



British Columbia  
Centre for Excellence  
in HIV/AIDS



# Drug Situation in Vancouver

Report prepared by the  
Urban Health Research Initiative of the  
British Columbia Centre for Excellence in HIV/AIDS

October 2009



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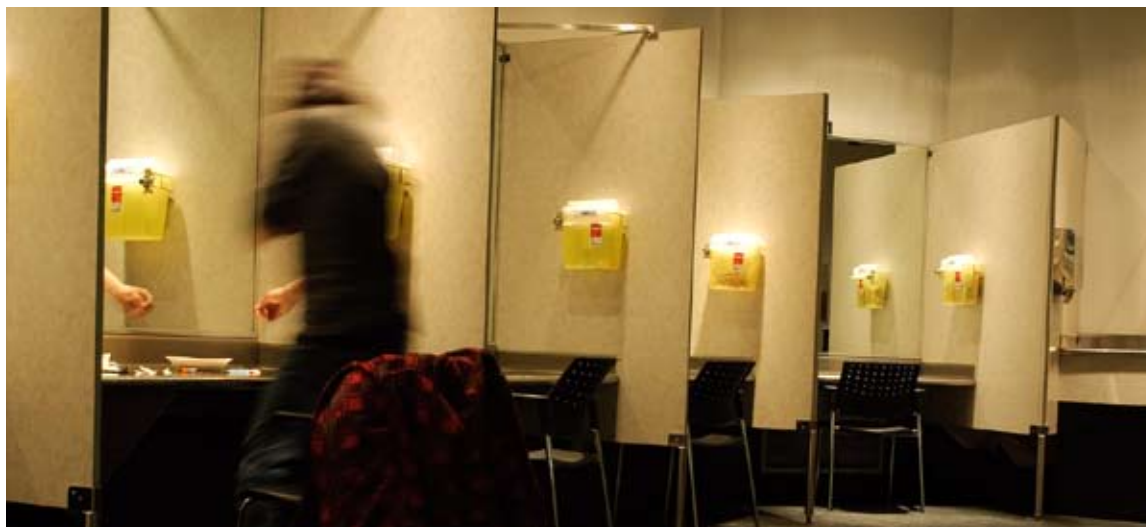
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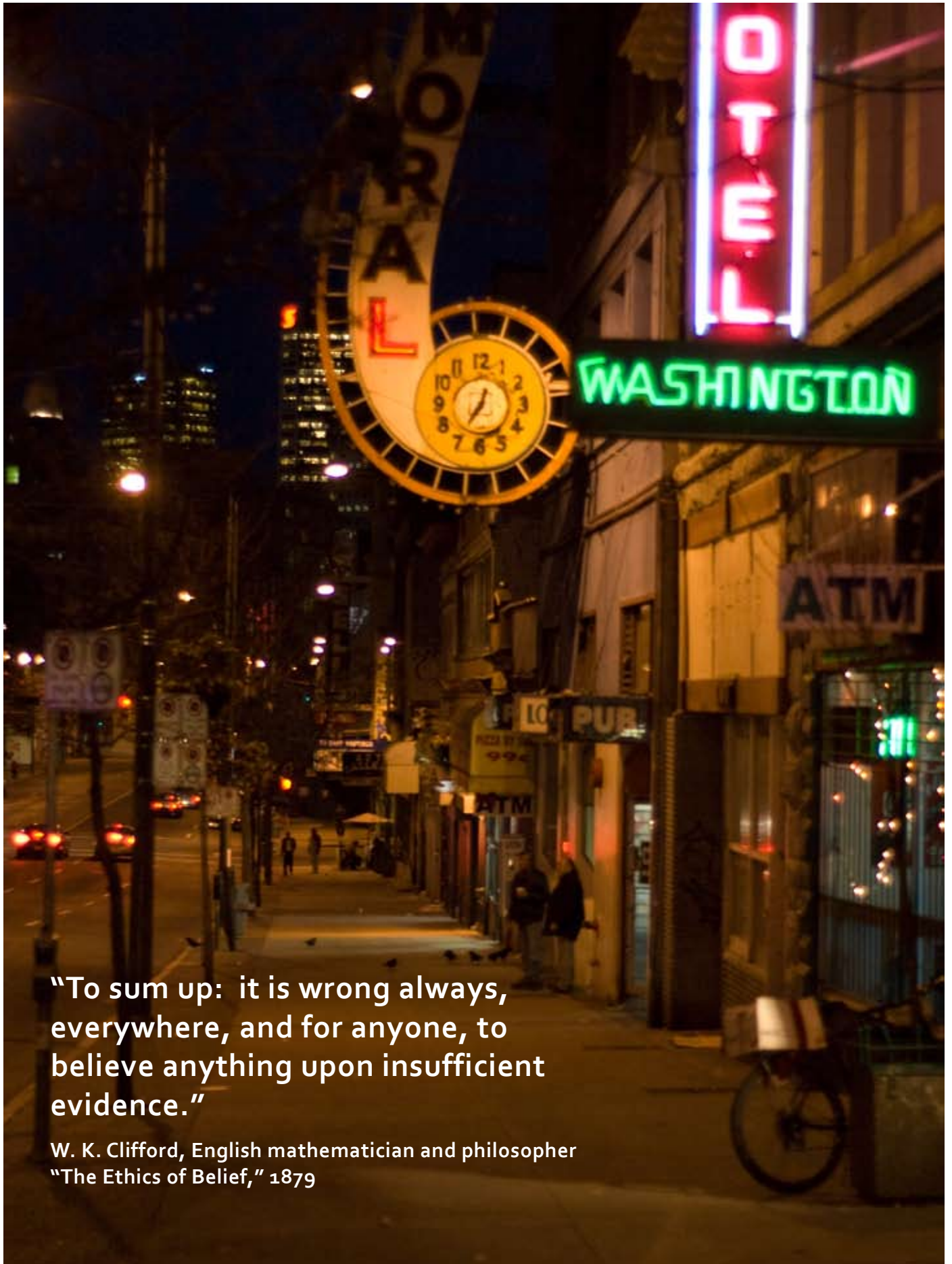
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**“To sum up: it is wrong always, everywhere, and for anyone, to believe anything upon insufficient evidence.”**

W. K. Clifford, English mathematician and philosopher  
“The Ethics of Belief,” 1879

## EXECUTIVE SUMMARY

Health policies are increasingly being driven by the best available scientific data. However, there remain critical areas in public health where the gap between best evidence and public policies persists, and few areas suffer from this concern more than society's response to the problems posed by illicit drug use. This gap between research and practice is problematic, as an effective response to the health and community harms posed by illicit drug use will require the development of policies guided by the best available scientific evidence.

This concern is highly relevant to Vancouver, British Columbia, the epicentre of a longstanding illicit drug use epidemic. In 1997, Vancouver experienced an explosive outbreak of HIV infection that remains one of the fastest spreading HIV epidemics ever documented in the developed world. Until recently, British Columbia also recorded several hundred overdose fatalities every year. While Vancouver's Downtown Eastside is the area hardest hit by the drug use epidemic, the problem is not restricted to this neighbourhood. Drug-related health concerns, public disorder and crime are issues that affect most areas of the city. Over the past several years, Vancouver has also experienced an increase in severe drug-related gun violence.

Implementing appropriate policy responses to the illicit drug-related issues on Vancouver's streets will require that all stakeholders have access to comprehensive data regarding the scope and composition of the city's drug problems. Scientists from the Urban Health Research Initiative of the British Columbia Centre for Excellence in HIV/AIDS and the University of British Columbia's

Division of AIDS have therefore prepared this report in an effort to close the knowledge gap that currently exists. The report contains more than 10 years of prospective data on drug use and behavioural trends among some of the city's most vulnerable illicit drug users, with a focus on the so-called "hard" drugs: cocaine, heroin, crack and crystal methamphetamine. The report also seeks to directly inform the City of Vancouver's Four Pillars Drug Strategy, the province of British Columbia's response to illicit drug use and the Canadian federal government's new National Anti-Drug Strategy.

### Key Findings

**Drug Use Trends:** Several large fluctuations in the use of specific drugs have occurred over the last decade. Specifically, among adult injection drug users, the rate of daily injection cocaine use decreased dramatically from a high of 38.1% in 1996 to 8.5% in 2007. This decrease has been accompanied by a large increase in the use of crack cocaine smoking, with 3.5% of study participants reporting daily crack cocaine smoking in the last six months in 1996 compared with 41.7% reporting such behaviour in 2007. There has also been a marked increase in the use of crystal methamphetamine (both injection and smoked) since 2001. Relative to older injection drug user populations in Vancouver, the daily drug use patterns of Vancouver-based street-involved youth for the years 2005 to 2007 indicate that injection cocaine and injection heroin use is less common among youth. However, the use of crystal methamphetamine, through both injection and by smoking, was highly prevalent. Levels of crack

cocaine use were also high among this vulnerable group, with approximately 18% of street-involved youth reporting daily use of crack cocaine in 2005 and 2006, and approximately 13% reporting use of crack cocaine in 2007.

**Addiction Treatment:** Over the past decade, there has been a steady increase in the rate of reported use of methadone maintenance treatment by injection drug users, from 11.7% in 1996 to 44.7% in 2007. This positive trend in access to methadone treatment has been accompanied by a decreasing proportion of injection drug users reporting difficulty accessing addiction treatment, from a high of 19.9% reporting difficulty in 1996 to 5.4% in 2007.

**Harm Reduction:** The expansion of harm reduction programs in the City of Vancouver has been associated with a steady decline in the reported level of used syringe sharing, a behaviour that constitutes the primary mode of HIV transmission among local injection drug users. In 1996, 39.6% of injection drug users reported recently injecting with a syringe that had previously been used by another drug user; this rate had dropped to 6.7% by 2007. At the same time, there appears to be a consistent reduction in the number of new HIV and hepatitis C infections occurring among injection drug users in the city. The number of new HIV infections has dropped from a high of 7.7 per 100 person-years in 1997 to 2.4 per 100 person-years in 2007. Despite these improvements, the number of new HIV infections remains high, and several subgroups of injection drug users, including Aboriginal persons, remain particularly vulnerable to HIV infection. Despite these

important public health gains and the fact that harm reduction programs are strongly endorsed by all international public health bodies, including the World Health Organization, harm reduction programming remains politicized in Vancouver and throughout Canada. Considering the public health gains attributable to harm reduction programs internationally and locally, the lack of support for harm reduction initiatives in the Canadian federal government's new National Anti-Drug Strategy requires greater public discussion.

**Law Enforcement:** Increasing investments in law enforcement have allowed the Vancouver police department to significantly increase its presence on the streets of the city. As a result of intensified enforcement activities, the majority of injection drug users have experienced periods of incarceration. Intermittent crackdowns have led to transient periods of reduced public drug use in the Downtown Eastside, although the evidence demonstrates that these reductions are offset by significant displacement of drug market activity outside of the Downtown Eastside. The impact of law enforcement on overall illicit drug use and availability is less clear. In 2007, drug users in Vancouver reported rapid access to crack as well as to cocaine, with approximately 90% of injection drug users reporting that they could obtain the latter within 10 minutes. Crystal methamphetamine was reportedly readily available to street-involved youth, with almost 60% of youth reporting being able to obtain the drug within 10 minutes. The reported availability of these so-called hard drugs is comparable to the reported availability of marijuana among these populations.



Our data suggest that drug prices on the city's streets have been unaffected by law enforcement efforts. Specifically, annual street-level data suggest the price of heroin, cocaine, crack cocaine and crystal methamphetamine have remained low and stable, placing doubt on assertions by the Royal Canadian Mounted Police that interdiction efforts have had an impact on the availability of illicit drugs at the street level.

**Housing, Public Spaces, and Street-Based Sex Work:** Over the last decade, at any one time, about 50% of injection drug users in Vancouver reported that they lived in unstable housing conditions, and approximately 10% reported that they lived on the street with no fixed address. Since 2003, more than 40% of injection drug users have reported recently injecting drugs in public. Additionally, a recent study found that, after controlling for other factors, injection drug users who frequently (at least daily) inject drugs are 6 times more likely to inject in public. Further, individuals who experience wait times to use Vancouver's supervised injecting facility are 3 times more likely to inject in public. In 2007, among street-involved youth in Vancouver, 11.3% reported engaging in street-based sex work in the previous six months. Additionally, 15.4% of HIV-positive injection drug users and 14.0% of HIV-negative injection drug users in Vancouver reported engaging in sex work.

**Mortality Rates:** Mortality rates remain high and are often driven by complications resulting from HIV infection. To put these rates in context, the rate of death among male injection drug users is 10 times higher than the general male population

in British Columbia, and the death rate for female injectors is 22 times higher than that of the general female population in the province. The strikingly high rate of mortality among female drug users demands an immediate response from policy makers. Overdose deaths are the second leading cause of death among our study participants, although in recent years there has been a dramatic decline in overdose deaths among illicit drug users in Vancouver, from 80 fatal overdoses in 1996 to 44 such overdoses in 2007 recorded by the British Columbia Coroners Service.



This report will aid in determining how well British Columbia is responding to Vancouver's illicit drug problem. Since federal drug policies directly affect the available responses to Vancouver's drug problems, the publication of these data will also allow for an independent assessment of the impacts of the federal government's new National Anti-Drug Strategy. As well, since drug market violence is known to be the primary driver of the Vancouver region's recent upsurge in gun violence, the data presented in this report should help inform debates regarding the optimal strategies to manage this problem and allow for future policy evaluation.

## BACKGROUND

Illicit drug use presents an urgent and growing threat to community and public health. Unfortunately, the majority of resources aimed at addressing the illicit drug problem have been directed towards interventions that either have demonstrated little evidence of benefit or have been scientifically proven to result in net community harm and/or harm to public health.<sup>1</sup> A 2001 Auditor General's report on Canada's former illicit drug strategy concluded that "of particular concern is the almost complete absence of basic management information on spending of resources, on expectations, and on results."<sup>2</sup> In 2007, under the leadership of Prime Minister Stephen Harper, Canada's federal government established a new National Anti-Drug Strategy. Freedom of Information requests have shown that senior bureaucrats in the Bush White House played a key role in helping draft the strategy,<sup>3</sup> which has been widely criticized for following a US 'war on drugs' approach and which allocated significant public resources to interventions that have been scientifically evaluated and found to be ineffective.<sup>4</sup> The National Anti-Drug Strategy has also excluded support and funding for evidence-based harm reduction programs. The federal government's efforts to close Vancouver's supervised injecting facility have also generated controversy.<sup>5</sup>

Among the greatest concerns for public health researchers and health authorities is the high prevalence of injection drug use. In Canada, conservative estimates suggest that there are now more than 100,000 people who inject illicit drugs.<sup>6</sup> Injection drug use is associated with an array of adverse outcomes, including fatal overdoses, infectious disease transmission,

loss of social and economic functioning, and engagement in criminal activity.<sup>7</sup> Vancouver has been the epicentre of one of North America's most dire and longstanding illicit drug use epidemics. In 1997, an explosive HIV epidemic was documented among injection drug users in Vancouver.<sup>8</sup> The high transmission of HIV and hepatitis C (HCV) resulted in an estimated 25% of the city's approximately 15,000 injection drug users becoming HIV-infected, and more than 85% of the city's injection drug users becoming infected with HCV.<sup>9</sup> In addition to the spread of infectious diseases, large numbers of citizens have died of drug overdoses in the last decade, with up to one death per day in British Columbia being documented in recent years.<sup>10</sup> However, the illicit drug problem is not restricted to the Vancouver area; illicit drug-related HIV and HCV infection have been documented in virtually all settings in British Columbia where injection drug use is prevalent, including the cities of Prince George, Kelowna, Victoria, Nanaimo and elsewhere.<sup>11</sup> Like Vancouver, these settings suffer from drug-related crime and other community harms.

More recently, the use of crack cocaine and methamphetamine has increased in Western Canada, with Vancouver again representing the epicentre of this particular drug use epidemic.<sup>12</sup> Coinciding with this change, Vancouver has developed one of North America's worst property crime rates, though it should be noted that this rate has been dropping continuously since 1996.<sup>13</sup> As in other settings, addiction to illicit drugs in Vancouver has also been intimately linked to a burgeoning survival sex trade industry,<sup>14</sup> which has received international

attention as a result of the disappearance of more than 60 women involved in street-based sex work in the city's Downtown Eastside.<sup>15</sup>

Throughout most of the world, the primary response to the health and social impacts of illicit drug use has been to intensify the enforcement of drug laws in an effort to limit the supply and use of illicit drugs.<sup>16</sup> The unintended consequences of this policy approach include an unprecedented growth in prison populations and increasing concerns regarding drug-related harms within prisons.<sup>17</sup> Promises to enact tougher sentencing for illicit drug users, however, remain politically popular because of the widespread belief that this policy will reduce the use and trafficking of illicit drugs,<sup>18</sup> a belief reflected in the composition of the Canadian federal government's National Anti-

Drug Strategy.<sup>19</sup> However, despite a large body of research from a variety of settings, no evidence exists that tougher penalties and increased incarceration rates reduce the prevalence of illicit drug use or drug supply.<sup>20</sup> Instead, this approach may actually worsen illicit drug problems in several ways. For instance, it has long been recognized that the incarceration of injection drug users has major consequences for public health because of the potential for infectious disease transmission among drug-using inmates.<sup>21</sup> This may be particularly relevant to HIV, which has been shown to be efficiently transmitted through syringe sharing between incarcerated injection drug users. A recent study demonstrated that the number of known HIV cases in Canadian prisons has risen by 35 percent in the last five years,<sup>22</sup> and it is suspected that HIV may be spreading rapidly in this setting.<sup>23</sup>



In addition to the social costs, such as loss of productivity, legal and prison costs, and crime, there are also substantial costs related to the burden that untreated illicit drug use places on the medical system. A recent “cost of illness” analysis based on data from a cohort of untreated opiate addicts in Toronto estimated that each drug-dependent opiate user incurs \$45,000 in societal costs per year.<sup>24</sup> In addition, it is known that the average lifetime medical costs of each case of HIV infection are approximately \$250,000, suggesting that the medical costs of injection-related HIV and HCV epidemics may place a large burden on Canada’s health care system.<sup>25</sup> Based on current HIV prevalence estimates, a recent study estimated that the economic burden on the health care system stemming from the HIV epidemic in Vancouver’s Downtown Eastside will exceed \$215 million.<sup>26</sup> However, this same study estimated that approximately \$130 million could be saved through the implementation of effective interventions aimed at curbing HIV rates.<sup>26</sup> Because the prevalence of HCV is much higher than that of HIV among injection

drug users, the medical costs for addressing HCV infection among injection drug users are expected to substantially exceed those for HIV. In addition to HIV and HCV, bacterial infections acquired through non-sterile injection techniques often result in lengthy and expensive acute hospitalizations among injection drug users.<sup>27</sup>

Over the last several years, Vancouver has faced increasing drug-related gun violence. A recent escalation in this violence in the Greater Vancouver region has refocused attention on the city’s drug problem, and it is hoped that the data in this report will help inform this debate. From a scientific perspective, it is important for policy makers to be reminded that research has shown that gun violence is a natural consequence of drug prohibition. The Health Officers Council of BC has recently recommended regulating illicit drugs as a strategy to reduce health-related harms as well as gun violence.

## BC CENTRE FOR EXCELLENCE IN HIV/AIDS

Beginning in 1996, the British Columbia Centre for Excellence in HIV/AIDS initiated an HIV outbreak investigation in Vancouver’s Downtown Eastside.<sup>8</sup> This involved the creation of a prospective cohort study of Vancouver-based injection drug users, which would later receive funding from the US National Institutes of Health and become known as the Vancouver Injection Drug Users Study

(VIDUS). The VIDUS study, which is ongoing, involves semi-annual follow-up interviews with more than 1,400 of the city’s injection drug users, at which time a blood sample is drawn for evaluation of HIV and HCV incidence and a detailed interviewer-administered questionnaire is provided to evaluate a range of issues facing the city’s drug users.

Since the launch of VIDUS, the British Columbia Centre for Excellence in HIV/AIDS has initiated a number of other studies related to illicit drug use, including studies of street-involved youth and evaluations of the health needs and behaviours of HIV-infected injection drug users.<sup>28,29</sup> Each of these individual studies, described in detail below, is funded through a range of scientific peer-reviewed granting agencies, and the scientists involved are also affiliated with the Division of AIDS in the Department of Medicine at the

University of British Columbia. In 2006, the British Columbia Centre for Excellence in HIV/AIDS received a grant from the Canadian Institutes of Health Research to create an urban health and addictions research program to combine all of these data sources and allow for a comprehensive analysis of the illicit drug situation in Vancouver.

## URBAN HEALTH RESEARCH INITIATIVE

The Urban Health Research Initiative (UHRI) was established in 2007 by the British Columbia Centre for Excellence in HIV/AIDS at St. Paul's Hospital in Vancouver, Canada. Led by principal investigators Drs. Evan Wood and Thomas Kerr, UHRI is based on a network of studies that were developed to help identify and understand the many factors that affect the health of urban populations, with a focus on substance use, infectious diseases, the urban environment and homelessness. UHRI's mission is to achieve excellence in health research and research training with the ultimate goal of improving the health of individuals and communities. UHRI's research focuses on issues that affect the health of urban populations, with special emphasis placed on infectious diseases such as HIV and HCV, substance use and addiction, health care and social services access, and policy that has a direct bearing on public health, well-being and safety.

Part of UHRI's mandate is to help inform policy decisions using the best available scientific evidence regarding the illicit drug problems in the City of Vancouver. With the city's proposed Four Pillars Drug Strategy<sup>30</sup> and the implementation of the Canadian federal government's National Anti-Drug Strategy,<sup>19</sup> it was recognized that closing the gap between the public health emergency on Vancouver's streets and the policy response requires that all stakeholders have access to comprehensive data on the extent of the city's drug problem. In an effort to close this gap, scientists from the University of British Columbia's Division of AIDS and the British Columbia Centre for Excellence in HIV/AIDS have prepared this report, which contains more than ten years of prospective data on drug use and related trends among the city's illicit drug users, with a focus on so-called "hard" drugs, including cocaine, heroin, and crystal methamphetamine.

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## DATA SOURCES

### Cohort Studies

Large longitudinal prospective cohort studies represent the most reliable method of obtaining detailed information on the health of communities, and such studies form the basis of the research contained within this report. All of the cohort studies listed below are made up of representative samples of vulnerable populations in Vancouver. Recruitment strategies employ street-based outreach. After initial contact is made, the nature of the study is explained to potential participants, and informed consent is obtained from those who wish to enroll. All studies are approved by the University of British Columbia's Research Ethics Board at its St. Paul's Hospital site.

Participants in all studies provide blood samples and complete interviewer-administered questionnaires at baseline and semi-annually. The survey instruments for all of the cohort studies are largely based on validated international research

instruments developed for the measurement of drug-related behaviours. These survey instruments have been coordinated across the cohorts to facilitate the examination of the natural history of injection drug use from adolescence through to adulthood. All surveys include sections on sources of income, non-injection and injection drug use behaviours, interactions with police, incarceration, sexual activity, drug and alcohol treatment, and violence. Participants are reimbursed \$20 for each study visit, at which time referrals are provided for any needed medical care (including HIV/AIDS care) and available drug and alcohol treatment. The individual studies that comprise the bulk of UHRI research are described below, with the exception of the Scientific Evaluation of Supervised Injecting (SEOSI) cohort; this study is specifically dedicated to the evaluation of Insite, the city's supervised injecting site, and is the subject of other reports available at <http://uhri.cfenet.ubc.ca>.

### VIDUS

The Vancouver Injection Drug Users Study (VIDUS) is UHRI's longest-running cohort study. Beginning in May 1996, persons who had injected illicit drugs at least once in the previous month, resided in the Greater Vancouver region and provided informed consent were recruited into VIDUS. Currently, the VIDUS cohort includes approximately 1,400 individuals. Data from this cohort have been the basis for more than 100 published scientific studies and have contributed to a number of policy developments. The VIDUS study documented an explosive HIV outbreak

in the Downtown Eastside in 1997, which led to the declaration of a public health emergency in Vancouver. In addition to the valuable data gained through VIDUS, the study also performs an important public health function by providing regular HIV and HCV testing (including pre- and post-test counselling) to local injection drug users. Recently, VIDUS was modified to include only HIV-negative injection drug users and operates as the sister cohort to ACCESS, a cohort that includes only HIV-positive drug users.



## ACCESS

ACCESS (AIDS Care Cohort to Evaluate access to Survival Services) is a cohort study of HIV-positive drug users based in the Greater Vancouver area, the majority of whom are based in Vancouver's Downtown Eastside. The primary goal of the ACCESS cohort is to determine the health needs of HIV-positive injection drug users and to investigate behaviours that may contribute to, or prevent, the ongoing transmission of HIV among this population. ACCESS is made up of more than 500 participants. Studies have demonstrated that

the health and social service needs of HIV-positive drug users are unique. Data from the ACCESS and VIDUS cohorts allow UHRI investigators to monitor the incidence of HIV disease and identify the impact of policies and programs on uptake and effectiveness of HIV treatment among this population. Aside from generating data to inform the delivery of HIV treatment services, a central objective of the ACCESS cohort is to connect study participants with HIV care and other services when needed.

## ARYS

Youth can be defined as "at risk" as a result of a variety of factors, including their socioeconomic situation, mental or physical health, drug use practices, social or physical environment, and family situation. The At-Risk Youth Study (ARYS, pronounced "Arise") was established in late 2005 in order to investigate factors associated with the

initiation of injection drug use and the impacts of methamphetamine use among street-involved youth aged 14 to 26. The semi-annual follow-up of ARYS participants allows for longitudinal evaluation of the health and social situations of street-involved youth.



## KEY INDICATORS

A number of key indicators of the magnitude and severity of drug-related problems have been identified in research undertaken in Vancouver and in many settings internationally. This report seeks to describe these key indicators to provide policy makers with hard data on the existing trends in Vancouver's illicit drug problems. The publication of these indicators will help to ensure that the City of Vancouver's Four Pillars Drug Strategy and the province's addiction strategies are guided by the best available evidence.<sup>30,31</sup> Similarly, since federal laws and policies shape the nation's response to

the illicit drug problem, the report also aims to inform the ongoing implementation of the federal government's new National Anti-Drug Strategy.<sup>19</sup> It is also hoped that this report will be valuable to researchers, community-based organizations, and policy makers in other settings. Vancouver is the host of the 2010 Winter Olympic Games, and this report will also facilitate an evidence-based evaluation of the municipal response to the illicit drug problem in preparation for this event. Key indicators in this report are described below.



## Demographic Characteristics

Major knowledge gaps exist regarding the characteristics of people who use hard drugs in Vancouver. For instance, research has shown that injection drug users who self-identify as Aboriginal are often more vulnerable than other injection drug users to certain health risks.<sup>32</sup> Similarly, young drug users and street-involved youth may face unique health concerns.<sup>28</sup>

To help inform these issues, UHRI cohort studies collect detailed demographic information on study participants, including age, gender, sexual identity, and ethnic background. UHRI researchers also seek to help inform policy makers of the specific health needs of Aboriginal populations and attempt to make relevant data available to community members, community-based organizations and policy makers.

## Unstable Housing

Housing is recognized internationally as a key determinant of health. The presence of unstable housing among drug-using populations has the potential to aggravate the public health and community harms associated with illicit drug use. Living on the street, in unstable housing situations such as shelters, and in certain single-room occupancy environments has been shown previously to be strongly associated with a number of harms, including elevated risk of mortality.<sup>33</sup> Housing is often lost as a result of instability related to illicit drug use, resulting in increased rates of individuals living on the streets.<sup>34</sup> Alternatively,

the availability of supportive housing can be a key determinant in transitioning individuals off the street and may reduce health harms associated with illicit drug use.<sup>35</sup>

The UHRI cohorts utilize a standardized questionnaire to track several measures of unstable housing. Specifically, rates of outright homelessness and rates of residing in unstable housing (defined as living in a single room occupancy hotel, shelter, recovery or transition house, jail, on the street, or having no fixed address) are evaluated among all cohort participants at each study visit.

## Public Disorder

Public drug use is associated with a range of issues, including unsafe syringe disposal. Unsafe syringe disposal poses a public health hazard and creates anxiety among affected communities. Public injecting environments also increase the potential for violent interactions between drug users, street predators and police. Consequently, individuals who inject illicit drugs in public spaces are more likely to rush their injections and engage in activities, such as using puddle water to inject, that place them at heightened risk of bacterial infections and venous injury.<sup>36</sup> Rushing injections can also increase the risk of fatal drug overdose.<sup>37,38</sup> Furthermore, individuals who inject in public may be more likely to share used syringes, since the risk of incarceration often acts as a deterrent against carrying sterile injecting equipment.<sup>38,39</sup>

Equally important is the fact that public drug use and related disorder can be highly intimidating and threaten the viability of Vancouver's tourist economy. This is of particular concern given the City of Vancouver's role as host of the upcoming 2010 Winter Olympic Games.

All UHRI cohort questionnaires contain standardized measures of public drug use. Public drug use is defined as drug use that takes place in public washrooms, streets, alleys, parks, abandoned buildings and other public settings. Individuals were grouped by response as follows: occasionally or sometimes injected in public, usually or always injected in public, or never injected in public. Responses refer to activity in the six months prior to the interview.

## Addiction Treatment

One of the most effective responses to drug-related problems is the provision of drug treatment to addicted individuals. Research has shown that addiction treatment such as methadone maintenance treatment for opiate users can play a key role in reducing illicit drug dependence among certain individuals.<sup>40,41</sup> By reducing drug dependence, treatment may also reduce levels of drug-related public health risks (for example, sharing used syringes) and may also reduce drug-related crime.<sup>42,43</sup> Access to addiction treatment among populations of illicit drug users is a strong mediator of health outcomes. Research across a wide range of settings internationally has demonstrated that injection drug users with ready access to drug treatment subsequently engage in

lower levels of drug use and high-risk drug use behaviours such as injecting with used syringes. Conversely, those subpopulations that report barriers to accessing addiction treatment are often at higher risk of a range of health harms.<sup>40,44</sup>

All UHRI cohort interviewer-administered questionnaires solicit detailed data regarding access to different types of addiction treatment, where and how such access takes place, and whether barriers exist that may reduce the ability of injection drug users to access such treatment. Specifically, rates of enrolment in methadone maintenance and other types drug treatment, specific reasons for an inability to access treatment and history of treatment among cohort participants are measured.

## Syringe Sharing and HIV/HCV Incidence

The sharing of used syringes is the behaviour that places injection drug users at highest risk of acquiring or transmitting HIV and other blood-borne diseases such as HCV,<sup>45</sup> because blood serum can be transferred easily from person to person on injecting equipment. Rates of syringe sharing, therefore, are a reliable indicator of the risk of blood-borne disease transmission that exists among populations of injection drug users. The presence of HIV and HCV infection among vulnerable populations can place a massive burden

on health care systems, as providing treatment for these conditions may require a large redistribution of resources. Additionally, HIV and HCV infection may be more prevalent among certain subpopulations, such as different ethnic groups.<sup>46,47</sup> The success of interventions that aim to reduce the harm posed by injection drug use, such as needle and syringe distribution programs and supervised injection facilities, can be evaluated directly by their capacity to reduce the sharing of used syringes among their target populations.

In all UHRI cohorts, rates of syringe lending and borrowing are measured using a standardized interviewer-administered questionnaire. Because difficulty accessing sterile syringes has been identified as a key indicator of syringe sharing in Vancouver,<sup>48</sup> all UHRI cohort questionnaires also solicit detailed data regarding barriers to

sterile syringe acquisition. The cohorts also measure HIV and HCV incidence by testing cohort participants' HIV and HCV status at each semi-annual study visit through serological testing (i.e., blood samples). Unless otherwise stated, data regarding syringe sharing refer to behaviour in the six months prior to the interview.



## Incarceration

While most Vancouver drug users have historically been incarcerated as a result of drug-related crimes, it is well recognized that illicit drug problems fuel Vancouver's crime rates. As a result, many of Vancouver's injection drug users have a history of incarceration. Injection drug users reporting recent incarceration in a number of settings may be at higher risk for other serious public health risks. Specifically, the continued availability of illicit drugs and a lack of sterile syringes within correctional institutions can result in a high rate of syringe sharing and infectious disease transmission among incarcerated injection drug users.<sup>49-51</sup> Additionally, in jurisdictions that do not provide methadone or other drug treatment

in correctional institutions, the incarceration of injection drug users may result in a disruption of methadone treatment.<sup>52</sup> As well, HIV-positive injection drug users who are incarcerated are often at risk of experiencing a disruption in the use of antiretroviral medication.<sup>53</sup>

All UHRI cohort interviewer-administered questionnaires collect detailed data at study enrolment (baseline) and at each study follow-up concerning the experiences of study participants while incarcerated. Questions include type and prevalence of drug use, prevalence of injection- and sex-related health risks, and access to drug treatment such as methadone during incarceration.

## Cocaine Injection

Because of the short half-life of cocaine, heavily dependent cocaine injectors may inject up to 20 times a day, as opposed to heavily dependent heroin injectors who, because of heroin's longer half-life, may inject only 2 to 4 times a day.<sup>54</sup> Consequently, cocaine injection has been associated with high levels of used syringe sharing as a result of the large volume of syringes needed daily and the psychoactive effects of cocaine.<sup>55</sup> Additionally, because of the high number of syringes that heavily dependent cocaine injectors require, this behaviour can result in a high level of publicly discarded syringes and subsequently may negatively affect the local economy, deter tourist traffic, increase the potential for public health

harms, and increase public disorder.<sup>7</sup> These harms are exacerbated by the lack of effective treatment options for heavily dependent cocaine users.

UHRI cohort studies collect data on several measures related to cocaine injection among cohort participants at study enrolment and during study follow-up through interviewer-administered questionnaires. These data can be used to determine the prevalence of injection cocaine use, factors associated with the initiation of cocaine use, geographic location of injection, and frequency of cocaine injection. Unless otherwise indicated, data in this report regarding injection cocaine use refer to use of this drug in the six months prior to the interview.

## Heroin Injection

Despite efforts to reduce supply, heroin continues to be readily available in Vancouver at low cost and at a high level of purity.<sup>56</sup> We have previously observed associations between frequent heroin use and a host of risk behaviours among Vancouver injection drug users.<sup>36, 57</sup> However, incidental data suggest that the prevalence of injection heroin use may be decreasing among Vancouver injection drug users, and that the prevalence of crystal methamphetamine and crack use may be rising among this population. Despite this shift, a 2002 survey of illicit drug use in Canada's major urban centres found that the majority of injection drug users in Vancouver reported injecting heroin in the last 30 days.<sup>7</sup> While a network of interventions aimed at reducing the harm of injection drug use

exists in Vancouver's Downtown Eastside, heroin injection continues to negatively affect public health and public order.

UHRI's cohort studies collect data on several measures related to heroin injection. These data, collected through interviewer-administered questionnaires, cover many factors related to the circumstances surrounding heroin injection, the sociodemographic variables that may make individuals more likely to inject heroin, and specific injecting practices that may increase health risks. Unless otherwise indicated, data in this report regarding injection heroin use refer to use of this drug in the six months prior to the interview.

## Crystal Methamphetamine Use

Rates of crystal methamphetamine use appear to have risen among many injection and non-injection drug-using populations.<sup>28</sup> A British Columbia Coroners Service report found that deaths involving methamphetamine increased from 3 in 2000 to 33 in 2004, and the vast majority of these deaths occurred among men living in Vancouver.<sup>58</sup> One recent study that investigated crystal methamphetamine use among VIDUS participants confirmed that between May 1996 and December 2004, the proportion of participants reporting crystal methamphetamine injection increased significantly.<sup>12</sup>

All UHRI cohorts also solicit detailed data regarding crystal methamphetamine to fully investigate the potential public health and public order harms of this drug across various life stages. Specifically, detailed data regarding the impact of crystal methamphetamine on overdose events, polydrug use behaviours, and other potential health harms among Vancouver's illicit drug-using population are collected through interviewer-administered questionnaires. Unless otherwise indicated, data regarding crystal methamphetamine use refer to use of this drug in the six months prior to the interview.

## Street-Based Sex Work

Street-based sex workers who exchange sex for money, drugs, shelter or other commodities as a means of daily survival are highly vulnerable to adverse health outcomes, including violence, exploitation, and sexually transmitted infections. These risks are further compounded by use of injection and non-injection drugs.<sup>14</sup> Recent events suggest that current legislation and enforcement efforts have not only failed to address but may inadvertently have elevated the health and social harms experienced by sex workers.<sup>15</sup> Consequently, there are increasing calls for policy and prevention strategies that promote the health of sex workers and reduce adverse risks. One primary goal of the

UHRI cohort studies is to investigate the correlates of sex work among Vancouver's injection drug-using population, to help inform interventions or policies that may reduce the vulnerability of such individuals as well as the negative affects on communities.

Using serologic testing and interviewer-administered questionnaires, UHRI cohort studies are able to collect data regarding blood-borne disease transmission, drug use practices, and many other indicators of health specific to street-based sex work among drug users. Involvement in the sex trade is evaluated at each semi-annual follow-up visit.

## Mortality

Prior research in a variety of settings has consistently observed high mortality rates among illicit drug-using populations. Many health harms, such as elevated HIV incidence and a high rate of fatal overdose, can contribute to this increased mortality rate.<sup>59</sup> Potentially fatal sequelae of illicit drug use, such as overdose events, also often require emergency interventions (i.e., ambulance response and emergency care) that may place a significant strain on health care systems and incur a high economic cost.<sup>60</sup>

To investigate the mortality rate and causes of death among our study populations, a variety of data sources were used. In particular, data from the British Columbia Vital Statistics Agency are used to track mortality rates, and the cause of death was coded in accordance with the International Classification of Diseases, Tenth Revision (ICD-10).

Figure 1a: Gender distribution across all UHRI cohorts

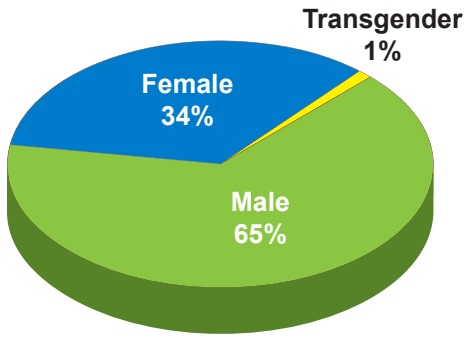


Figure 1b: Ethnic distribution across all UHRI cohorts

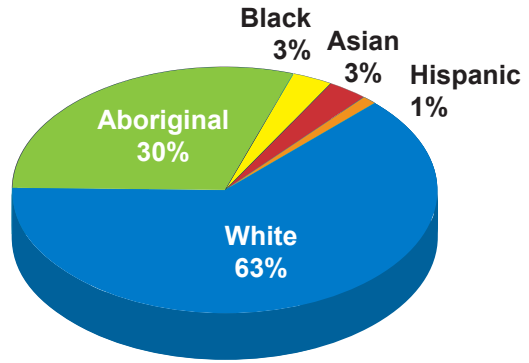
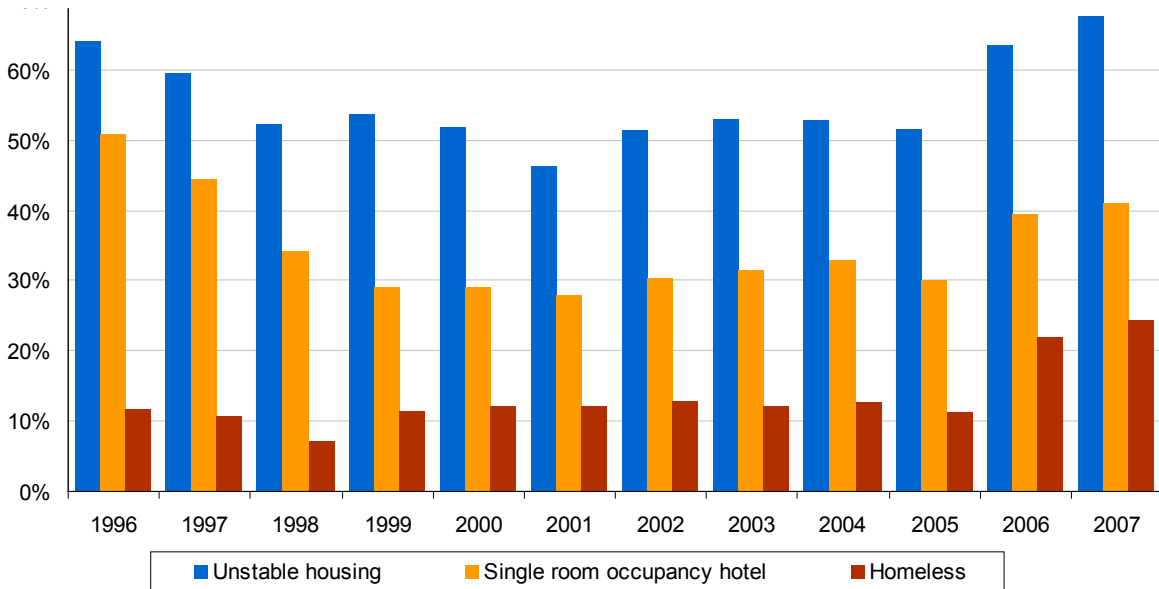


Figure 2: Patterns of unstable housing, single room occupancy hotel use, and homelessness among Vancouver injection drug users, 1996–2007



Note: 'Unstable housing' includes living in a shelter/hostel, treatment/recovery house, jail, single room occupancy hotel, or on the street.



## FINDINGS

### Cohort Demographics

**VIDUS**, the longest running of UHRI's prospective cohort studies, began recruitment in 1996. By the end of 2007, there were 1,048 unique individuals enrolled in VIDUS, all of whom were current or former injection drug users. VIDUS includes 343 (33%) female participants, 698 (67%) male participants, and 7 (1%) transgender participants. Six hundred sixty-three (63%) participants self-identify as Caucasian and 302 (29%) individuals self-identify as Aboriginal. At study enrolment, the mean age of VIDUS participants was 41 (interquartile range [IQR] = 35–48) and the total age range for all VIDUS participants was 19 to 66. Throughout this report, we refer to VIDUS participants as “injection drug users.”

The **ACCESS** cohort is made up of HIV-positive injection drug users. By the end of 2007, 422 participants were enrolled in the study. Compared to the VIDUS cohort study, the ACCESS cohort has a lower percentage of Caucasian participants (220, 52%) and a higher percentage of participants who self-identify as Aboriginal (176, 42%). At baseline, the mean age of ACCESS participants was

42 (IQR = 36–47), and the total range for all ACCESS participants was 17 to 65. Throughout this report, we refer to ACCESS participants as “HIV-positive injection drug users.”

**ARYS**, UHRI's at-risk youth cohort study, began recruitment in 2005. By the end of 2007, 560 unique individuals were enrolled in ARYS. Three hundred ninety-six (71%) study participants self-identify as Caucasian and 132 (24%) participants self-identify as Aboriginal. At study enrolment, the mean age of ARYS participants was 22 (IQR = 20–24), while the total age range for all ARYS participants was 14 to 32. Throughout this report, we refer to ARYS participants as “street-involved youth.”

The total number of individuals enrolled in UHRI cohorts is 2,030, including 686 (34%) women and 16 (1%) transgender individuals. Overall, 1,279 participants self-identify as Caucasian (63%) and 610 (30%) participants self-identify as Aboriginal. At baseline, the mean age of UHRI cohort study participants was 36 (IQR = 25–45), and the age range was 14 to 66. These results can be seen in Figures 1a and 1b.

### Housing

Trends in outright homelessness, living in a single room occupancy hotel, and unstable housing among Vancouver injection drug users between 1996 and 2007 are presented in Figure 2. Unstable housing is defined as living in a shelter/hostel, treatment/recovery house, jail or a single room

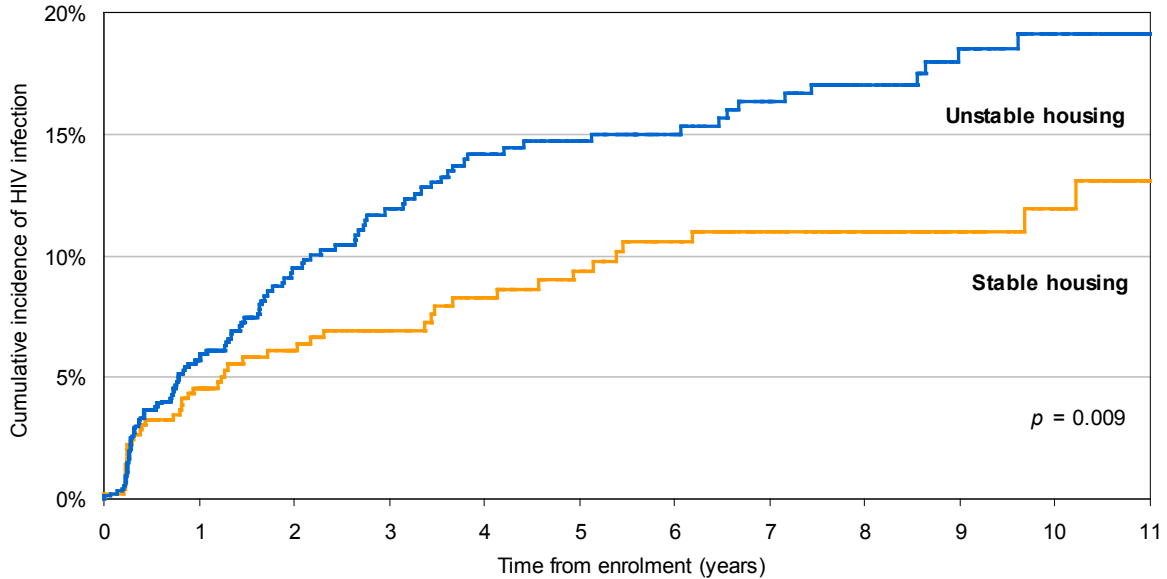
occupancy hotel. As shown here, rates of outright homelessness have remained at approximately 10% during the study period, although there is evidence of an increase beginning in 2006. Single room occupancy housing has declined from a high of 51.0% in 1996 to a low of 30.2% in 2005, although

a recent increase to over 41.1% is also noted in 2007. The level of unstable housing has remained relatively consistent at approximately 50% of injection drug users throughout the study period, though this has increased to almost 67.5% in 2007. Note: The percentages add up to greater than 100% because of overlap between the above definitions.

incidence rate was 13.1% among those injection drug users living in stable housing (i.e., living in an apartment or house) at baseline, in comparison to an HIV incidence rate of 19.1% among those without stable housing at baseline. Among street-involved youth, approximately 55% reported homelessness, with most living either at no fixed address, on the street, or in a hostel or shelter.

Figure 3 shows the relationship between unstable housing and HIV incidence among injection drug users in Vancouver. As shown here, after 10 years of recruitment into VIDUS, the HIV

**Figure 3: Cumulative incidence of HIV infection among Vancouver injection drug users from 1996 to 2007, stratified by housing status**



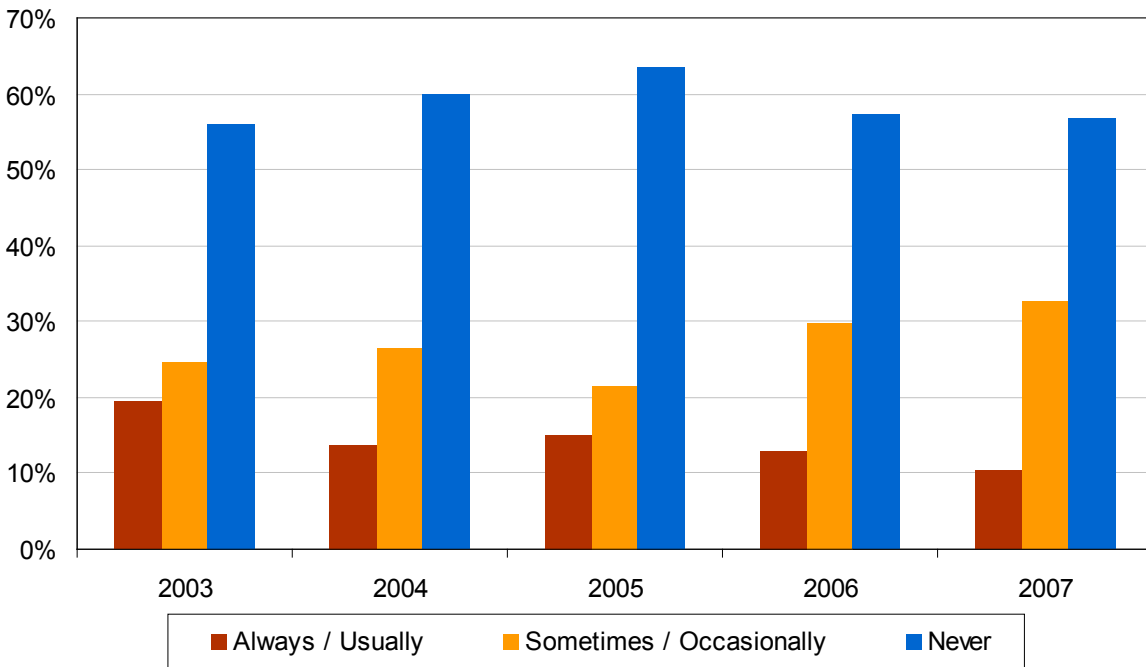
Note: 'Unstable housing' includes living in a shelter/hostel, treatment/recovery house, jail, single room occupancy hotel, or on the street. 'Stable housing' is defined as living in an apartment or house.

## Public Disorder

Among Vancouver injection drug users, over 40% report injecting in public in the last six months, and this rate has remained stable since UHRI began measuring this indicator in 2003 (Figure 4). Among frequent injection drug users, homeless individuals are more than six times more likely to inject in public.<sup>61</sup> Individuals who experience wait times to use the Insite supervised injecting

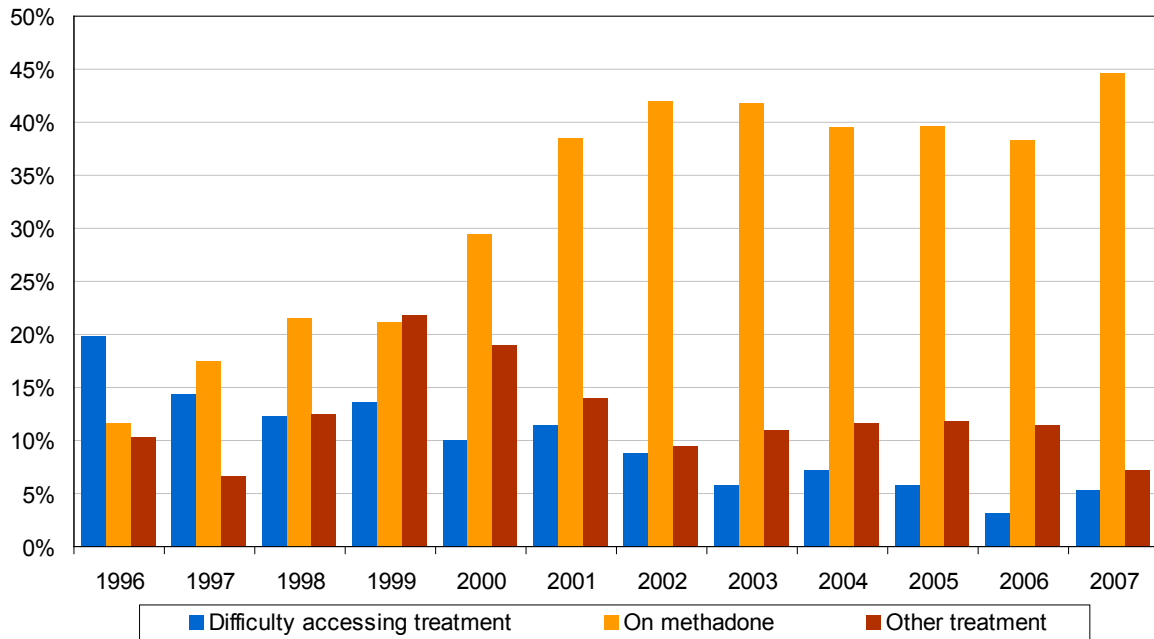
facility are three times more likely to inject in public. Homelessness is also associated with public drug use among street youth. In addition to the homelessness problem, the increase in crack cocaine use, described below, is also responsible for a great deal of the public drug use and public disorder in Vancouver.

**Figure 4: Percent of active injection drug users in Vancouver who report injecting in public, 2003–2007**



Note: 'Public' is defined as spaces such as streets, alleys, public washrooms, parks, abandoned buildings, parking lots, etc.

Figure 5: Patterns of access to addiction treatment among Vancouver injection drug users, 1996–2007



Note: 'Other treatment' includes detox, daytox, recovery house, treatment centre, NA/CA/AA, and counselling.

### Addiction Treatment

Figure 5 presents patterns of access to addiction treatment among injection drug users in Vancouver over a 10-year period. As can be seen, the rate of injection drug users reporting access to methadone has increased from 11.7% in 1996 to 44.7% in 2007. While rates of access to treatment other than methadone have fluctuated, no clear trend emerges over the study period for treatments other than methadone. The positive trend in access to methadone treatment has also been accompanied by a decrease in the rate of injection drug users reporting difficulty accessing treatment, from a high of 19.9% reporting difficulty in 1996 to a

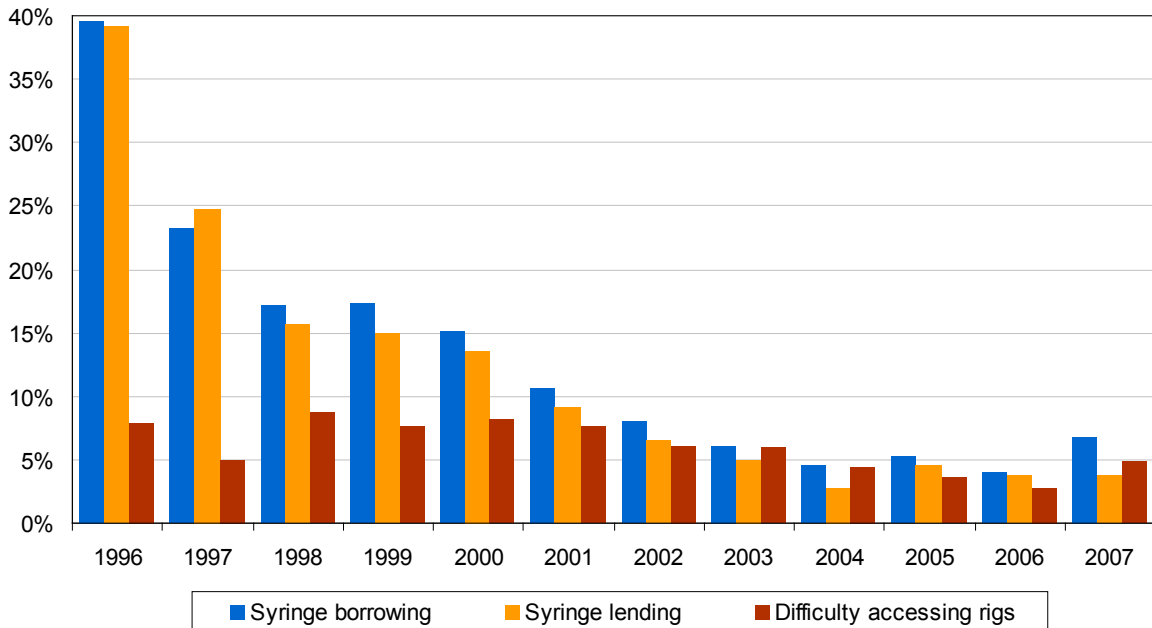
low of approximately 3.6% reporting difficulty in 2006. It is noteworthy, however, that data from 2007 denote a slight increase in the proportion of individuals reporting difficulty accessing treatment, to 5.4%. While these data are generally encouraging, it should be noted that difficulty accessing treatment requires that individuals seek treatment and, in many instances, past inability to access treatment may deter individuals from seeking it. As well, strong trends have emerged showing that Aboriginal drug users have reduced access to addiction treatment, such as methadone maintenance therapy.

### HIV Risk Behaviour

Figure 6 demonstrates trends in injection-related HIV risk behaviour among injection drug users in Vancouver over the last 10 years. Specifically, the graph displays a steady decline in the level of used syringe sharing reported by injection drug users throughout the study period. At baseline (study enrolment), 39.6% of injection drug users reported syringe borrowing in the prior six months, though this rate had dropped to 6.7% by the close of the study period. Similarly, at baseline 39.2%

of injection drug users reported lending syringes, and by the close of the study period this rate had dropped to 3.8%. With respect to sterile syringe availability, levels of difficulty accessing sterile syringes reported by injection drug users have declined from 8.0% in 1996 to 5.0% in 2007 among injection drug users, though this trend has not been as marked, and the rate of difficulty accessing sterile syringes fluctuated throughout the study period.

Figure 6: Patterns of injection-related HIV risk behaviour among Vancouver injection drug users, 1996–2007

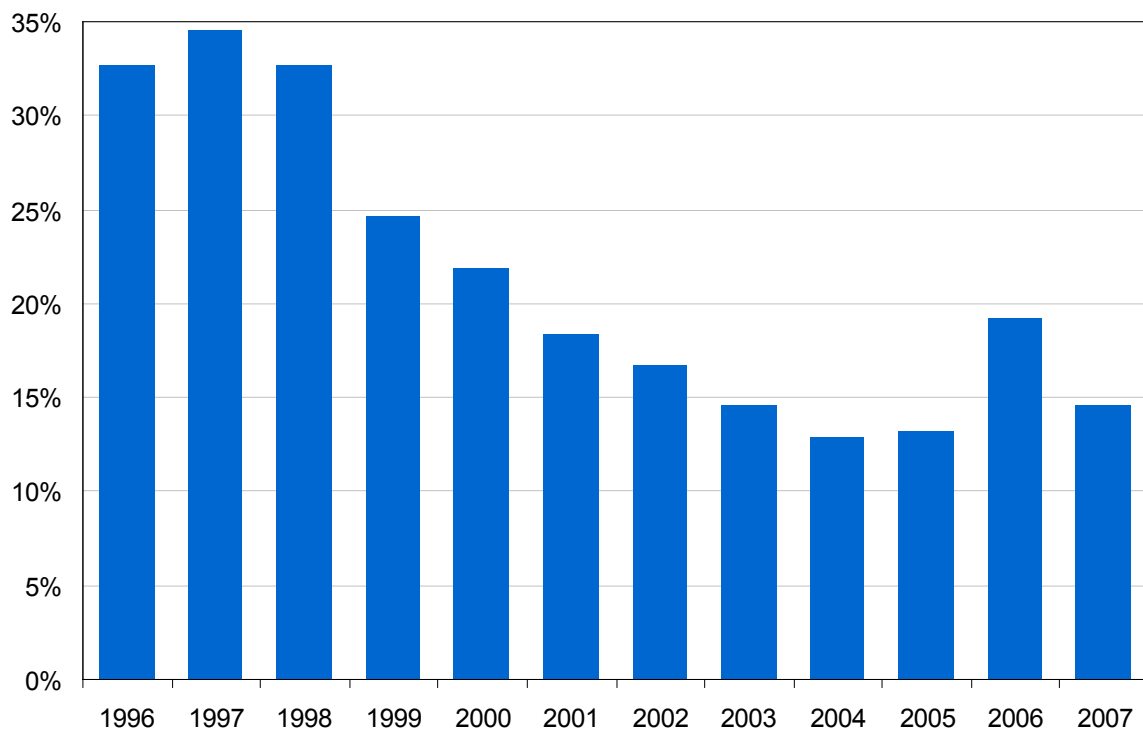


### Law Enforcement and Incarceration

The majority of injection drug users have experienced periods of incarceration. Unfortunately, among Vancouver injection drug users, these periods are associated with both HIV risk behaviour and HIV incidence. Among VIDUS participants, over 70% report a history of incarceration. The percentage of injection drug users in Vancouver reporting being recently incarcerated (i.e., held in detention, prison or jail

overnight or longer in the last six months) between 1996 and 2007 is shown in Figure 7. As can be seen, between 1997 and 2004 the percentage of injection drug users reporting recent incarceration dropped from a high of 34.6% in 1997 to a low of 12.9% in 2004. Between 2005 and 2006, a small increase in the rate of recent incarceration, from 13.2% to approximately 18.5%, was observed, though at the close of the study period in 2007,

Figure 7: Percent of Vancouver injection drug users reporting recent incarceration, 1996–2007



Note: 'Incarceration' is defined as being in detention, prison, or jail overnight or longer.



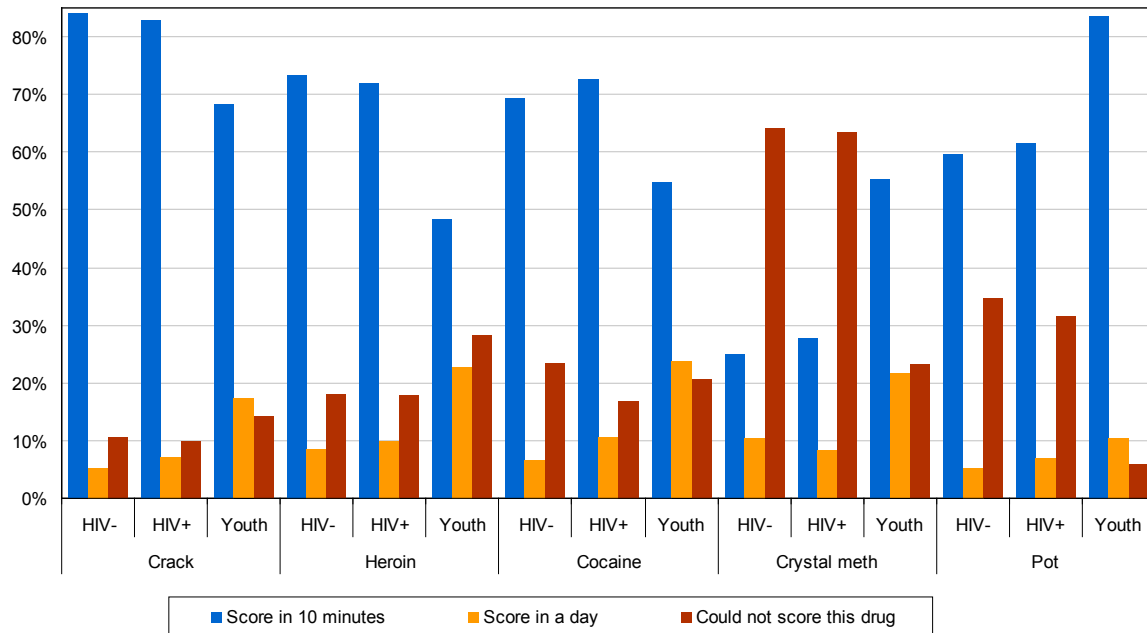
this rate had decreased to 14.6%. A limitation of these data is that when individuals are incarcerated they are often lost to follow-up from the study. As a result, the declines in incarceration rates may reflect a cohort effect whereby individuals who commit crimes are removed from the study and those who remain in the study are less likely to engage in behaviours (e.g., drug dealing) that may place them at risk of incarceration. Aging of the cohort may also play a role.

Patterns of street-based law enforcement have changed markedly over the last 10 years

in Vancouver. Increased investments have allowed the Vancouver police department to significantly increase its presence on the streets of the city. Periodic intensifications have also resulted in transient disruptions in the Downtown Eastside, but these disruptions lead to significant displacement of the illicit drug market to other areas of the city.

Data also indicate that police officers have worked well with the operators of the Vancouver supervised injecting facility and have referred street-based injectors to the program.

**Figure 8: Availability of illicit drugs among HIV-negative and HIV-positive injection drug users and street-involved youth in Vancouver in 2007**



### Illicit Drug Availability

Figure 8 presents the availability of illicit drugs reported by HIV-negative injection drug users, HIV-positive injection drug users, and street-involved youth in Vancouver in 2007. As can be seen, a large majority of respondents in all three subpopulations reported rapid access to crack, with approximately 90% of injection drug users and approximately 70% of at-risk youth reporting access to crack within 10 minutes. Additionally, all three subpopulations reported relatively rapid access to heroin, with over 50% of street-involved

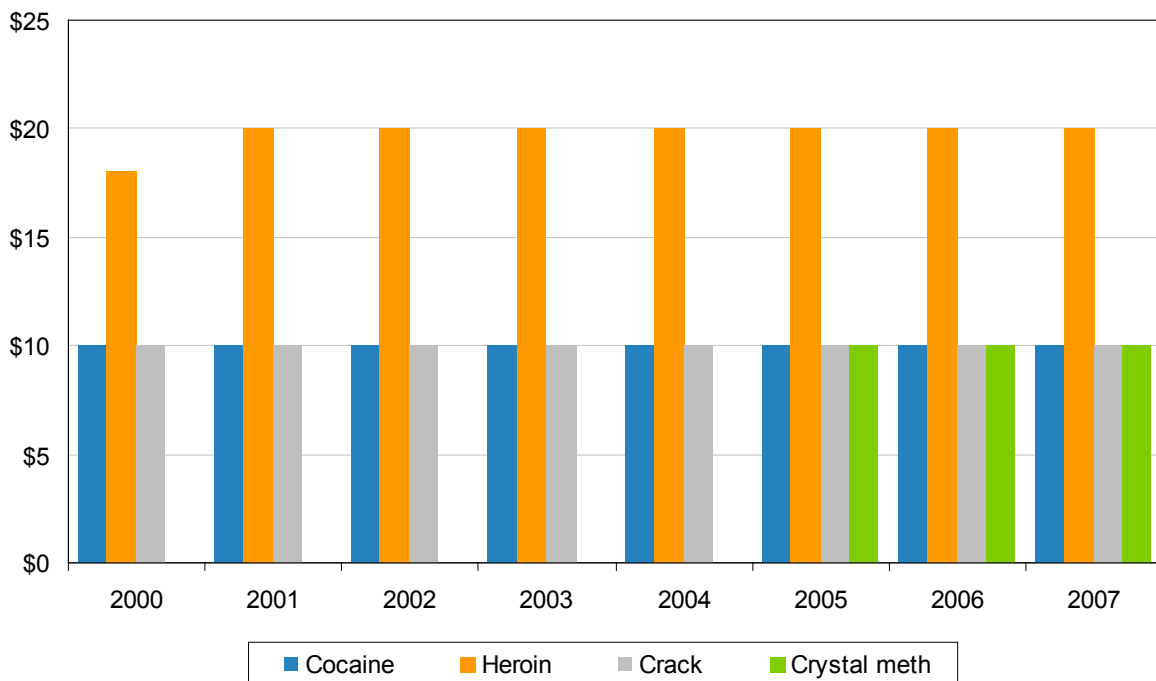
youth and approximately 80% of injection drug users reporting that they could obtain this drug within 10 minutes. Slightly reduced access to crystal methamphetamine by injection drug users was reported, although it is worrisome that crystal methamphetamine was most available to street-involved youth, with over 50% of youth reporting being able to obtain the drug within 10 minutes. The reported availability of these so-called hard drugs is comparable to the reported availability of marijuana among these subpopulations.



Figure 9 presents longitudinal data on reported street prices of illicit drugs in Vancouver from 2000 to 2007. These data suggest that illicit drug prices have remained extremely stable and low. As can be seen, the median reported street price of one “paper” (0.1 gram) of cocaine was consistently \$10 from 2000 to 2007, while the median reported street price of one “point” (0.1 gram) of heroin was

consistently \$20 from 2001 to 2007. The median reported street price of one “rock” (0.1 gram) of crack cocaine and crystal methamphetamine remained at \$10 from 2000 to 2007. The stability of the street price of these drugs appears to contradict assertions that interdiction efforts have meaningfully interrupted drug supply.

Figure 9: Median drug prices reported by injection drug users in Vancouver, 2000–2007



Note: Adjusted unit cost (per ‘point’ [0.1 gram] for cocaine, heroin, and crystal meth, per ‘rock’ [0.1 gram] for crack). Data on crystal meth prices only available for 2005–2007.

## Drug Use Patterns

Drug use patterns were observed over an 11-year period among injection drug users in Vancouver, and these results are shown in Figures 10a-e. In the figures, “cocaine” and “heroin” refer to injection cocaine and injection heroin use, while “crack” refers to crack cocaine smoking. As can be seen, while rates of overall drug use remained relatively constant, large fluctuations in the use of specific drugs occurred over the study period. Specifically, the rate of participants reporting having injected cocaine daily in the last six months decreased from a high of 38.1% in 1996

to 8.5% in 2007. This decrease was accompanied by a large increase in crack cocaine use among this cohort, with 3.5% of participants reporting smoking crack cocaine daily in the last six months in 1996, compared with 41.7% reporting such behaviour in 2007. While fluctuations in injection heroin use can be seen in Figure 10a, these are less pronounced, with 27.7% of participants reporting having injected heroin daily in the last six months in 1996, compared with 25.2% of participants reporting such behaviour in 2007.

Figure 10a: Percent of Vancouver injection drug users reporting daily heroin injection, 1996–2007

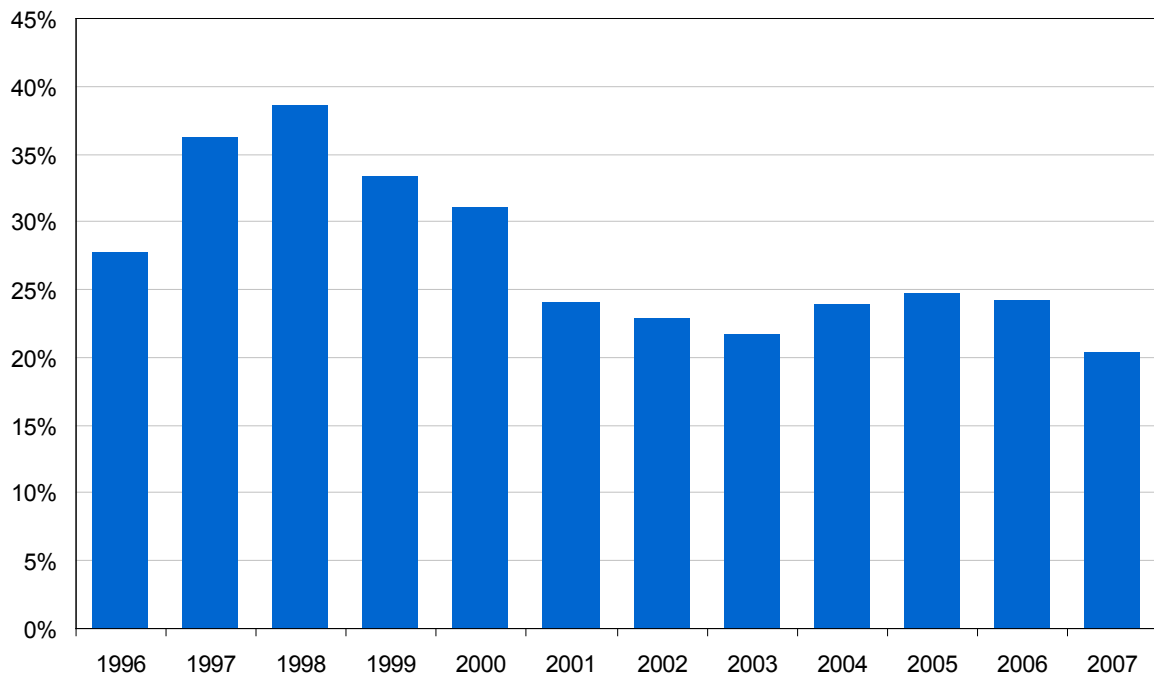


Figure 10b: Percent of Vancouver injection drug users reporting daily cocaine injection, 1996–2007

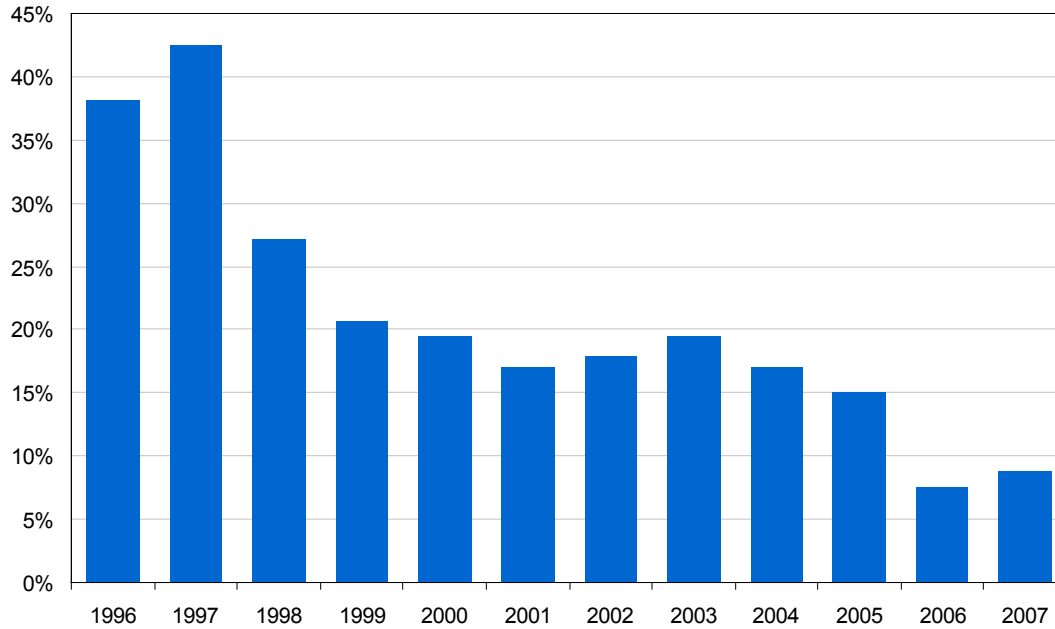
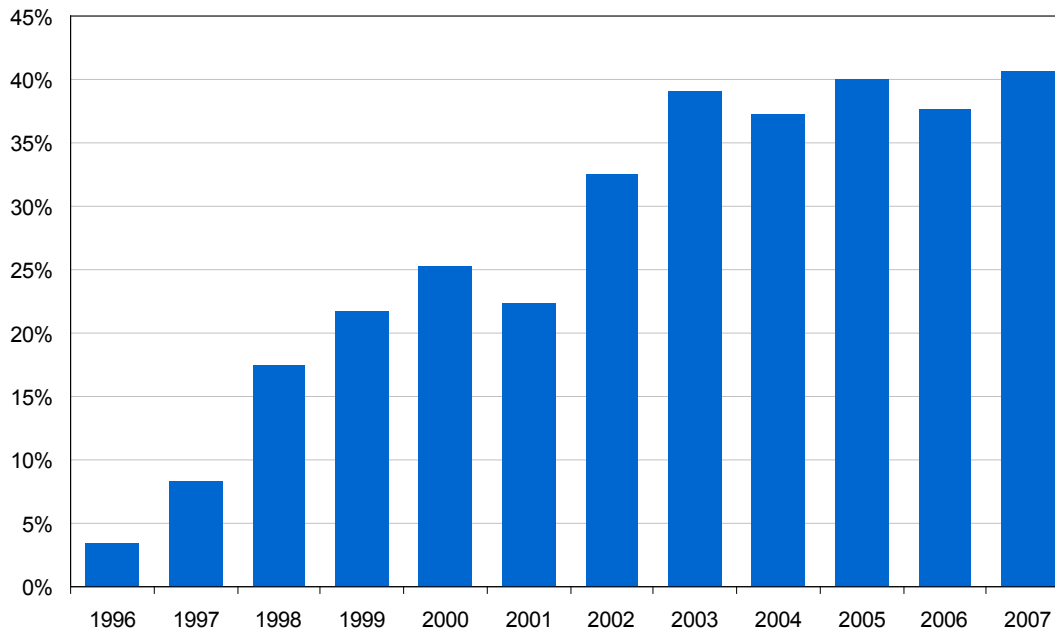
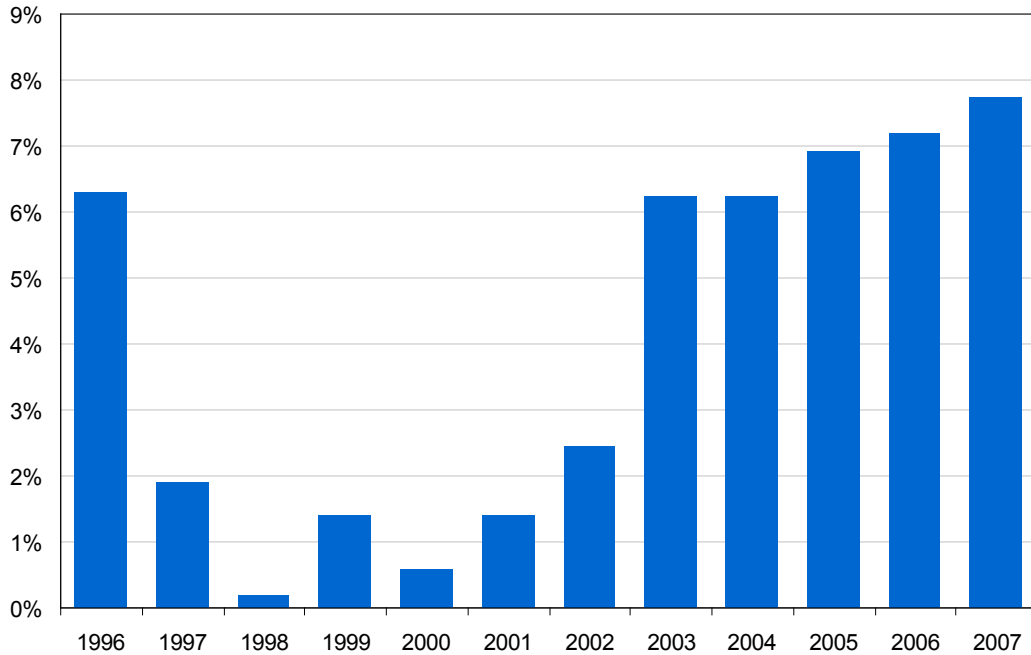


Figure 10c: Percent of Vancouver injection drug users reporting daily crack smoking, 1996–2007

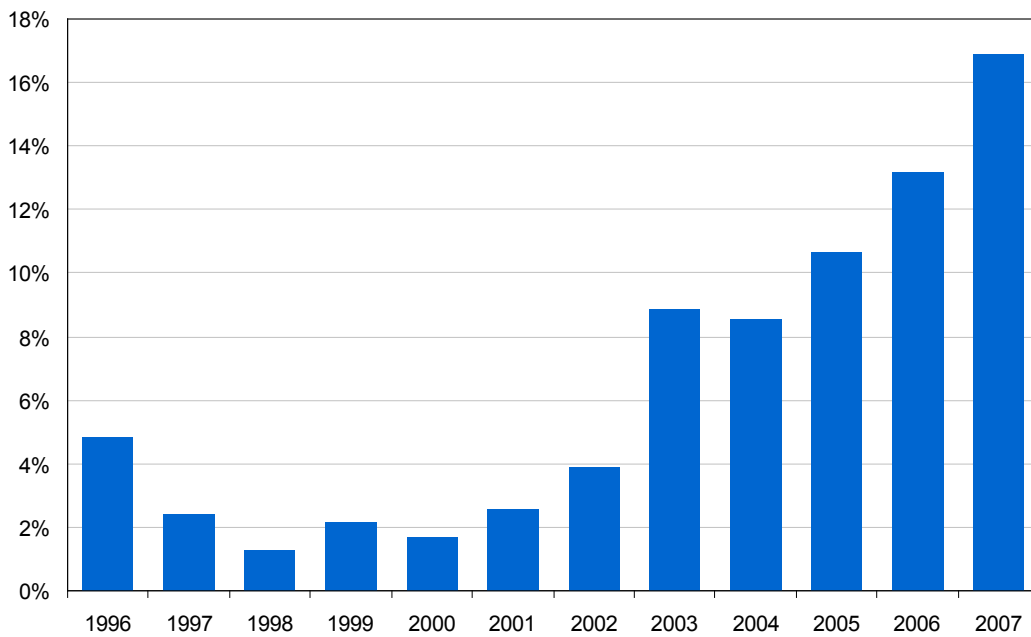


**Figure 10d: Percent of Vancouver injection drug users reporting recent non-injection methamphetamine use, 1997–2007**



Note: 'Recent' is defined as within the past six months.

**Figure 10e: Percent of Vancouver injection drug users reporting recent methamphetamine injection, 1997–2007**



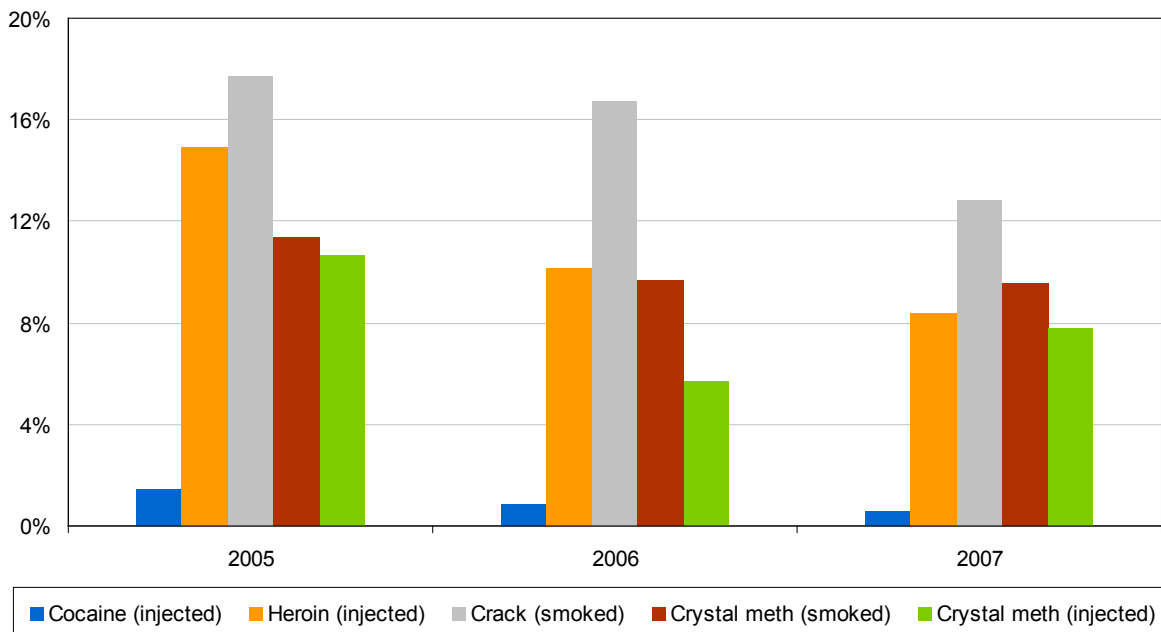
Note: 'Recent' is defined as within the past six months.

As can be seen in Figures 10d and 10e, while the rate of crystal methamphetamine use is much lower compared with the use of other drugs among this cohort throughout the study period, there is an identifiable increase in rates of both injection and smoked crystal methamphetamine use since 2001.

The drug use patterns of street-involved youth for the years 2005 to 2007 are presented in Figure 10f. Crystal methamphetamine, both through injection and smoking, is much more popular among street-involved youth in

Vancouver than it is among injection drug users, while injection cocaine and injection heroin use appear to be much less common. Crack cocaine use was, however, highly prevalent, with approximately 18% of street-involved youth reporting use of this drug in 2005 and 2006, and approximately 13% reporting use in 2007.

**Figure 10f: Percent of Vancouver street-involved youth reporting daily use of cocaine, heroin, crack, and crystal methamphetamine, 2005–2007**

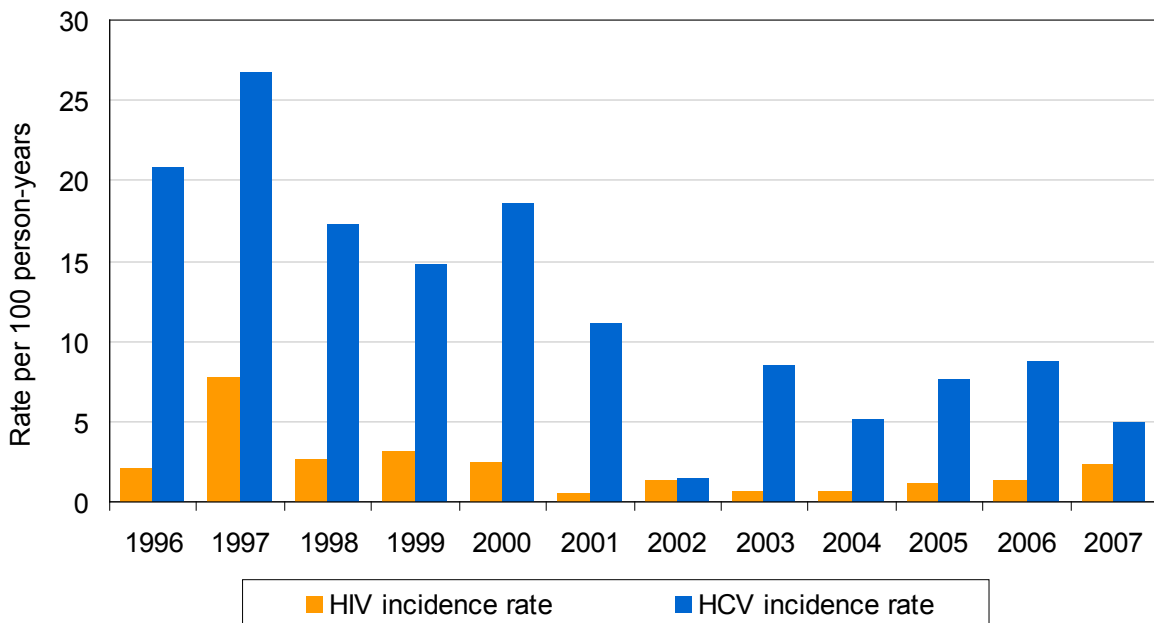


### HIV and Hepatitis C Incidence and Prevalence

As can be seen in Figure 11, between 1996 and 2007, there appears to be an overall decrease in HIV and hepatitis C (HCV) incidence (i.e., the number of people newly infected) among injection drug users in Vancouver. While HCV incidence reached a high of 26.8 cases per 100 person-years in 1997, by the end of the study period the

incidence rate had decreased to 13.2 cases per 100 person-years. A similar decrease was observed with respect to HIV incidence, which dropped from a high of 7.7 per 100 person-years in 1997 to 2.4 cases per 100 person-years at the end of the study period in 2007.

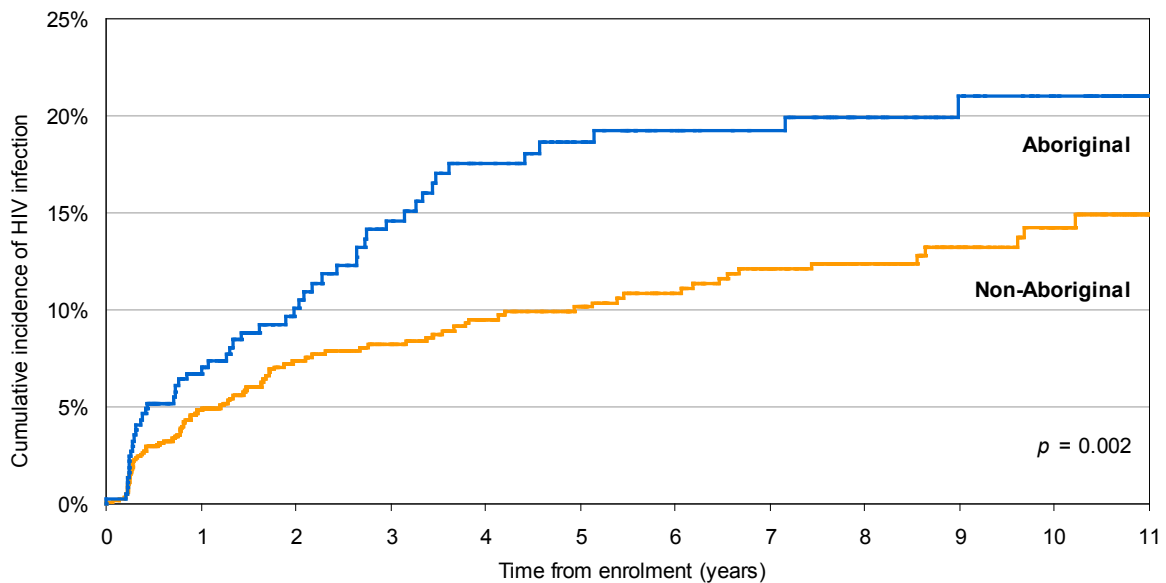
Figure 11: Incidence of HIV and hepatitis C (HCV) infection among Vancouver injection drug users, 1996–2007



The cumulative incidence (i.e., the number of new cases among a specific population during a specific period of time) of HIV infection was measured between 1996 and 2007 among Aboriginal and non-Aboriginal injection drug users, to investigate whether individuals who self-identified as Aboriginal were more likely

than non-Aboriginals to become infected with HIV. As can be seen in Figure 12, the cumulative incidence of HIV infection among individuals who self-identified as Aboriginal was 21.0% compared to 15.0% among non-Aboriginal injection drug users after 11 years.

Figure 12: Cumulative incidence of HIV infection among Vancouver injection drug users from 1996 to 2007, stratified by ethnicity

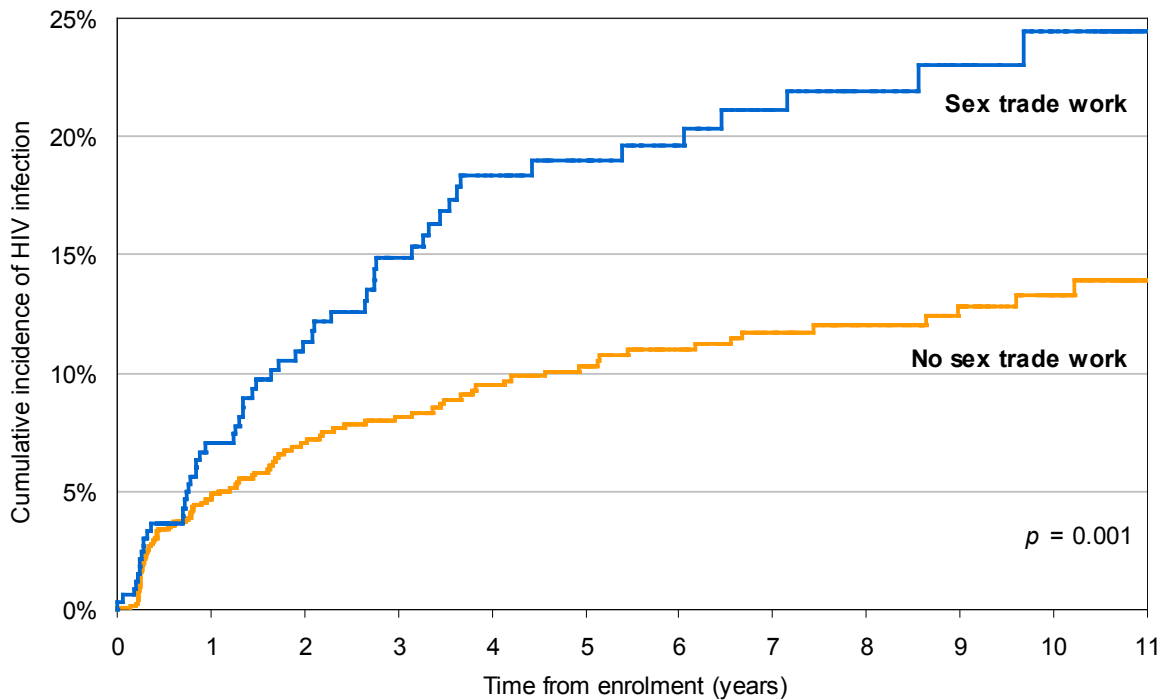


### Street-Based Sex Work Involvement

Among street-involved youth in Vancouver, 11.3% reported engaging in sex work in 2007. Additionally, 15.4% of HIV-positive injection drug users and 14.0% of HIV-negative injection drug users in Vancouver reported engaging in sex work. Figure 13 presents data regarding the association between sex work and the cumulative incidence of HIV among injection drug users in Vancouver,

measured over an 11-year period (1996–2007). As can be seen, the cumulative HIV incidence rate was 24.4% among injection drug users who engaged in sex work at baseline versus 13.9% among injection drug users who did not engage in sex work.

**Figure 13: Cumulative incidence of HIV infection among Vancouver injection drug users from 1996 to 2007, stratified by engagement in sex trade work**



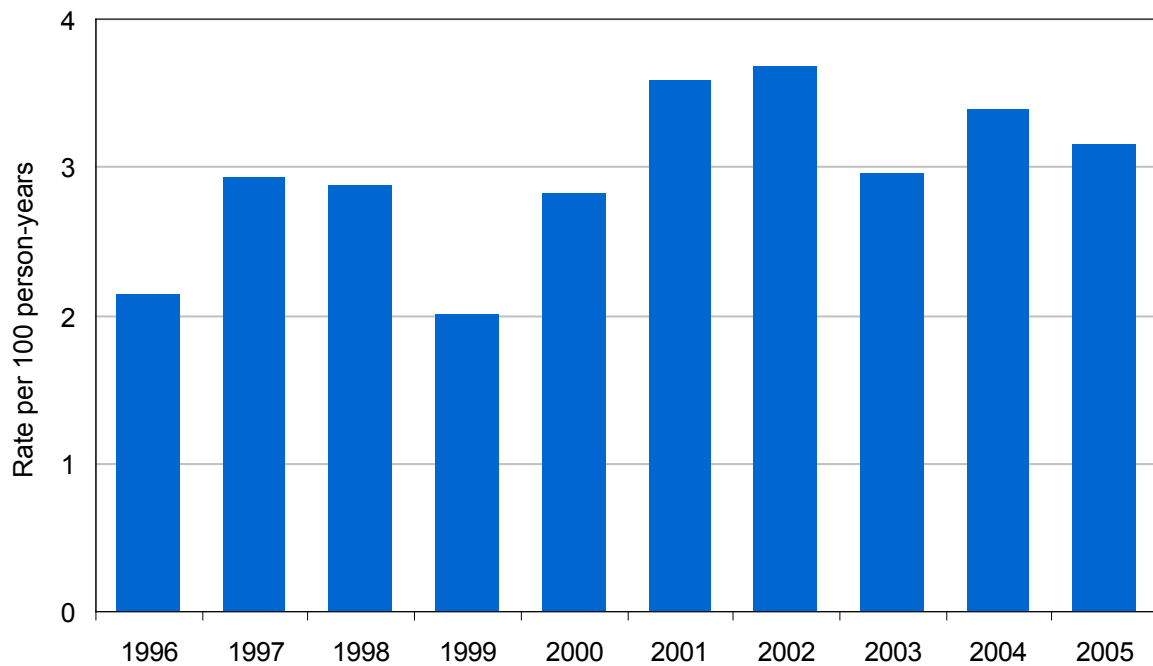


## Mortality

Figure 14 presents data regarding the mortality rate among a cohort of injection drug users in Vancouver between 1996 and 2005. While fluctuations in the mortality rate can be seen, there is no clear or identifiable trend in the data throughout the study period. Primary causes of

death among study participants are HIV infection and overdoses. However, overdose deaths among Vancouver injection drug users have declined markedly in recent years.

Figure 14: Mortality rate among Vancouver injection drug users, 1996–2005

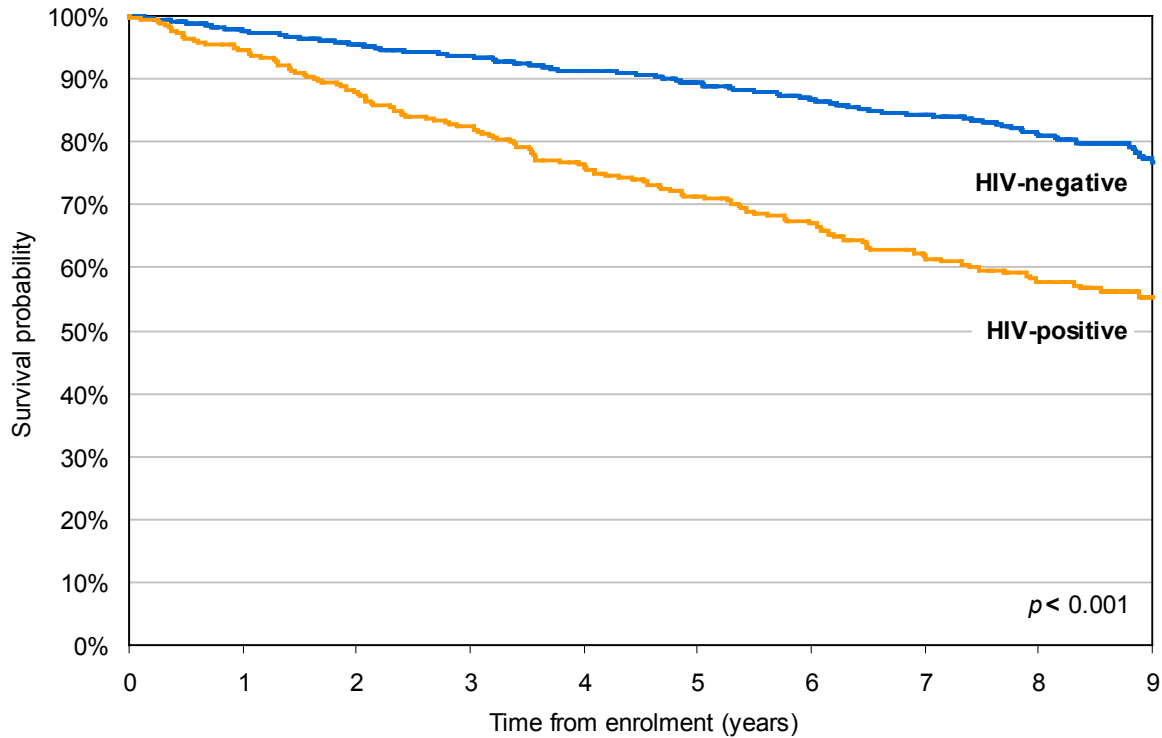


The cumulative probability of mortality among injection drug users in Vancouver over a 9-year period, stratified by HIV-status, is shown in Figure 15. As can be seen, baseline HIV-positive injection drug users were significantly more likely to die during the study period than were injection drug users who were HIV-negative at baseline. Specifically, among 1,123

baseline HIV-negative individuals, 167 (14.9%) died during 9 years of follow-up. Among 314 baseline HIV-positive individuals, 121 (38.5%) died during 9 years of follow-up.

When indirect standardization was used to compare the death rate of injection drug users to the male population of British Columbia aged 20 to 64, the crude rate of death was 10.4 (95%

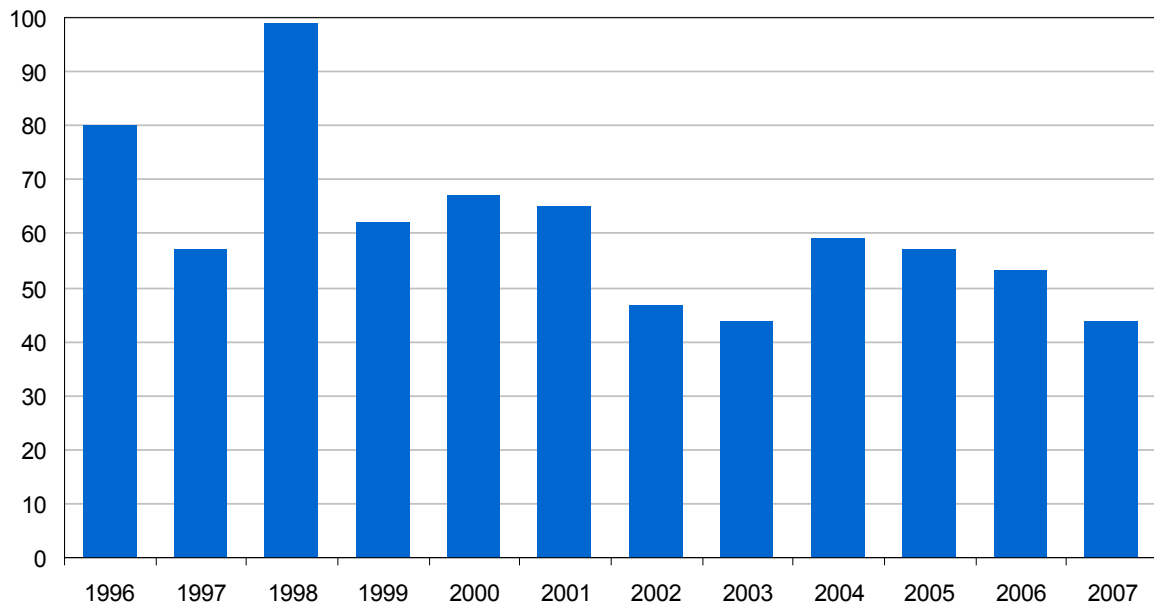
**Figure 15: Probability of survival among Vancouver injection drug users from 1996 to 2006, stratified by HIV status**



confidence interval: 9.0–12.0) times higher among male injection drug users in comparison to the male British Columbia population aged 20 to 64. Similarly, the death rate among female injection drug users was 22.4 (95% CI: 18.4–26.9) times higher than the female population of British Columbia aged 20 to 64. The markedly elevated rate of mortality among female drug users deserves immediate response from policy makers.

Data from the British Columbia Coroners Service suggest that there has been a marked decline in the number of fatal overdoses in Vancouver. Specifically, 80 fatal illicit drug overdoses were recorded for the city of Vancouver in 1996, though by 2007 this number had dropped to 44.<sup>62</sup> The annual prevalence of fatal illicit drug overdoses between 1996 and 2007 is shown in Figure 16.

**Figure 16: Number of fatal illicit drug overdoses in Vancouver, 1996–2007**



Source: BC Coroners Service



## DISCUSSION

This report summarizes the situation on the streets of Vancouver with respect to hard drug use over the last decade. It is useful to consider these findings in the context of the city's Four Pillars Drug Strategy, the upcoming 2010 Winter Olympic Games and the federal government's National Anti-Drug Strategy.

First, with respect to housing, over the past 10 years there have been high numbers of drug-using individuals living in unstable housing, in shelters or on the street in Vancouver.<sup>34</sup> The data collected in this report do not demonstrate significant improvements in this area over the last decade. Obviously, improving public order will require a considerable investment in assisted and non-market housing. While the province has done a commendable job in addressing the need for non-market housing units, much of the investment has involved preserving the existing low income housing stock rather than increasing its supply.<sup>63</sup>

With respect to public disorder, homeless individuals are more likely to inject in public and to contribute to a sense of insecurity and danger on city streets.<sup>64</sup> While Insite, Vancouver's supervised injecting facility, has helped to reduce public drug use among some individuals, particularly homeless individuals, it must be acknowledged that Insite remains a pilot program with limited resources and the capacity to accommodate only 12 injectors at any given time. Although reports funded by the RCMP have been critical of Insite's limited impact on public order,<sup>65</sup> the program can only accommodate a small fraction of the neighbourhood's estimated 5,000 injection drug users and cannot be expected to

contribute to substantial and neighbourhood-wide improvements in public order. In this context, it is noteworthy that European cities that have employed supervised injecting facilities as a strategy to reduce public drug use generally have not limited these efforts to one pilot program, but rather have employed multiple supervised injecting facilities to address community need.

An additional critical issue is the large proportion of drug users who live in single room occupancy hotels. These hotels typically have shared bathroom facilities, and the rooms can generally accommodate little more than a single bed. As a result, individuals living in the Downtown Eastside's hotel rooms often have little or no social space other than the street corners and parks of the Downtown Eastside. In public spaces, homeless individuals and individuals who reside in the city's single room occupancy hotels interact with various elements of the street-based economy (e.g., illicit drugs, sex trade, bottle recycling). Investments in policing, housing, and harm reduction interventions have been proposed to address public drug use, and this dialogue should continue.<sup>30</sup> This discussion must take into consideration the fact that single occupancy hotel housing units in Vancouver's Downtown Eastside provide little social space; hence, until structural changes are made, the individuals who inhabit these units will continue to congregate outdoors in the parks and on the street corners of the Downtown Eastside. There has also been some policy discussion regarding the potential value of supervised inhalation facilities, as employed in Switzerland, where users can smoke crack cocaine

under supervision of medical personnel.<sup>66</sup> Given the massive increase in crack cocaine use and its association with public disorder and blood-borne disease transmission, this dialogue should be continued. In particular, an evidence-based review of strategies to address public disorder among this population is urgently needed. Street-based sex work is common among both HIV-positive and HIV-negative drug users in Vancouver, and evidence-based strategies to address the individual and community harms associated with this practice are also urgently needed.

Trends in access to addiction treatment in the city have generally been positive over the last decade, with drug users reporting increases in the use of methadone and a reduction in difficulty accessing addiction treatment. These changes likely reflect investments in addiction treatment. Over the past few years, Vancouver Coastal Health has also realized opportunities for investment in addiction treatment, with the annual budget doubling from \$16.4 million in 2002–2003 to \$33 million in 2008–2009.<sup>67</sup> Most recently, funding has been allocated to Onsite, the detoxification facility located above, and closely affiliated with, Insite.<sup>68</sup> Nevertheless, experts acknowledge that gaps persist, and novel strategies for the treatment of heroin and cocaine addiction are urgently required.<sup>69,70</sup>

The data suggest that HIV risk behaviour and HIV incidence are decreasing among Vancouver's injection drug users. Coinciding with the expansion of harm reduction programs, particularly the expansion of the city's syringe

exchange programs, there has been a reduction in syringe sharing. This has also been accompanied by declines in HIV and HCV incidence. However, in comparison to other North American cities, the HIV incidence rate found among illicit drug users in Vancouver remains high.<sup>7</sup> Causes for this increased rate are likely multi-factorial and may include high rates of homelessness and mental illness, and incomplete coverage of HIV prevention programs. Also necessary are novel strategies to address these ongoing health-related concerns, with particular emphasis given to the needs of vulnerable populations such as street-involved youth and Aboriginal persons. With respect to the Canadian federal government's National Anti-Drug Strategy, it is noteworthy that despite the large body of scientific evidence regarding the effectiveness of harm reduction interventions in reducing HIV rates internationally and in Vancouver, this approach is excluded from the new strategy.<sup>5</sup> This policy decision should be of local and national concern.

Patterns of law enforcement have changed markedly over the last decade. Increasing investments have allowed the Vancouver Police Department to significantly bolster its presence on the streets of the city. Periodic intensifications have also resulted in transient disruptions and significant displacements of the illicit drug market from the Downtown Eastside to other areas of the city.<sup>71</sup> Studies also indicate that police officers have worked well in conjunction with the operators of the Vancouver supervised injecting facility in referring street-based injectors to this program. As

a result of intensified enforcement activities, a large number of injection drug users have experienced periods of incarceration.<sup>72</sup> The troubling fact, though, is that these periods are associated with increased HIV risk behaviour and HIV incidence.<sup>72</sup>

Unfortunately, the impact of law enforcement efforts on reducing illicit drug availability in Vancouver appears to be inconsequential. Although there has been a shift from injection cocaine to crack cocaine use and an increase in crystal methamphetamine use, these shifts are consistent with data collected in other west coast cities. Among Vancouver drug users, a large majority report rapid access to crack, heroin and crystal methamphetamine, with most individuals able to obtain these drugs within 10 minutes. Additionally, reported street prices of heroin, cocaine, crack cocaine and crystal methamphetamine have all remained stable and low from 2000 to 2007, suggesting a limited impact of strategies to decrease Vancouver's supply of illicit drugs. The federal government's National Anti-Drug Strategy will redouble efforts to reduce supply through law enforcement efforts.<sup>5</sup> However, research from many settings around the globe and particularly the US suggests that this investment of public dollars will be unlikely to produce measurable reductions in drug supply.<sup>56, 73</sup> The UHRI cohorts are well positioned to evaluate the impact of these investments on future drug availability. With respect to current trends, street-involved youth in Vancouver consume substantially more crystal methamphetamine compared with injection drug users, both

through injection and smoking, and engage in much less injection cocaine and heroin use.

Mortality rates among illicit drug users remain remarkably high. In comparison to the British Columbia population, the mortality rate among male injection drug users is 10 times higher, and the mortality rate among female injection drug users is 22 times higher. Although there have been substantial reductions in overdose deaths, strategies to reduce overdose remain an urgent priority. Harm reduction and expanded addiction treatment are the evidence-based modalities of choice among experts in the field and, again, the federal government's decision to withdraw support from harm reduction interventions is therefore of concern.

Similarly, HIV continues to contribute to high mortality among the city's illicit drug users. Since these deaths are preventable through the expanded delivery of highly active antiretroviral therapy (HAART), efforts to expand HAART should be initiated. This may be particularly important given the potential capacity of expanded HAART access to reduce HIV incidence by reducing the infectiousness of HIV-positive individuals.<sup>74</sup>



It is our aim to update UHRI's *Drug Situation in Vancouver* report regularly to inform the ongoing evolution of the city's drug problem, in an effort to provide a comprehensive portrait of the ways in which various policies affect drug use patterns and related concerns.

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More information about the Urban Health Research Initiative is available at:  
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