aspect of the SIF environment, some participants viewed the specific regulations placed on behaviour negatively. The rules governing the facility's operation were largely perceived as being "reasonable"; however, some participants expressed the opinion that the facility placed too many constraints on behaviour or was "too institutional". For example, regulations that prohibit sharing drugs among clients and assisted injections (which are common practices among local injectors) were viewed by some as being overly restrictive. The enforcement of site rules and the monitoring of clients who are heavily intoxicated also evoked descriptions of negative interactions with staff in relation to the surveillance of clients and client behaviour. This suggests that SIF clients may endorse specific aspects of the regulated environment, or agree with the rules in principle, but that there are challenges inherent in the regulation of IDUs' behaviour within the facility (see Chapter 4).

3.3.7 A "safer" environment: mediating the risks associated with other injection settings

The perception that the SIF mediates multiple forms of hazard is reflected in repeated references to "safety", and being "safer", as the motivation for attending the SIF:

> The safety is just generalized for cops, for people taking your dope, for just doing it wrong and not having help if I overdose. Just safety in general. [Male Participant # 27 – 26 years old, injects heroin]

As employed by participants, the term "safe" encompasses health and hygiene, personal security from violence, as well as protection from legal prosecution. Participant narratives include frequent references to the ways in which the SIF

addresses multiple forms of everyday risk, and identified how specific features of the injection setting mediate risk:

> It's safe and comfortable. And you don't have to worry about...getting ripped off, or disturbed, or not preparing your dope right.[...] all the supplies you need are there, and there's people who have medical training who can help you if you're in trouble. There's a lot of reasons... I know that if I go in there, I don't have to worry about all those things. [Male Participant #48- 47 years old, injects heroin]

Participants described how the SIF addresses a constellation of hazards associated with injecting drugs in unsupervised settings, and while participants recognized that the SIF did not provide unconditional safety from injection-related risks, motivations reported for using the SIF often referred to the reduction of multiple forms of risk.

3.3.8 A contextualised view of risks and safety: constraints on ability to utilise the SIF

Some participants explicitly described their risk priorities in relation to the selection of an injection setting, and the narrative of this 26-year-old male who injects heroin highlights how the SIF enables the avoidance of multiple hazards associated with injection in public settings, including losing drugs and being arrested:

> R: If I want to use safely, and I want to, that's what I gotta do [go to the SIF]. If I want to risk going in an alley and risk all the other things that go along with it, that's my choice. My choice is to wait in the line-up and...
>
> I: You've never found yourself in a situation where you're really dopesick or ...
>
> R: Yeah, I have. But I still chose to y'know stick it out and bite the bullet [wait], and that's it. I'd be rather dopesick for that extra ten or fifteen minutes [during the wait] than go in an alley and wind up having my dope taken away. Maybe be dopesick and go to jail. Y'know. It just... common sense, I guess. To me it is. [Male Participant # 27 – 26 years old, injects heroin]

This individual described choosing to inject at the SIF, despite the inconvenience of waiting to access the injection room and the discomfort of heroin withdrawal, representing it as a "rational" decision based upon avoidance of the risks related to injecting in public. It is important to note that the above narrative, describing a calculation of costs and benefits, perhaps downplays the significance of factors that constrain individual ability to attend the SIF. Participants frequently reported that injecting at the SIF was beneficial in a number of ways, and "worth the wait", but that a number of imperatives often resulted in selecting another venue for injection.

Forces reducing individual ability to inject within the SIF were described as being biological (being in opiate withdrawal), psychological (the desire to inject cocaine immediately, situations where they wanted to enjoy an intense heroin high), social (wanting to inject together with friends), as well as being related to features of the facility (the wait to access the injection room) including regulations (being unable to share jointly purchased drugs or receive assisted injection). These dynamics indicate that while injecting at SIF addresses important risk priorities among IDUs and offers numerous practical advantages, ability to inject at the SIF is constrained by both imperatives related to street-based drug use as well operational and programmatic features of the facility itself.

3.4 Discussion

This study documented the perspectives of SIF users on the reasons why they inject at Vancouver's SIF and described their situated risk perceptions regarding the injection setting within the facility, as well as the injection settings outside of it. IDU participating in this study reported that they inject at the SIF because it provides an alternative to public and private injection settings. The medical supervision and sterile injecting equipment provided at the SIF were seen to reduce the health risks stemming

from injection including overdose and blood-borne virus infection. The fact that the sanctioned injection setting eliminates the potential for arrest or encounters with the police was an important motivation for attending the SIF. In addition the SIF was perceived as the "proper" venue for injecting, in order to reduce health risks as well as to relocate injection behaviour from public settings. Participant accounts also emphasized that the regulated environment at the SIF provided protection from street violence, being robbed, and having drugs expropriated or confiscated, although some participants found that the SIF placed too many constraints on their behaviour.

3.4.1 Protecting health and keeping safe

SIF users perceived Insite to be 'safer' than the other venues where they customarily inject. While public health perspectives regarding the safety conferred by the supervised environment relate to reduced potential for drug-related harm including blood-borne virus infection and overdose, IDU perceptions of safety focus upon protection from a wider range of hazards consisting of health risks related to injecting as well as everyday risks including violence, arrest, criminal prosecution and loss of drugs. While reducing injection-related health risks was an important component of IDUs' reported motivations for injecting at the SIF, participants in this study also articulated non-health reasons, including mediating legal and personal risks related to unsupervised injection settings, more frequently than health issues. Some dimensions of the safety provided by the injection setting at the SIF are created because the facility fundamentally alters the social relations and the social context surrounding injection (Kerr et al, 2007; Fairbairn et al., 2008). Regular use of the SIF has been associated with improvements in injection practices, including cooking and filtering drug solutions as part of the preparation process and reduced occurrence of "rushed" injecting (Stoltz et al., 2007); injection of drugs within settings where there is reduced potential for

interruption have been associated with reductions in injection-related risk among street-based IDU (Koester et al, 2005). The provision of sterile syringes and the individual injection booths at the SIF also reduce the potential for unintentional syringe sharing that may occur when groups of injectors engage in intense cocaine use (Tyndall, 2003), when syringes are stored or hidden in public settings for future use (Small et al., 2006; Rhodes et al., 2005), or in shooting galleries when a used syringe is presented as 'new' (Page, 1990).

Gender appears to be an important influence on the ways in which the SIF was perceived to mitigate violence against IDUs. Avoiding encounters with the police, which may involve violence, confiscation of drugs, arrest or incarceration, featured strongly in the interviews with male participants. The salience of this form of hazard for male IDUs is likely related to the higher prevalence of criminal justice involvement (Milloy et al., 2008) and lifetime experience of violent encounters with police among male IDUs in the local context when compared to female IDUs (Marshall et al., 2008). While both male and female drug users identified the loss of drugs as representing a key risk related to unsupervised injection settings, the ability to reduce the likelihood that a scarce resource will be expropriated through violence or intimidation represents an important benefit of using the SIF within the narratives of female participants. Within street–based drug injection settings, female IDUs are often victimized and exploited by male drug users (Bourgois, Prince & Moss, 2004). Injecting within the SIF appears to provide some relief from the violence characterizing street-based drug scenes for female IDUs (Fairbairn et al, 2008). The current study indicates that violence is also a concern for male drug users, particularly violent interactions with the police.

Epidemiological research indicates that a large proportion of local IDUs have historically participated in public injecting, especially those who are homeless or who lack access to private space, and commonly employ unsafe injection practices (DeBeck

et al., 2008b), . IDUs in this locale perceive public injection settings to be dangerous and an unsuitable venue for injecting (Small et al., 2007) and indicated that they are willing to navigate some important programmatic and operational barriers (e.g., wait-times and specific operating regulations) in order to access a suitable alternative at the SIF.

3.4.2 Social and spatial relations

Overall, the SIF was perceived to fit within the cultural logics of street-based injectors by providing an acceptable and appropriate place to inject, although some participants viewed the differences between the social and spatial relations within the SIF and public injection settings negatively. For them, the regulated environment could not accommodate a number of customary practices common among local drug users, particularly sharing drugs and assisted injections. Additionally, the enforcement of regulations and the monitoring of drug users behaviour by SIF staff were also a source of tension according to the accounts of some participants. While these findings point to a divergence between insider and outsider views of the risks related to the settings where drugs are injected, the current study also draws attention to the impacts the SIF is having on the wider risk environment in the DTES and the cultural logics of local IDUs.

Strategies customarily employed by IDU to manage the risks related to overdose, violence, and robbery in street-based drug scene of the DTES involve using drugs together with other individuals as well as engagement with a 'running partner'[3] (Connors, 1992; Bourgois, 1998). For female drug users, engagement with intimate male partners offers some "protection" within street settings, and these male partners often provide assistance with injection (Bourgois, Prince, & Moss, 2004). The study

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[3] An individual who regularly participates in joint income generation and drug consumption activities is often called a 'running partner'.

participants described how the SIF re-structures the social relations surrounding injection and indicated that they feel "alone" or "isolated" when injecting at the SIF. What remains unclear is how the alterations in social relationships *within* the SIF might 'spill over' into the street, as only a fraction of an IDU's day is spent within the SIF. For example, income generation and obtaining drugs continues to take place in street-based settings. Additionally, many IDUs require manual assistance with injection and rely on other drug users to deliver assisted injections outside the SIF (Rhodes et al., 2006). Each of these activities (which occur outside of the SIF) is deeply embedded in the social and spatial arrangements of the street.

3.4.3 On being 'responsible'

SIFs represent a drug consumption environment built within a health and legal framework that is heavily influenced by neo-liberal concepts emphasizing the role of the individual as being responsible for protecting health (Fischer, Turnbull, Poland & Haydon, 2004). However, few examinations have considered how power relations and wider neo-liberal discourses shape IDUs' experiences with these facilities. SIFs, to an extent, reflect neo-liberal concepts and values, and similar to other harm reduction and public health programs targeting IDUs (e.g., needle exchange, methadone therapy), their operation often emphasises the production of "responsible" subjects (Moore, 2009; Campbell & Shaw, 2008). The operation of these programs occurs in a context where public discourses serve to construct drug users as "disorderly" and "chaotic" (Fraser & Moore, 2008), denying these individuals the capacity for rational action due to their drug use and seemingly "irrational" behaviours. Drug users frequently endorse and practice harm reduction strategies (Campbell & Shaw, 2008), but their comments regarding these programs are often connected to wider discourses surrounding drug use and drug users. Police, public health, outreach, and community campaigns

operating in the DTES have targeted IDUs (particularly public injectors) and encouraged them to relocate their injecting behaviour to the SIF (DeBeck et al, 2008). As injecting at Insite becomes established as the "proper thing to do", so too might the concepts of rationality and responsibility gain strength in public discourse regarding injection drug use – potentially permitting the identification of a "responsible" drug user (and conversely the social construction of "irresponsible" drug users). Within such a context, we risk diverting attention from the social and structural forces that drive drug-related practices and unintentionally perpetuate stigmatisation of those who are deemed to be "irresponsible".

The narratives of study participants also sometimes reflected their adoption of the language of service-providers, although in many cases the IDU employed this language for their own purposes (Moore, 2009). Participant narratives regarding the mediation of health risks (addressing blood-borne virus transmission and overdose) reflect elements of public discourse surrounding Insite and may represent an element of "strategic accommodation". Strategic accommodation may be employed as a strategy to establish identification as a responsible drug user, who utilises and complies with a public health program (Moore, 2009). Juxtaposing the orderliness of the SIF with disorderly public injection settings may have helped some study participants to position themselves as responsible people and to distance their self-perceptions from the "chaos" of public injection settings. Few of the narratives referred to the ways in which "disorderly" public injection settings are shaped by particular priorities and imperatives, which are dissonant with neo-liberal values (Moore, 2009).

Public health strategies targeting IDUs also are often built upon assumptions regarding rational decision-making, prioritizing health risks over other everyday forms of hazard, which impedes the uptake and effectiveness of risk reduction initiatives when these health priorities do not "fit" with the lived experience of drug users

(Bourgois, 2002; Moore, 2004). It also has been argued that when exploring motivations for specific drug use practices, including selecting a venue for injection, there is a need to go beyond understanding these actions as being shaped by rational "cost-benefit" calculations in order to recognize the biological, social, cognitive and emotional dimensions involved (Measham, 2004). Discourses that represent SIF use as an obvious and common-sense decision are derived from an ontological position that constructs the decision of where one injects drugs as a rational choice, potentially minimising the role of other salient considerations related to injection practices in the everyday lives of IDUs.

3.4.4 Limitations

The data presented here details the perceptions of a sample of 50 SIF clients and does not include individuals who did *not* previously use the facility.

3.5 Conclusion

While previous epidemiological research has documented the impact of the SIF upon injection-related risk, this study suggests that IDUs inject at the facility because it addresses multiple salient risk priorities, including but not limited to health concerns. This analysis highlights the importance of taking the perspectives of IDUs into consideration, while it also underscores the contradictions inherent in public health programs seeking to reduce drug-related harm. Public health programs targeting IDUs often attempt to operate in a low-threshold manner, or meet people 'where they are at', and the value of this approach is well recognised. However, in the process of attempting to bring about individual behaviour change, these programs routinely subject drug users to various forms of regulation that emphasise the adoption of 'responsible' behaviour among IDUs. Public discourses that construct negative health outcomes stemming from injection drug use as the result of 'irrational' and

'irresponsible' behaviour, which are in part shaped by public health initiatives, serve to complicate interactions and encounters between drug users and programs which seek to facilitate risk reduction and reduce drug-related harm.

Table 3.1 Characteristics of interview participants compared to members of the SEOSI cohort (a representative sample of SIF clients)

Characteristics	Interview Participants *n* (%); n = 50	SEOSI Cohort *n* (%); n = 1090
Age		
Median (min-max)	38 (25-60)	38 (19-64)
Gender		
Female	21 (42)	313 (29)
Male	28 (56)	773 (71)
Trans-gendered	1 (2)	4 (<1)
Aboriginal Ethnicity		
Yes	13 (26)	211 (19)
Monthly Expenditure on Drugs		
Median (IQR)	900 (450-2000)	-
Drug most frequently injected		-
Heroin	26 (52)	-
Cocaine	10 (20)	-
Heroin & Cocaine	6 (12)	-
Morphine	3 (6)	-
Crystal Methamphetamine	2 (4)	-
Other	3 (6)	-
Education		-
Less than High school	19 (38)	-
Any High school	26 (52)	-
Any College	5 (10)	-
Housing Status		-
Stable	17 (34)	-
Unstable	29 (38)	-
Other	4 (8)	-

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CHAPTER 4:

INJECTION DRUG USERS' ACCESS TO A SUPERVISED INJECTION FACILITY IN VANCOUVER, CANADA: THE INFLUENCE OF OPERATING POLICIES AND LOCAL DRUG CULTURE[4]

4.1 Introduction

In response to the ongoing health and social harms of illicit injection drug use (Aceijas, Stimson, Hickman & Rhodes, 2004; Aceijas & Rhodes, 2007), a growing number of municipalities throughout the world have established supervised injection facilities (SIFs) (Broadhead, Kerr, Grund & Altice, 2002). SIFs are legally sanctioned, purpose-built venues where injection drug users (IDUs) can inject pre-obtained drugs under the supervision of healthcare staff (Kimber, Dolan, van Beek, Hedrich & Zurhold, 2003; Hedrich, 2004). These facilities seek to reduce drug-related overdose and transmission of viral and bacterial infections among IDUs (Broadhead et al., 2002; Kimber et al., 2003; Kerr et al., 2007a), increase uptake of health services, and reduce levels of injecting in public spaces. SIFs seek to address the environmental and contextual forces that fuel injection-related risk within unregulated injection settings (Broadhead et al., 2002), including "shooting galleries" and public injection settings. Within SIFs, safer injecting is facilitated through the provision of sterile syringes and ancillary injecting equipment, education regarding safer injection techniques, as well as amenities such as adequate lighting, clean working surfaces, and syringe disposal services (Rhodes et al., 2006). In addition, these facilities provide an immediate emergency response to drug-related overdose (Broadhead et al., 2002), and also eliminate distractions that can serve to disrupt hygienic injecting practices, including

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encounters with the police, which foster rushed injection practices in other types of injection settings (Rhodes et al., 2006).

A government-sanctioned SIF, named Insite, opened in Vancouver, Canada, in September 2003 (Wood et al, 2004a). To date, positive outcomes attributed to the Vancouver SIF include reduced levels of public injecting in the immediate vicinity (Wood et al., 2004b), reductions in syringe sharing (Kerr et al., 2005a), and increased uptake of detoxification and addiction treatment programs (Wood et al., 2006). Insite has also successfully managed over 1000 overdoses since opening with no fatalities (Milloy et al., 2008).

The 'risk environment' framework (Rhodes, 2002; Rhodes et al., 2005) emphasises that a range of contextual forces and programmatic features can influence access to and uptake of conventional HIV prevention and harm reduction programs, including characteristics of the local environment and the local population of IDUs (i.e., factors external to programs), as well as operating policies and regulations (i.e., factors internal to programs). Indeed, concern has been expressed regarding the impact of poor access to and lack of coverage of existing HIV prevention and harm reduction programs for IDUs (Institute of Medicine, 2007), such as needle exchange programs and drug substitution therapies. Previous ethnographic investigations have revealed how the restrictive policies of needle exchanges and methadone programs too often fail to consider the day-to-day realities and practices of IDUs (Bourgois, 2000; Bourgois & Bruneau, 2000), noting how over-regulation impedes IDUs' access to the HIV prevention materials provided through these programs. The emphasis on individual behaviour change within public health programs targeting IDUs often diverts attention from how social and structural factors may constrain the operation of harm reduction programs as well as utilisation of programs by IDUs (Rhodes, 2002). To ensure the optimal impact of SIFs at an individual, population or neighbourhood level, facility

operations must be tailored to the characteristics of the local drug scene and be accommodating of local drug use practices (Broadhead et al., 2002; van der Poel, Bargendregt & van de Mheen, 2003). Existing evaluation research reveals a relationship between intensity of SIF use and the extent of behaviour change among IDUs using the facility (Kimber et al., 2003; Milloy & Wood, 2009). Identifying relevant forces affecting access to SIFs and addressing those through service re-design and policy reform is therefore an important area of research.

Insite is generally well accepted by IDUs in Vancouver (Wood et al. 2005a; Wood et al., 2006). However, emerging evidence suggests that it is operating under conditions that may restrict its ability to fully meet the needs of its target population. There are concerns that the current capacity of the facility, wait-times to enter the injecting room, and regulations governing its operation could be constraining the utilisation of the SIF (Kerr et al., 2007; Petrar et al., 2007; McKnight et al., 2007), although the impact of these barriers has not yet been systematically investigated. In general, little is known about how macro-level contextual influences affect the operation of SIFs and how they shape access to and coverage of such facilities. Ethnographic research techniques can provide insight into how IDUs' access to SIFs is shaped by policies and regulations, as well as wider social, economic and cultural structures, including those that produce complex barriers to harm reduction among marginalised drug users (Moore, 2004; Moore, 2005). A contextualised understanding of the operation of Vancouver's SIF may therefore provide crucial information for the optimisation and scaling-up of SIFs in Canada and elsewhere.

4.2 Study Context

4.2.1 Policies and legislation: the regulatory framework governing supervised injection in Canada

While the operation of SIFs is technically illegal in Canada as per the federal *Controlled Drugs and Substances Act* (CDSA), a number of legal and administrative mechanisms have been employed to minimize the criminal liability related to operating a SIF, including administrative agreements (between health authorities, government agencies, law enforcement and public prosecutors) and exemptions from the provisions of the CDSA (Health Canada, 2002). Section 56 of the Act allows the federal Minister of Health to grant an exemption from all or some of its provisions, if necessary for medical or scientific purposes, or if it is otherwise in the public interest (Elliot, Malkin & Gold, 2002; Health Canada, 2002). The federal government opted to employ a Section 56 exemption for the ***scientific purpose*** of generating knowledge regarding SIFs in order to permit the legal operation of Insite. This three-year exemption protects staff and registered users from being charged with offences related to the ***possession*** of drugs under the CDSA (Health Canada, 2002) provided that the SIF is subjected to a rigorous scientific evaluation (Health Canada, 2002). Insite was therefore established as a small-scale ***pilot*** facility to enable the evaluation of the impact of supervised injection on a range of health and social outcomes (Health Canada, 2002; Wood et al, 2004a). The Ministerial exemption places its operation under strict government control and determines many aspects of the facility's design and operation (Health Canada, 2002).

4.3 Features of the Local Drug Scene in the Downtown Eastside of Vancouver

Within the City of Vancouver, injection drug use activity is highly concentrated in the Downtown Eastside (DTES) neighbourhood, where an intense HIV epidemic was identified in 1997 (Strathdee et al., 1997) and large numbers of IDUs died of drug overdoses during the 1990s (Tyndall et al., 2001). The neighbourhood has been

characterised historically by an open drug scene, a large homeless population, deteriorating housing stock including dozens of single-room occupancy (SRO) hotels, and an active sex trade (Wood & Kerr, 2006). It has been estimated that approximately 5,000 IDUs live in the DTES, while thousands of additional IDUs visit the neighbourhood regularly to purchase and consume drugs (Wood & Kerr, 2006). Approximately 17% of the IDU population in the DTES are HIV positive (Tyndall et al., 2006a) and over 80% are infected with the hepatitis C virus (HCV) (Wood et al., 2001). While heroin and cocaine are each commonly injected by local IDUs, cocaine injection has been linked to the rapid escalation in HIV infection in the community (Tyndall et al., 2003). Further, it is estimated that approximately 40% of local IDUs regularly require assistance with injections (O'Connell et al, 2005); this practice has been linked to an elevated pattern of drug-related harm (Kerr et al., 2007b). Jugular injections and assisted injections are also commonly practiced within the local drug scene (Rhodes et al., 2006). Public injecting (including injecting in outdoor venues) is practiced widely in the DTES and is concentrated in alleyways that are in close proximity to the open drug market (DeBeck et al., 2008, Small et al., 2007). Further, in Vancouver, all recipients of monthly social assistance benefits receive their cheques on the last Wednesday in the calendar month (known locally as "cheque day") and increased levels of injecting activity are evident in the open drug scene at this time (O'Shaughnessy, 2009).

4.3.1 Operational context within Insite

Insite is located in the DTES and operates 18 hours per day (10 am-4 am). The facility operates 7 days a week, 365 days a year. The facility includes: (1) a reception area and waiting room; (2) an Injecting Room (IR) featuring 12 individual 'booths' for injection, a nurse's station and a private room for the provision of nursing care and treatment; and (3) a post-injection "chill-out lounge", where clients can rest prior to

exiting to the street. As a clinical model SIF, staff members must adhere to strictly defined service protocols and clients must comply with an explicit code of conduct. Nurses supervise injections, respond to overdoses, and provide nursing care on-site. Insite also offers safer injecting education, needle exchange services, counselling, and referrals to a range of health and social services including addiction treatment (Wood et al. 2004a). The staffing complement at any given time includes at least one Responsible Person in Charge (RPIC), 2 nurses, 5 "program support workers", and 2 "peer support" workers (former/active drug users).

4.3.2 Statement of study purpose

Insite seeks to engage street-based IDUs by providing services in a "low-threshold" or "barrier-free" manner. However, little is known about the ways in which IDUs' access to Insite and utilisation of the facility are simultaneously influenced by: (1) policies and legislation which shape the regulatory framework governing supervised injecting in Canada; (2) features of the local drug scene, including characteristics and injecting behaviours of the drug user population; and (3) the operating environment within Insite, including operational procedures, site regulations and the client code of conduct. Accordingly, the purpose of this paper is to determine how the operating context of Vancouver's SIF affects local IDUs' access and utilization of the facility, as well as the potential of the SIF to promote risk-reduction in the broader DTES neighbourhood.

4.4 Methods

This study draws on data generated through ethnographic methods, including naturalistic observation over a period of 12 months and a series of 50 in-depth individual interviews with SIF users, as well as analysis of documentation regarding the

establishment of the facility, the regulatory framework governing SIFs in Canada, and operating procedures specific to Insite.

4.4.1 Naturalistic observation:

The author (WS) generated data regarding the operation of the facility by regularly visiting Insite and spending significant amounts of time in all areas of the facility. Observational work within the SIF began in August 2006; and while preliminary fieldwork involved occasional visits to the facility, the majority of site visits were conducted between September 1st, 2008 and August 31st, 2009. Site visits generated observational data regarding the utilisation patterns, physical layout, traffic flow, and management of prohibited behaviour within the SIF as well as interactions between clients and staff. Observational work also entailed extensive discussions with staff and drug users at the facility regarding the site's operation, regulations, and patterns of utilisation. During observational work, WS identified himself as a researcher who was documenting the operation of the facility; he also clearly indicated to all SIF clients that he interacted with that he was not an Insite staff member. Conversations with IDUs and staff, as well as observations of activities within the facility were recorded in field notes. Observational work within the SIF was complemented by examination of the Insite database, which records information regarding all client visits to the site, including the number of injections, suspensions, overdoses, nursing treatments and referrals. Information regarding the local drug scene was generated through other ethnographic fieldwork outside of the SIF (Small et al., 2007), including investigation of DTES public injection settings.

4.4.2 In-depth interviews with local IDUs who use the SIF:

This analysis also draws on data from 50 in-depth individual interviews conducted with SIF clients. Study participants were recruited from the Scientific

Evaluation of Supervised Injecting (SEOSI) cohort, which is composed of over 1000 randomly selected SIF users in Vancouver, and is representative of the larger population of SIF clients (Wood et al., 2006). Between November 2005 and February 2006, a sub-sample (n=50) of the SEOSI cohort members participated in in-depth, open-ended interviews to discuss: utilisation of the SIF, reasons for using the facility, barriers to attending the SIF, the design and operation of the facility, as well as behaviour and interactions within the facility. Interviews lasted 40-80 minutes, were audio-recorded, and transcribed verbatim. Analysis began early in the data collection process and continued as the subsequent interviews were completed. Thus, emergent analysis of early interviews was used to inform the focus of subsequent interviews as well as the ongoing development of the analytic results related to the ways in which the design and operation of Insite were perceived to influence IDUs' experiences when using the facility.

4.4.3 Document analysis:

To complement the data gathered during naturalistic observations and in-depth interviews, a document analysis was also conducted to assess how the current regulatory frameworks structure the operating policies and regulations of Insite, and how these institutional features shape the experiences of SIF users. The scope of the analysis included documents related to legal frameworks surrounding SIFs in Canada, the details of the exemption granted to Insite, as well as the protocols, policies and procedures specific to operations within Insite. The following documents were reviewed: Health Canada's guidelines for "Application for an Exemption under Section 56 of the Controlled Drugs and Substances Act for a Scientific Purpose for a Pilot Supervised Injection Site", the application for an exemption submitted to Health Canada by Vancouver Coastal Health and the Portland Hotel Society in 2003, the letter

from the Assistant Deputy Minister of Health Canada to the site operators which constitutes the "Approval of the Application for an Exemption", and Insite operational manuals detailing service protocols, site regulations and the client code of conduct.

4.4.4 Ethics

Approval to conduct the interviews and naturalistic observation within the SIF was granted by the Providence Health Care/University of British Columbia Research Ethics Board. All interview participants provided written informed consent and verbal consent was obtained from individual drug users and staff within the SIF for observational work.

4.5 Results

This analysis illustrates how the interplay between a range of contextual features shape the potential for the SIF to reduce drug-related harm. These include Insite's operational characteristics and environmental features, which influence the ways in which the facility functions and also affects utilisation and access by local IDUs. While ethnographic techniques were used to generate the data employed in this analysis, the primary goal of this paper is not to provide an in-depth description of the facility's day-to-day operation or drug user behaviour within the facility, although, in the first section below, a brief description of the facility's operations is provided. Instead, an analysis of how cultural, structural, and spatial forces shape IDUs' utilisation of the facility (based upon data derived via document reviews, interviews and observational activities) is presented to illustrate the importance of these interactions for understanding access to the SIF in the local context.

4.5.1 Site utilisation

Utilisation statistics indicate that Insite is a high volume SIF in comparison to facilities operating in other countries (Broadhead et al., 2002; van der Poel, 2003; Wolf et

al., 2003). From September 1st, 2008, to August 31st, 2009, there were 274 141 visits to the facility, with an average of over 22 000 visits per month. During this period, 175 980 visits to the injecting room occurred, with a monthly average of 14 665 injections. Within this 12-month period, the facility received an average of 751.3 visits per day, and an average of 482.1 injections took place each day. Not all site visits result in injections, as clients may attend the facility to access services other than the injecting room, including referrals to off-site services.

4.5.2 Site regulations and code of conduct

At the time of their first visit to the facility, IDUs are required to register and select a unique identifier which is used to record within the computerized database all subsequent SIF visits, referrals, nursing treatments, overdoses, and temporary access suspensions. Registration also requires clients, who must have a history of injection drug use and be over 16 years of age, to sign a waiver agreeing to adhere to all site regulations and the code of conduct.

Site regulations strictly prohibit dealing drugs within the facility, as well as the passing of drugs between clients. Preparation or injection of drugs outside of the injecting room is also prohibited. Clients are limited to one injection per visit to the injecting room and may consume drugs through injection only. Smoking or snorting drugs is prohibited within the SIF. Self-administration of drugs is required, although staff may provide education regarding injection techniques and guidance with venous access. Manual assistance with injections is not permitted, although self-injecting into the jugular vein is permitted. There is no official limit on the amount of time an individual may spend in the injecting room.

The code of conduct reinforces the site regulations and outlines the further conditions of use and consequences for breaches of conduct, which all clients agree to

upon registration. Clients are required to follow the directions of staff members. Clients who violate the site regulations or the code of conduct will be temporarily prohibited from the facility. Clients are expected to occupy the injecting booth to which they are assigned and stay out of the booths of others. Clients are asked to limit their stay in the injection room to the amount of time needed to inject and then proceed to the chill-out lounge.

At the time of registration, clients are informed that prohibited behaviour is managed through temporary suspensions. The most common form of access suspension involves a 24-hour temporary prohibition, which expires automatically, and is commonly issued to deal with disruptive behaviour, or failure to comply with the code of conduct. The only types of access suspensions that endure for more than 24 hours are those issued to address serious disruptions, threats and violence. These suspensions require the client to discuss the incident with one or more site coordinators, and negotiate the terms of their re-entry before regaining access.

Admission for registered clients is subject to a number of additional conditions and individuals will be denied access if they: do not provide an Insite identifier; have a medical condition requiring emergency attention; have a child or children with them; or are currently suspended from using the facility. Notably, site protocols do not specifically prohibit intoxicated clients from entering the facility or the injecting room, and operating policies state that clients have the right to access services even when under the influence of alcohol or other drugs.

The exemption to the CDSA granted to Insite plays a central role in determining the facility's operating policies. The conditions of the exemption specify that the capacity of Insite is limited to 12 injection booths, and require that all injections be self-administered within the facility, necessitating the prohibition on assisted injection (Health Canada, 2002). In addition, the exemption protects staff and registered users

from charges of drug possession, but does not extend to activities related to trafficking. These stipulations are encoded within the exemption granted to Insite and prevent the site operators from creating operating policies that deviate from the parameters imposed upon the program, or expanding the capacity of the facility.

4.5.3 Waiting to access the injection room

Ethnographic data indicate that when drug users possess drugs and have arrived at the SIF, they typically want to inject as quickly as possible. There is great demand for the facility's injection room (IR) and a queuing system is used to organize access to the injecting booths, based upon order of arrival. The number of injection booths is very small compared to the large number of individuals who seek admittance to the IR. While there are some times when the IR can be accessed immediately upon arrival, most clients wait at least 5 to 10 minutes to enter the IR and it is commonplace to see a group of clients queuing in the waiting area. At busy times, waits may exceed 15 minutes and when the facility is busiest clients may have to wait as long as 30 minutes to access an injection booth. Long wait times often result in individuals leaving the SIF before they access the IR, so that they can inject as soon as possible. Many clients asserted that they opt to inject elsewhere if they have to wait to access the IR, reporting that a queue of more than 3 people on the waitlist is "too many", or that "15 minutes [wait] is too long". The ability of drug users to wait in the queue is further reduced in situations when they experience opiate withdrawal, because even a moderate wait "feels like an eternity". The need to alleviate withdrawal symptoms provides a powerful motivation to inject immediately, even outside the SIF. For other clients, the anticipation of injecting cocaine, which may involve a desire to inject immediately, motivates users to inject in other settings in light of waits to access the IR.

Data from the Insite database, which tracks the volume of clients who seek to use the injecting room and subsequently leave due to the wait, confirms the impact of wait-times. Over the 12-month study period, on average 8.6% of all the site visits where clients sought to use the IR resulted in the client leaving before they could use the IR because of wait times. During some months, as few as 5% of individuals left the SIF before accessing the IR due to the wait, while other months as many as 11.8% left due to wait times. In addition to the individuals who are put on the waitlist and subsequently leave, numerous clients were observed entering the site and upon seeing the queue in the waiting room, leaving without asking to be put on the wait-list.

4.5.4 Time spent within the injecting room

While the average length of a visit to the injecting room is approximately 20 minutes (Tyndall et al, 2006b), there is great variation in the amount of time that individuals spend within the IR. For example, many visits to the IR last an hour or longer, which impedes the turnover of booths and exacerbates problems related to wait times to use the facility.

Some lengthy IR visits are due to problems with the injection process including situations where clients have difficulty locating a viable vein in order to deliver an injection. After clients have completed their injection, there may be delays before an individual vacates their booth. The character of these delays is often related to the drugs injected. Subsequent to injecting heroin, clients may enter a drowsy state, commonly referred to as a "nod", and this can delay individuals in leaving their booth. Subsequent to injecting cocaine, many clients engage in "tweaking", which includes repetitive, compulsive, or obsessive behaviours as well as rare cases of cocaine-induced psychosis (Kerr et al., 2003). While Insite staff members are skilled in encouraging cocaine injectors to leave the IR and enter the chill-out lounge, post-injection "tweaking"

frequently distracts these clients from vacating their booth in a timely manner. Assisting clients who are having trouble exiting to the post-injection "chill-out" lounge, due to the sleep-deprivation and exhaustion that is common among street-based injectors (as well as the effects of both heroin and cocaine), also is important to maintaining client flow out of the IR.

Sometimes it is necessary to suspend clients who are spending "too long" within the IR. Staff members will employ access suspensions only when a client has established a pattern of regularly staying "too long", or when the site is extremely busy and the wait to enter the IR is lengthy. Although these types of access suspensions are issued judiciously, they compose a significant proportion of all the suspensions issued. For example, in March 2009 when 86 suspensions occurred, a total of 14 (16.2%) access suspensions were issued in relation to IR visits that lasted in excess of 120 minutes. Notably, the number of access suspensions issued in relation to long stays in the IR increases around "cheque day", when the number of visits to the facility is greatest.

4.5.5 Regulations prohibiting sharing or splitting drugs

Although Insite's operating regulations prohibit clients from sharing, dividing or passing drugs within the facility, local drug users commonly engage in these practices outside of the SIF. Clients asserted that the prohibition on sharing drugs fails to accommodate highly common "everyday" practices regularly employed by drug users, which play a significant role in social relationships. Pooling money to purchase drugs, obligations to give drugs to other drug users in order to address debts or reciprocate previous "gifts", as well as social norms which encourage "helping out" friends and associates by providing a small amount of drugs, were described as representing important reasons why IDUs frequently "share" drugs. The regulation prohibiting

sharing drugs affects utilisation of the facility and represents a barrier to SIF use in relation to instances when IDUs "need" to divide or share drugs.

Many clients recounted occasions when they divvied up drugs outside prior to injecting at the SIF. They described these situations as being hazardous (e.g., they might encounter the police, lose or spill drugs during the process of division, or be robbed of their drugs). In addition, some clients reported that when they had found a relatively secluded location to divide their drugs, they would simply inject in that location, rather than returning to inject at the SIF (and possibly waiting to enter the IR). Study participants discussed how the regulation prohibiting splitting drugs within the SIF disproportionately affects injectors who have jointly purchased drugs that originally are sold in pill form, including morphine, hydro-morphone, dilaudid, and oxycodone, which are commonly used by SIF clients (Tyndall et al., 2006b). Clients explained that splitting these drugs entails a complicated process. As the pill must be prepared in a liquid solution before it can be divided, IDUs will opt to inject in the location where they perform this preparation process, rather than returning to the SIF.

4.5.6 Regulations prohibiting assisted injection

Ethnographic data indicates that SIF regulations prohibiting assisted injections may discourage clients from using the SIF, particularly among some sub-groups of IDUs who have difficulty self-administering injections. Difficulty self-administering injections may be precipitated by low levels of knowledge regarding injection techniques, vascular problems (e.g., damaged veins), physical disabilities, as well as situations where IDUs are sleep deprived, intoxicated or experiencing withdrawal (Wood et al., 2003). When IDUs have trouble with venous access within the SIF, they frequently call upon nursing staff for *guidance* and *advice*, but the nurses are not permitted to physically assist with the injections. When advice from nursing staff was

not sufficient to manage problems with the injection process, clients may leave the IR without completing their injection in order to receive physical assistance with their injections from other drug users, which is how IDUs customarily navigate inability to self-inject (O'Connell et al, 2005).

Clients expressed the view that it would have been beneficial if a nurse or fellow drug user attending the SIF could have supplied manual assistance with injecting. Some clients thought that permitting assisted injections within the SIF would facilitate opportunities for them to relocate their injecting practices from dangerous environments (e.g., public injection settings in local alleys) to the safer environment of the SIF.

The dynamic associated with assisted injecting is important among women who are regular SIF users. As one woman explained, she injects outside of the SIF when she needs "somebody to do it for me" (Interviewee #21, 34 years old), particularly when she is experiencing heroin withdrawal. In addition, a small number of interview participants, again primarily female injectors, recounted instances where they had difficulty self-administering an injection within the SIF, and after repeated attempts, left the IR in order to seek manual assistance within another location, often in public injection settings. Male interview participants who regularly serve as "doctors" (i.e., individuals who administer injections to other drug users) described instances when they had been approached within the SIF by female injectors who were having difficulty self-administering their injection and were seeking to arrange an assisted injection outside of the SIF.

4.5.7 Frequent visits by cocaine injectors and the impact of synchronised welfare payments

The high prevalence of cocaine injection among SIF users, and the fact that welfare payments are issued to all recipients at one point in each month, pose

operational challenges for the SIF. Because cocaine injectors need to inject frequently (e.g., some perform more than 20 injections over the course of a day), many of these individuals are "frequent flyers" among the clientele of the SIF. Observation of IDUs' usage of the facility indicates that cocaine injectors may make more than 10 visits per day, quickly returning to the queue in the waiting area after completing their injection (in comparison, heroin injectors usually inject 2-4 times per day). In addition to posing challenges to maintaining client flow through the SIF, the injecting practices of cocaine users do not fit well with the site policy of 'one fix per visit'.

Due to the increased levels of drug use and the elevated level of activity within the local open drug scene during the time when social assistance benefits are paid, the length of the queue to enter the IR and wait times are the longest on "cheque day" (and the 2 days following it). During these days of peak traffic, the proportion of clients who leave due to the wait increases to a level far above the monthly average, up to 15%-20% of those seeking to use the IR.

4.5.8 Ensuring compliance

In addition to addressing the service needs of SIF clients and regulating client flow through the facility, staff are required to constantly monitor client behaviour within the SIF to ensure compliance with the conditions of the exemption from the CDSA. Clients reported that they may attempt to inject within the waiting room or the chill-out lounge (where injecting behaviour is prohibited) when the site is busy, in order to avoid the long wait to enter the IR. Temporary access suspensions, lasting 24 hours, are regularly issued in order to address injecting behaviour in areas outside the IR. Over the course of March 2009, when 86 access suspensions were issued, a total of 20 (23.2%) were issued for injecting or attempting to inject in areas other than the IR.

The prohibition on dividing or passing drugs, which is defined as trafficking under the law, also requires that staff monitor participants to ensure that these behaviours are not occurring within the facility. Clients explained that they may attempt to divide and pass drugs within the facility without being detected by staff, due to the difficulty and hazards entailed in partitioning drugs in other locations, primarily outdoor venues. While some attempts to divide or pass drugs occur within the waiting room, this behaviour is most strictly monitored within the IR, where clients are required to stay within their own injection booth and are discouraged from entering the booths of others, partially to prevent attempts to pass drugs. When staff members observe two or more clients attempting to pass drugs, each of the offending clients will receive a 24-hour temporary access suspension. During March 2009, approximately 20% of the suspensions issued were in relation to attempts to pass drugs to another individual within the facility.

Ensuring compliance with the Insite code of conduct and site regulations sometimes results in serious conflicts between staff and SIF clients. Upon being informed of their suspension, clients may become aggressive, threaten staff, or refuse to leave the facility, which results in a longer-term suspension and requires a meeting with one or more site coordinators before client access is reinstated. Clearly, the need to enforce regulations is important to the functioning of the SIF, although it may also limit access to the facility, especially for SIF clients who receive multiple suspensions over the course of a single month (for example).

4.6 Discussion

A contextualised understanding of the operation and regulations of Insite highlights how the ***interactions*** between regulatory mechanisms, operational features of the facility, and the local drug using context influence access to Vancouver's SIF. This

analysis illustrates how macro-level forces (e.g., parameters of the legal exemption which permits the site to operate) shape the operation of Insite through regulation and legal controls. Moreover, this examination demonstrates how these specific operational characteristics of Insite interact with features of the local drug scene (e.g., the large population of injectors, the frequent visits of cocaine injectors, synchronised welfare payments) to shape the experience of accessing and using the SIF. While the clinical service model at Vancouver's SIF attempts to maximise access and minimize barriers to the service, major challenges affect its operation.

4.6.1 Capacity versus demand for the service

The legal exemption under which Insite operates stipulates that the facility is limited to 12 injection booths within the premises. The capacity of Insite is therefore limited to the number of clients that those 12 booths can accommodate. Observations and data from the electronic SIF database regarding wait-times provide evidence that the demand for Insite's services exceeds its current capacity. Within the cultural logics of local injectors, there is a relatively low threshold for waiting to access the supervised injection setting, partially due to the pre-existing and established culture of public injecting within the local environment, which often involves injecting immediately after drugs are obtained (Small et al., 2007). This dynamic is corroborated by a quantitative study which found that those SIF users who reported wait-times to be a barrier to their utilisation of the SIF were 3 times more likely to inject in public, when compared to those who did not report wait-times to be a barrier (McKnight et al., 2007).

The synchronised payment of social assistance benefits, which precipitates increased levels of drug use within the local drug scene, exacerbates the gap between the capacity of Insite and the demand for its services, as a dramatic increase in demand is evident on "cheque day" and the days immediately following it. Coincidentally, the

number of hospital admissions for non-fatal drug-related overdose increases around "cheque day" (Riddell & Riddell, 2006), due to the increased levels of drug use at this point in time. This temporal increase in non-fatal overdoses, which occurs when the demand for the SIF is the greatest, is a key feature of the local drug scene which influences SIF utilisation. Unfortunately, the clients who cannot wait to inject within the safety of the SIF (where no overdose deaths have occurred) instead inject in other venues, where there is an elevated risk of overdose and reduced potential for assistance. In these ways, the nexus of the regulatory context and local drug scene restricts the capacity of the SIF to promote risk reduction, a phenomenon also observed in relation to needle exchange and methadone programs which are subject to similar forms of regulation (Burris et al., 2004; Neale, 1999).

4.6.2 Governing access and use

All SIFs worldwide have basic logistical arrangements and many SIFs have similar "house rules" (Broadhead et al., 2002), which ensure injection hygiene and create a controlled environment. However, there are several features of Insite that distinguish it from other SIFs (Kimber et al., 2003). For example, jugular injections are prohibited in SIFs operating in other countries (e.g., Australia) (van Beek, 2003), but are permitted at Insite, due to the high prevalence of this injection behaviour in the DTES. Approximately 25% of local IDUs regularly inject in the jugular vein (Hoda, Kerr, Li, Montaner & Wood, 2008) and it appears that jugular injection is common within the local public injecting scene (Rhodes et al., 2006). Allowing this practice potentially enhances SIF utilisation. Similarly, unlike some SIFs, Insite allows intoxicated drug users to access the IR, acknowledging that refusing access to intoxicated individuals would likely result in them injecting in other settings where the chance of receiving assistance in the event of overdose is reduced (Kerr et al., 2007a).

However, some activities that are prohibited within Insite are allowed in other SIFs (Kimber et al., 2003). For example, not all SIFs prohibit clients from sharing or splitting drugs (Broadhead et al., 2002; Kimber et al., 2003). The clinical SIF in Sydney, Australia, permits clients to share drugs if they arrive at the facility together (van Beek, 2003); and an unsanctioned, peer-run SIF in Vancouver, which operated without a government exemption prior to the establishment of Insite, allowed clients to share and divide drugs while prohibiting the sharing of injection equipment (Kerr et al., 2005b). Drug "sharing" represents a key survival strategy among street-based IDUs who have limited access to financial resources and engage in precarious income-generation strategies (Bourgois, 1998; Grund, 1996). Insite cannot accommodate this important everyday practice under the current regulations. This limits the ability of the facility to promote risk-reduction strategies (e.g., the use of sterile materials to prepare drugs) in relation to the collective preparation of drugs among IDUs, which continues to occur in unregulated and unhygienic settings, which may provide opportunities for blood-borne virus transmission, particularly hepatitis C, when previously utilised syringes are employed (Koester, Glanz & Baron, 2005; Koester, Booth & Zhang, 1996).

The federal regulations governing Insite prohibit assisted injection and require that all injections within the facility be self-administered (Health Canada, 2002). Although injecting within the SIF has been documented to facilitate capacity for self-injection and reduce reliance upon assisted injection (Wood et al., 2005b, Fairbairn et al., 2008), the current study indicates that many SIF clients continue to receive assisted injections *outside* the SIF, often within public injection settings. Local IDUs who receive assisted injections are twice as likely to become HIV positive when compared to IDUs who do not require help injecting (O'Connell et al., 2005) and are at increased risk for non-fatal overdose (Kerr et al., 2007b). While regulations that prohibit assisted injection reduce willingness to use a SIF among IDUs (Fry, 2002; Kerr et al., 2003), it appears that

this particular regulation may disproportionately affect willingness to attend and use the SIF among female injectors (Kerr et al., 2003). In the Vancouver setting, female injectors are known to be twice as likely to require help injecting (Wood et al., 2003) and are more likely to become HIV-positive when compared to male IDUs (Spittal et al, 2002). Some of the HIV risks experienced by female injectors are shaped by gender dynamics within intimate partnerships, where women are often "second on the needle", receiving assisted injections from male partners with previously used syringes (Bourgois, Prince & Moss, 2004). Some SIFs in European countries permit peer-to-peer assisted injections (Kimber et al., 2005), as did the unsanctioned SIF that operated in Vancouver prior to the opening of Insite (Kerr, Oleson & Wood, 2004). By ensuring the use of sterile syringes when assisted injections were delivered, Vancouver's unsanctioned SIF demonstrated that it is possible to accommodate assisted injections within the supervised environment which reduces the risks associated with this practice (Kerr, Oleson & Wood, 2004).

4.6.3 Implementing the 'rules'

Previous research has demonstrated that the implementation of some SIF rules can be problematic to the successful functioning of these facilities (Fry, 2003). Our findings illustrate that IDUs adapt to those operating features of the SIF that they find problematic by selectively utilising the facility (e.g., injecting elsewhere when wait-times are long) and by violating site regulations to accommodate their needs (e.g., attempting to pass drugs within the SIF). In most cases, these adaptations reduce IDUs' utilization of the SIF and prompt them to access other less safe injecting environments. Additionally, the management of these behaviours places staff in a problematic dual role, where they act as care-givers but are also compelled to enforce site regulations to ensure compliance with the conditions of the exemption.

Clearly, the safety of staff and other clients at Insite is a priority, but the need to enforce site regulations, which do not fit with the everyday practices of IDUs, creates an extremely complex operating environment and can foster "everyday acts of resistance" by drug users within service settings (Moore, 2009). As well, the enforcement of rules may inadvertently (re)produce a set of social relations (e.g., confrontational dynamics between drug users and authority figures like the police) that serve to perpetuate the stigma and marginalization experienced by people who inject drugs (Simmonds & Coomber, 2009). While these issues affect operations within the SIF, it must be recognised that the number of suspensions is relatively small when the number of site visits is taken into consideration.

4.6.4 Structural forces shaping SIF operation in Canada

While most public health programs are affected by the political and legal context in which they operate (Blankenship, Bray, & Merson, 2000), this analysis indicates that the particular approach adopted by the Canadian federal government to permit the legal operation of SIFs in Canada has important implications for the delivery and operation of the service. Utilising a Ministerial exemption for ***scientific*** purposes represents one strategy to permit legal operation of SIFs under the CDSA, but this mechanism severely restricts the establishment of this form of health intervention, limiting SIFs to a single pilot facility operating as part of a scientific evaluation. Canada's Minister of Health stated in 2006 that the federal government would not grant additional exemptions to the CDSA, which prevented the establishment of any additional SIFs in Canada, despite positive findings emerging from evaluation research (Wood et al., 2008).

While the federal government's approach to regulating SIFs has been criticised for placing undue restrictions on this form of intervention and impeding the

establishment of additional SIFs (Wood et al., 2008), critics have pointed out that the specifics of the exemption place greater emphasis on reducing risks to institutions and their staff than on reducing risks to the vulnerable population the SIF is designed to serve (Fischer, Turnbull, Poland & Haydon, 2004). The current guidelines prohibit assisted injections within SIFs, despite the documented harms stemming from this practice and the existence of alternative strategies to address criminal and civil liability stemming from assisted injections occurring within SIFs (Pearshouse & Elliott, 2007). The federal guidelines for Insite's operation prioritise minimising the potential for legal and institutional liability over the creation of the most accessible SIF and the potential for maximum impact upon injection-related risk among marginalised IDUs (Fischer et al., 2004).

Optimizing the operation of SIFs in Canada will require modifications to public policies beyond the health sector, including amendments to current legal frameworks. For example, it has been recommended that assisted injection be permitted within Canadian SIFs (Pearshouse & Elliott, 2007), which would require amendments to the current regulatory framework governing supervised injection as well as modifications to Canadian criminal and civil law to address legal liability related to providing assisted injections. Modifying SIF regulations to permit the division of drugs and assisted injections also would entail complex amendments to Canadian legislation regarding controlled substances, but represents an important step towards realigning the operation of SIFs to accommodate the everyday practices of IDUs. The barriers posed by the delays in accessing the injection room also could be addressed in part through increasing the number of injection spaces available, as well as the addition of other SIFs in the neighbourhood (Broadhead et al., 2002).

While there is limited potential to initiate changes to any of these facets of Insite's operation under the Health Canada exemption, recent legal developments may prompt

a restructuring of the regulatory framework governing SIFs in Canada. The Federal Minister of Health previously extended Insite's exemption; however, the current federal government appears to be opposed to the continued operation of SIFs in Canada (Small, 2008) and the operators of Insite anticipated that the exemption would be revoked in order to close the facility. However, legal experts have observed that because SIFs represent a healthcare program targeting addicted individuals, the federal government may be constitutionally required to eliminate legal barriers to the operation of SIFs under the *Canadian Charter of Rights and Freedoms* (the Charter) (Elliot, Malkin & Gold, 2002).

A recent legal case in the Supreme Court of British Columbia (B.C.) challenged the authority of the Federal Government to restrict the operation of Canadian SIFs, arguing that access to SIF as a healthcare program is ensured under the Charter. The judge in this case decided that the CDSA cannot take precedence over the Charter, granted Insite a *constitutional* exemption to the relevant sections of the CDSA and gave the federal Government one year to modify the CDSA to accommodate the operation of the SIF (Small, 2008; Pitfield, 2008). Since the announcement of that decision, the federal government filed an action to appeal this legal decision, and the B.C. Court of Appeal subsequently dismissed that appeal (Hall, 2010). While a further appeal is anticipated to occur in the Supreme Court of Canada (Hall, 2010), the operators of Insite recently announced plans to establish a second SIF in the DTES area (Howell, 2009) in order to better accommodate the overwhelming demand for Insite.

4.6.5 Potential complementary interventions

Even if many of the aforementioned barriers to the service were removed, it is important to recognize that a proportion of IDUs may still be unwilling to use the SIF (Fry, 2002; Kerr et al., 2003). In light of the limitations of SIFs, there is a need to develop

new interventions (and expand existing programs) to reduce injection-related risk and maximise injection safety within locations where IDUs customarily inject drugs, including public injection settings and private residences. These efforts may involve increasing access to sterile injection equipment, enhancing personal safety within injection settings by supplying an element of monitoring, and providing overdose management, potentially through the distribution of naloxone to drug users.

While these pragmatic efforts have potential to reduce injection-related risk within existing injection settings by fostering injection safety and response to overdose (Rhodes et al., 2006), there also is a need for policy reforms that can address structural factors which drive injection-related risk in unregulated settings and foster public injecting behaviour. For example, policy reforms increasing access to housing in the DTES could simultaneously help to mediate the high burden of drug-related harm among homeless IDUs (Corneil et al., 2006), reduce the volume of public injecting locally, and subsequently, potentially reduce some of the excess demand for the SIF which currently poses operational difficulties. Similarly, modifying disbursement schedules for social assistance, by staggering payments or issuing benefits at two points over the course of the month, represents an important strategy to address an environmental factor shaping a temporal increase in the potential for overdose in the local context (Riddell & Riddell, 2006), which coincides with an increase in unmet demand for the SIF. Rescheduling the payment of social assistance may reduce the impact of "cheque day" upon barriers to the SIF, as well the operation of other services that engage with highly marginalised substance users in the Vancouver context (Li et al., 2007), including medically managed detoxification.

Finally, this study has limitations that should be noted. As an ethnographic examination of the operation of one SIF in the Canadian context, the specific contextual issues identified may not influence the operations and utilisation of SIFs in other

settings. However, all SIFs must be considered as existing at the intersection of broad regulatory policy and local drug scenes, therefore this analysis may be informative for efforts to contextualise the operation of SIFs in other jurisdictions. While a number of operational issues that influenced access to the SIF were identified, this study did not seek to quantify the impact of these barriers, and future research could more precisely measure the number of visits and clients affected by specific programmatic features.

4.7 Conclusion

The current study illustrates the ways in which IDUs' access to Insite is simultaneously influenced by *the interaction* between contextual forces, regulatory mechanisms, and programmatic features of the facility. The operating environment *within* Insite (e.g., operational procedures; client code of conduct) heavily affects local IDUs' experiences in accessing and utilising the SIF. While the SIF facilitates risk-reduction among the IDUs who inject within the facility, its current operating format is unable to accommodate the demand for the supervised injection setting, and many practices that are commonly employed by local IDUs. To ensure the optimal impact of SIFs across settings, efforts must be made to ensure an appropriate number of SIFs to meet local demand, reform policies that restrict access to SIFs, and provide service delivery models that consider the local environment and practices of IDUs.

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CHAPTER 5:

DISCUSSION AND SYNTHESIS OF DISSERTATION FINDINGS

5.1 Overview

This dissertation used ethno-epidemiological approaches to investigate *how* the social context and drug use patterns within the local risk environment of the DTES intersect with the legal and regulatory operating context of the SIF to affect clients' access to and experience of using the facility. Drawing on descriptions of social relations and drug consumption practices (Chapter 2), the complex interface between public injection venues and Insite, Vancouver's SIF, was investigated (Chapter 3). In Chapter 4, the cultural, structural, and spatial forces that shape the potential for the SIF to reduce drug-related harm are described. In this final section of the dissertation, Chapter 5, the findings of the dissertation are briefly synthesized and a set of methodological reflections is provided. Finally, the new information gathered in the current study is used to identify promising interventions and new research opportunities that might complement existing efforts to address Vancouver's injection drug-related problem.

While this work revealed that contextual features within unregulated injection settings pose barriers to risk-reduction, it also demonstrated that SIFs address many of these contextual features and foster risk-reduction. However, in order to maximise access to SIFs, features of the facility must be tailored to the local drug scene, which requires knowledge regarding the risk environment, injection settings within the locale, and local practices among IDUs. No single intervention, including SIFs, can accommodate all injectors or eliminate injection-related risks completely (Rhodes et al., 2006). While efforts to enhance amenities and foster injection safety within existing injection settings must be pursued (Rhodes et al., 2006), these efforts must be complemented by structural interventions focused on addressing the social and

material inequalities implicated in the production of drug-related harm among street-based injectors (Moore and Dietze, 2005; Rhodes, Singer, Bourgois, Friedman & Strathdee, 2005).

5.2 Interpretation of Findings and Reflexivity

In interpreting the results of this dissertation, which were generated using ethnographic approaches, my role as a field researcher should be considered. During data collection, my presence provided a catalyst for discussions as I introduced myself to clients within the SIF, or explained why I was present in the alleyways where injecting regularly occurs. When I explained that I was spending time in public injection settings and the SIF in order to understand the relationship between these environments and how they shape behaviour, this precipitated many lengthy conversations with IDUs regarding public injecting, the events that occur in local alleyways, and people's engagement with the SIF. A recurrent theme in these conversations was that IDUs positioned the SIF as an exceptional drug consumption environment. Although the SIF had been operating for a number of years by the time I began my fieldwork, it was seen as being unique, and users consistently reminded me of how it is "not the street", discussing numerous ways that the supervised environment differs from street-settings. While the differences between the SIF and the street were not always constructed as being positive, these conversations drew my attention to how the physical environment and social context within the SIF served to fundamentally alter customary social and spatial relations among drug users.

During my fieldwork, I spent dozens of days, in both summer and winter months, interacting with people as they were injecting within the SIF and in local alleyways. While I had previously spent considerable time interacting with drug users in the streets of the DTES, observing people consuming drugs within the inhospitable

and unsanitary environments of the alleyways of the DTES was sometimes unnerving; and, the atmosphere in these settings was often quite tense. Although drug users perceive the SIF to be a more "humane" environment, some people visiting the SIF were extremely distraught during their visits due to current events in their lives (e.g., having just been evicted from their residence; learning that their boyfriend had just been sentenced to years in prison; grieving the recent death of a friend). One of the most striking aspects of my fieldwork was being constantly exposed to the complicated health problems that are a part of everyday life among IDUs in the DTES. For example, I was reminded of the severity of these health issues when I encountered a man who I would see on a regular basis, who had recently had a limb amputated as a result of complicated injection-related infection. Another recurring reminder of the significance of these health problems were the many deaths in the community of IDUs that were described to me by the people who spoke to me during my fieldwork. It seemed that every month people were talking about a memorial or a funeral service for someone who had recently passed away. Witnessing this level of suffering was often difficult, but necessary, to adequately develop contextualised understandings of the circumstances and experiences of some highly vulnerable sub-groups of people who inject drugs in Vancouver's DTES.

In addition, some of the venues where drug users usually congregate are unsafe and/or unsuitable for 'outsiders' to visit, which meant that in order for me gain 'entry' (and maintain some degree of personal security) in these settings, I had to establish my 'credentials' and communicate that I was not an undercover police officer, some kind of voyeur, or drug 'tourist'. My established relationships with individual drug users and previous research experiences in the community, which included accompanying an outreach team operated by the Vancouver Area Network of Drug Users (VANDU) who regularly visited public injection settings, were often helpful in this regard. In some

situations, people who knew me from previous encounters, "vouched" for me, communicating to other drug users that I was "okay". However, on many other occasions, I needed to engage in prolonged discussions regarding my reasons for being present where people were consuming drugs, the potential risks and benefits of my work, and my relationship to the DTES community and its residents.

Although my identity as a graduate student working on a PhD at a local university meant that I was an "outsider" in many dimensions, my presence and willingness to discuss my research activities facilitated many interesting conversations. In addition, my familiarity with the DTES and my previous experiences in the neighbourhood often helped me to communicate to people that I was not simply a researcher that was 'parachuting' into the community with my own research agenda, but that some of my previous work was relevant to the health of local drug users. Interestingly, many drug users in the DTES also recognise the social role of "researcher" to have relevance to the local street scene, as they themselves perceive a need to communicate to the "general public" how deplorable living conditions are for some people in the DTES.

Over the course of the 8 years that I have been working in the DTES community, in various research-related roles, I have been allowed access to parts of drug users' worlds that not many other non-users have seen (apart from physicians, health outreach workers, and service providers). However, some people who faced the most serious barriers to accessing SIF also may not have been willing to engage with me during my fieldwork (including the observations and interviews); and, therefore, their perspectives may be inadequately represented in the data. For example, while I was able to interact with dozens of drug users within the SIF, and made an active effort to communicate that I was not a SIF staff member and that my research was part of the independent evaluation of the facility, some people may have perceived that I was employed as a

researcher by Insite. Clearly, during fieldwork, the ways that study participants perceived me may have shaped the data collected for this research.

5.3 Ethno-epidemiological Approaches to Complex Research Problems

While ethnographic research methods have well-recognised ability to reveal the complexity of barriers to risk-reduction among drug users (Moore, 2005), the detailed information generated through the current research highlights how complex interactions amongst environmental influences (e.g., economic, political, cultural, and structural forces) shape the experience of using the supervised injection setting in Vancouver. The rich and detailed data that was gathered using these methods suggest that these techniques enabled me to tap into deeper insights than would have been otherwise documented using traditional epidemiological methods. Of particular importance is the integration of ethnographic research activities within a broader public health evaluation of a pilot supervised injection facility, which was predominantly quantitative and epidemiological (Wood et al., 2004). The ethnographic work conducted during the current study adds important tools to overall efforts to evaluate SIFs. For example, a recent SIF evaluation project in Sydney, Australia, did not include either observational work within the facility or in-depth interviews with IDUs who use the SIF (Salmon, 2008), although these data may have generated important information to help investigators better understand barriers to access (for example). Independent ethnographic research has the capacity to systematically examine the perspectives of drug users engaging with public health interventions (including SIFs), while accounting for the complexities of local drug scenes as well as macro-level structures (including legal frameworks and regulations) (Moore, 2005).

My ethnographic work was designed to complement the ongoing cohort study of SIF users by providing additional, in-depth documentation of the operation of the SIF

as well as the context in which it operates. Although my study was independent of the SIF evaluation efforts, there were some complementarities in terms of implementing my methodological approach. For example, the cohort study team permitted me to select for in-depth interview participants from the SEOSI cohort study, which permitted recruitment of a group of SIF clients with varying levels of SIF utilisation and whose demographic and drug use profile was reflective of the entire population of SIF clients. In addition, conducting the observational work within the SIF in connection with the scientific evaluation afforded opportunities to draw on data from the facility's electronic database which records detailed information regarding all site visits, injections, and access suspensions. Examination of this database on an ongoing basis as the observational work was being conducted, including real-time consideration of traffic flow and wait-times as clients moved through the facility, permitted identification of trends in client utilisation and barriers to access through inductive analysis. For example, observations conducted on specific days suggested that an increased number of site visits occur in the time period surrounding 'cheque-day', and this time period is also characterised by increased wait-times and an increase in the number of clients who leave without accessing the injecting room. Detailed examination of the facility database confirmed the accuracy of these inferences, and corroborated the existence of these trends within the larger 12-month study period, including the increased proportion of visitors who seek access to the injecting room and leave due to the wait occurring in the time surrounding cheque-day.

The ethnographic examination of public injection settings also employed a multiple data collection techniques including field observations, photographs, in-depth interviews with IDUs, and a structured environmental survey, to document these micro-environments. The combination of these multiple data generation activities helped to develop detailed understandings of the physical environment, distribution of

injection niches across geographical space, as well as the social meaning of these injection settings for individuals who engage in public injecting. The use of photographs has been noted to be particularly effective in communicating the character of drug consumption practices (Rhodes & Fitzgerald, 2006); and, the current research represents a rare example of the use of photography to document the physical environment characterising public injection settings (see Chapter 2) (Rhodes, 2002; Rhodes et al., 2006).

By employing triangulation and integrating multiple data sources, unique insights surfaced during the analysis that contributed to the development of greater understanding of each injection setting as well as the relationship between the two settings. While in-depth interviews provided detailed accounts of activity within both types of injection settings, this form of data was complemented by the information from observational activities within the two settings. Naturalistic observation within public injection venues provided information about the physical environment and social context that characterizes these locations. Observational activities within Insite enabled detailed understanding of the day-to-day operation of the SIF and how particular features shape IDUs' access to the supervised environment. The review of documents pertaining to the regulatory framework governing supervised injecting in Canada provided data regarding how structural forces, legislation, and public policy shape the particular features of Insite, which contributed important information not readily available through observational activities or interviews with IDUs. Examination of utilization statistics and the electronic database within Insite permitted identification of temporal trends (e.g., increased visits around "cheque day) and confirmed the interpretations emerging from observational work at Insite (e.g., how wait-times influence access to the injection room).

Collectively, analyzing different types of data from various methods and sources allowed me to identify how different types of environmental influences (e.g., social, physical, economic, & policy) operate within the two types of injection settings to shape the production or reduction of injection-related risk. Comparing and contrasting the various forms of data, and considering the unique information provided by each source, yielded analyses that were more holistic and in-depth than what may have been produced if only data from interviews and observations were analyzed. By continuously considering data from various sources throughout the analyses, I came to understand that these forces not only shape activities and behaviour within these settings, but also shape the actual venues themselves. For example, the large public injecting scene in the DTES exists partially due to the high levels of homelessness among injectors and the lack of access to private space. However, it is also shaped by the particular public policies that have created the unique risk environment that currently exists in the DTES, as discussed in the introductory chapter. Consideration of the diverse types of data utilized in this dissertation supports the perspective that the different types of environmental influence identified by the risk environment framework are indeed inseparable, and are constantly interacting with each other. Due to the complexity of forces which shape the particular injections settings which exist in the DTES, and the interplay between various types of environmental influence, it would not have been possible to generate the descriptions and understandings contained in this dissertation without integrating data from different sources and different methods.

Finally, this dissertation illustrates the need to understand injection settings as local and particular phenomena rather than relying on generic conceptualisations of these venues, which are in many ways inadequate for understandings of injection-related risk and efforts to develop setting-based interventions to address drug-related harm (Rhodes et al., 2006). Ethnographic research is essential in this regard; due to its

ability to document the local form of a cultural practice (e.g., public injecting) as well as the particular features of a public health intervention (Moore, 2004), in this case the operational and programmatic characteristics of Insite as a SIF.

5.4 Study Limitations and Strengths

While each of the study chapters (2-4) includes a description of the strengths and limitations associated with each individual work, several of these issues warrant consideration in relation to the dissertation as a whole.

First, for all the advantages that are conferred through ethnographic research methods, it also should be acknowledged that the descriptions of the people and places are based on interactions with study participants and observations sites at particular points in time (providing a somewhat a cross-sectional view of the situation). For example, as conditions within the local drug scene and SIF operation change over time, (or as IDUs gain more experience with the facility), it will be important to review the findings presented here to determine their relevance over the long term. As well, the in-depth interviews were conducted with a relatively small group of IDUs within the Vancouver setting who are SIF clients (and, therefore, do not represent the perspectives of IDUs who have not accessed the SIF).

Also, the environmental (e.g., local drug scene) and structural issues identified (e.g., legal and regulatory contexts) are largely specific to Insite, as the current study sought to understand this particular facility in relation to its local environment, therefore, these particular findings may not be as relevant to SIFs in other settings, although the complexities of the intersections between the local drug scene and broader health and social policy, clearly has implications for understanding SIFs in other jurisdictions. Similarly, findings regarding the character and extent of public injection settings are also specific to the Vancouver setting, although some of the particular

features which influence the situated risk perceptions of injectors (e.g., unsanitary conditions, potential for interruption by the police) are similar to those described in public injecting venues in other locales (Rhodes et al., 2006; Dovey, Choi, and Fitzgerald, 2001).

The limitations inherent in my dissertation work should be balanced against the many strengths stemming from the use of different data generation methods and analysis of data from various sources. Data presented in these studies were generated through multiple and complementary data collection and analysis activities, including in-depth interviews with individual IDUs and direct exposure to drug user behaviour through naturalistic observation within the SIF and street-based settings. In addition, insights garnered through interview and observational data regarding access to the SIF and patterns of utilisation were confirmed through examination of an external data source, the electronic database within the SIF. The methodological triangulation permitted through the use of multiple modes of inquiry represents a strength of the dissertation.

5.5 Promising Policy and Practice Actions

The findings of my dissertation point to several interventions that hold promise for addressing injection-related risk in Vancouver. Innovative strategies are urgently needed to enhance personal safety and reduce the potential for interruption and disruption of injecting routines within these settings. As indicated in previous research (Maher & Dixon, 1999), this would entail ensuring that police operations in the open drug scene do not compromise public injectors' efforts to protect their health by avoiding intervening at the point of injection. Additionally, enhancing access to sterile syringes and ancillary injecting equipment, as well as providing amenities including adequate lighting, working surfaces, and facilities to permit hand-washing, would serve

to promote hygienic routines and safer injection practices within these settings. Efforts also should be made to provide monitoring, potentially through peer supervision, in order to improve the response to overdoses in public settings (Fitzgerald, Dovey, Dietze & Rumbold, 2004). Finally, the potential of naloxone prescription and/or distribution of naloxone to drug users should be explored, as existing research indicates that the administration of naloxone by drug users is effective in avoiding fatalities resulting from opiate overdoses (Kim, Irwin & Khoshnood, 2009; Piper et al., 2008; Strang et al., 2008).

With regards to maximising the potential of SIFs to address injection-related risk and reduce drug-related harm within the Vancouver context, efforts should be made to expand the capacity of the current facility and modify the existing regulations to improve access and remove barriers to utilisation. This would entail amendments to the current regulatory framework governing supervised injection, to permit assisted injections and the sharing of drugs between clients, as well as modifications to Canadian criminal and civil law to address legal liability related to providing assisted injections within SIFs (Pearshouse & Elliott, 2007). The barriers posed by the delays in accessing the injection room also could be addressed in part through increasing the number of injection spaces available, as well as the addition of other SIFs in the neighbourhood. The changes to public policies and legislation that would be required to optimise Vancouver's SIF could also have important implications for the establishment of additional facilities in other Canadian cities where they are needed.

Moreover, efforts need to be undertaken to transform the conditions under which IDUs in Vancouver's DTES live. Policy reforms that increase access to affordable and assisted housing in the DTES should be a primary component of these efforts as this would help to mediate the high burden of drug-related harm among homeless IDUs (Corneil et al., 2006). In addition, improving access to housing, and reducing

homelessness among injectors, could also serve to reduce the volume of public injecting locally (DeBeck et al., 2008), which would also potentially reduce some of the excess demand for the SIF which currently poses operational difficulties.

5.6 Future Research

Continued efforts are needed to examine drug user perspectives regarding particular injection settings, as well as their lived experience within these micro-environments. IDUs' perspectives on risk priorities and situated risk perceptions are crucial to policy and program planning efforts. In the Vancouver context, an important priority would be to examine IDUs' experiences in injection settings within local single room occupancy (SRO) hotels, as these locations represent an important type of venue where a significant volume of injecting behaviour takes place (Shannon, Ishida, Lai & Tyndall 2006).

It is also important that research specific to SIFs begins to follow a more natural progression that is more closely aligned with the normal evolution of health service evaluation. Specifically, when a novel intervention is found to meets its most basic objectives (i.e., benefits to health) and is not found to produce harms, efforts should be made to progress to second generation evaluation questions, including those focused on optimizing programs through re-design, modification of service delivery, and scaling-up (Kerr et al, 2008). In other words, future SIF research needs to move beyond the question of whether or not SIFs are effective in meeting the objectives of reducing potential for blood-borne virus transmission and harms stemming from illicit drug overdose, to questions such as "what is the optimal number and configuration of SIFs for a given location" and "how can rules and regulations be modified to promote maximum access and coverage of SIFs".

5.7 Knowledge Translation: From Research to Action

The current dissertation makes important contributions to the public health literature regarding the role of injection settings as a crucial dimension of the risk environment, as well as SIFs as a form of safer injecting environment intervention. Chapter 2 has been published and Chapters 3 and 4 are ready to be submitted to peer-reviewed journals for consideration for publication. However, the knowledge translation actions associated with this dissertation go well beyond scholarly publications.

This work contributes to a growing body of research that attempts to understand the lived experience of IDUs in order to foster the development, and refinement, of innovative health programs that reduce injection-related risk and improve the health of marginalised drug users. While reliable statistics are a prerequisite for developing appropriate public health and harm reduction programs, ethnographic data on the lived experience of the individuals who are the target of these programs is also a vital part of the evidence base informing such strategies. The ability to identify the implicit assumptions underpinning public health programs, and highlight the 'disconnect' between these assumptions and the lived experience of highly marginalised IDUs, is a fundamental reason why ethnographic work has provided "reality checks" for policy makers over the past decades (Moore, 2005).

While some researchers have argued that drug policies emphasising harm reduction merely represent new, and perhaps more politically correct, forms of governing the "unruly bodies" of drug users, this interpretation may precipitate a form of "paralysis" among social scientists who are reluctant to contribute to these forms of social control (Bourgois, 1998; Bourgois, 2000). As part of this debate, others have contended that while an element of social control may be mobilised through harm reduction program, this should not prevent social scientists working in the realm of

drug policy from taking practical action as a response, and seeking to improve existing approaches (Bourgois, 1998; Bourgois, 2000; Moore, 2005). While providing information crucial to the improvement and refinement of existing harm reduction programs, it is important that social research also considers how the wider neo-liberal context, and unequal power relations between IDUs and services, shape drug user interactions with these programs. While socially oriented research examining the lives of marginalised drug users is essential to the development and optimisation of risk-reduction interventions, we must not lose sight of the ethical responsibility to advocate for forms of governance that ultimately reduce social suffering among marginalised citizens who inject drugs (Moore, 2009; Moore, 2004).

5.8 References

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APPENDIX A: HUMAN ETHICS APPROVAL CERTIFICATE

PROVIDENCE HEALTH CARE
Research Institute

UBC/Providence Health Care
OFFICE OF RESEARCH SERVICES
11th Floor Hornby Site - SPH
c/o 1081 Burrard St, Vancouver, BC V6Z 1Y6
Phone: (604) 806-8567 Fax: (604) 806-8568

Certificate of Final Approval

Principal Investigator:	Department:	Reference Number:
Dr. Thomas Kerr	BC CfE	P05-0186
Co-investigators: Drs. J. Stolz, E. Wood, M. Tyndall, Mr. W. Small		
Sponsoring Agencies: Health Canada		
Project Title: Ethnographic investigation of the natural history of injection drug use		
Date Submitted: June 2, 2006	Date Ethical Approval: June 29, 2006	Date Final Approval: JUL 20 2006

The UBC/PHC Research Ethics Board has granted ethical approval for the above-referenced research project. I am pleased to inform you that all necessary approvals and agreements/contracts are now in place and that you have permission of the hospital to begin your research.

[redacted]

Dr. Yvonne Lefebvre
Vice President Research and Academic Affairs
Providence Health Care

Date: July 20/06

PROVIDENCE HEALTH CARE
Research Institute

UBC-Providence Health Care
Research Institute
Office of Research Services
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Tel: (604) 806-8567
Fax: (604) 806-8568

ETHICS CERTIFICATE OF EXPEDITED APPROVAL: ANNUAL RENEWAL

PRINCIPAL INVESTIGATOR:	DEPARTMENT:	UBC-PHC REB NUMBER:
Thomas Kerr		H05-50186

INSTITUTION(S) WHERE RESEARCH WILL BE CARRIED OUT:

Institution	Site
Providence Health Care	St. Paul's Hospital

Other locations where the research will be conducted:
Insite (139 East Hastings Street) Dr. Peter Centre (1110 Comox Street) VIDUS office (215 Dunlevy Avenue) ARYS office (807 Drake Street)

CO-INVESTIGATOR(S):

Evan Wood
Mark W. Tyndall
Jo-Anne Stoltz
William G. Small

SPONSORING AGENCIES:

Canadian Institutes of Health Research (CIHR) - "Exploring the natural history of injection drug use: A qualitative study of social and environmental influences"

PROJECT TITLE:
Exploring the natural history of injection drug use: A qualitative study of social and environmental influences

EXPIRY DATE OF THIS APPROVAL: May 12, 2010

APPROVAL DATE: May 12, 2009

CERTIFICATION:

1. The membership of the UBC-PHC REB complies with the membership requirements for research ethics boards defined in Part C Division 5 of the Food and Drug Regulations of Canada.
2. The UBC-PHC REB carries out its functions in a manner fully consistent with Good Clinical Practices.
3. The UBC-PHC REB has reviewed and approved the research project named on this Certificate of Approval including any associated consent form and taken the action noted above. This research project is to be conducted by the principal investigator named above at the specified research site(s). This review of the UBC-PHC REB have been documented in writing.

The UBC-PHC Research Ethics Board Chair or Associate Chair, has reviewed the documentation for the above named project. The research study, as presented in the documentation, was found to be acceptable on ethical grounds for research involving human subjects and was approved for renewal.

Approval of the UBC-PHC Research Ethics Board or Associate Chair, verified by the signature of one of the following:

[redacted]

Dr. Kuo-Hsing Kuo, Chair | **Dr. J. Kernahan, Associate Chair** | **Dr. I. Fedoroff, Associate Chair**

UBC/PROVIDENCE HEALTH CARE
OFFICE OF RESEARCH SERVICES

Certificate of Final Approval

Principal Investigator:	Department:	Reference Number:
Dr. Michael V. O'Shaughnessy	CfE	P03-0057
Co-investigators:		
Sponsoring Agencies:		**Term (Years):**
Vancouver Coastal Health Authority		1
Project Title:		
Vancouver Supervised Injection Site Scientific Research Pilot Project Proposal: An Application For An Exemption Under Section 56 of the Controlled Drugs and Substances Act		
Date Submitted:	**Date Ethical Approval:**	**Date Final Approval:**
March 18, 2003	April 29, 2003	April 29, 2003

The above-mentioned study has recently been approved by the UBC/PHC Research Ethics Board. All other necessary departmental approvals (*Nursing and Medical Records*) are now in place and I am pleased to inform you that you have the permission of the hospital to begin your study.

Dr. M.V. O'Shaughnessy
Vice President, Research
Providence Health Care

Date: April 29, 2003

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ETHICS CERTIFICATE OF EXPEDITED APPROVAL: ANNUAL RENEWAL

PRINCIPAL INVESTIGATOR:	DEPARTMENT:	UBC-PHC REB NUMBER:
Thomas Kerr	PHCRI	H03-50057

INSTITUTION(S) WHERE RESEARCH WILL BE CARRIED OUT:

Institution	Site
Providence Health Care	St. Paul's Hospital

Other locations where the research will be conducted:
Insite (139 East Hastings Street) Dr. Peter Centre (1110 Comox Street) VIDUS office (215 Dunlevy Street)

CO-INVESTIGATOR(S):

Robert S. Hogg
Evan Wood
Mark W. Tyndall
William G. Small
Julio S.G. Montaner

SPONSORING AGENCIES:

Canadian Institutes of Health Research (CIHR)
Vancouver Coastal Health Research Institute - "Supervised Injection Site Evaluation"

PROJECT TITLE:
The Scientific Evaluation of Supervised Injecting (SEOSI) Cohort

EXPIRY DATE OF THIS APPROVAL: April 29, 2010

APPROVAL DATE: April 29, 2009

CERTIFICATION:

1. The membership of the UBC-PHC REB complies with the membership requirements for research ethics boards defined in Part C Division 5 of the Food and Drug Regulations of Canada.
2. The UBC-PHC REB carries out its functions in a manner fully consistent with Good Clinical Practices.
3. The UBC-PHC REB has reviewed and approved the research project named on this Certificate of Approval including any associated consent form and taken the action noted above. This research project is to be conducted by the principal investigator named above at the specified research site(s). This review of the UBC-PHC REB have been documented in writing.

The UBC-PHC Research Ethics Board Chair or Associate Chair, has reviewed the documentation for the above named project. The research study, as presented in the documentation, was found to be acceptable on ethical grounds for research involving human subjects and was approved for renewal.

Approval of the UBC-PHC Research Ethics Board or Associate Chair, verified by the signature of one of the following:

Dr. Kuo-Hsing Kuo, Chair | **Dr. J. Kernahan, Associate Chair** | **Dr. I. Fedoroff, Associate Chair**