



Public Health
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I-TRACK SURVEY
Monitoring Trends in the Prevalence of HIV,
Hepatitis C, and Associated Risk Behaviours
Among People Who Inject Drugs In
Central and North Vancouver Island

Summary Report

March 2010

Prepared by the Public and Population Health Observatory,
Vancouver Island Health Authority

Map of Vancouver Island I-Track Phase II Recruitment Sites - Central and North Island (2008) and South Island (2005)



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Duncan – VIHA Mental Health and Addictions Program

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North Vancouver Island

Courtenay – AIDS Vancouver Island

Campbell River – AIDS Vancouver Island

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ABBREVIATIONS

AIDS – Acquired Immune Deficiency Syndrome

AVI – AIDS Vancouver Island

CI – Co-Investigator

CVI – Central Vancouver Island

DBS – Dried Blood Specimen

HIV – Human Immunodeficiency Virus

HCV – Hepatitis C virus

IDU – Injecting Drug User

NEX – Needle Exchange

NVI – North Vancouver Island

PC – Project Coordinator

PHAC – Public Health Agency of Canada

PI – Principal Investigator

PPHO – Public and Population Health Observatory

RA – Research Assistant

VIHA – Vancouver Island Health Authority

WHO – World Health Organization

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EXECUTIVE SUMMARY

The I-Track survey is a national, disease monitoring program implemented by the Public Health Agency of Canada (PHAC), Centre for Infectious Disease and Prevention and Control, in partnership with the Vancouver Island Health Authority (VIHA) and other regional health authorities throughout the country. This program monitors the prevalence of HIV and hepatitis C and associated risk behaviours among people who inject drugs, referred to as IDU, through cross-sectional surveys consisting of an interviewer-administered questionnaire and finger-prick blood sample. Three rounds of the I-Track survey have been conducted in Victoria since 2002. The health authority and local community agencies have used the results to guide decision making to improve services to people who inject drugs.

There is currently little data available around drug use, risk behaviours, and disease prevalence among the IDU population residing in other regions of Vancouver Island. Organizations on the island that develop programs and deliver services to IDU clients are concerned about the limited harm reduction services available for a growing IDU population. In order to generate additional data, PHAC funded the expansion of I-Track - Phase II in the fall of 2008 to the following six communities in Central and North Vancouver Island: Duncan, Nanaimo, Port Alberni, Courtenay, Campbell River, and Port Hardy/Port McNeill area.

The survey recruited participants who had injected drugs within the previous six months from needle exchanges and other agencies in Central and North Vancouver Island. A total of 221 individuals took part in the survey, 124 in Central Island and 97 in North Island. The mean age of respondents was 40 years. Approximately 60% were male, and 40% were female. Those who identified as aboriginal represented approximately one-quarter of all respondents, with a slightly higher percentage in the North Island. Just over half of the respondents reported not completing high school, and 80% were unemployed when interviewed. Eight percent of those surveyed were living on the street at the time of the survey, and 40% had lived on the streets at some point during the past six months.

Forty percent reported first injecting drugs before they were 19 years old, and the average time since first injection was 17 years. The majority of respondents (85%) reported injecting cocaine in the past six months, and 46% reported injecting cocaine more than any other drug during that time. Fifty-five percent reported injecting heroin in the past six months, and 20% indicated that during

the past six months it was the drug they injected most often. Crack was injected by 38% of respondents during the preceding six months. However, 86% of all respondents reported using crack, without injecting, and approximately one-third stated that it was the drug they used most often in the past six months of all non-injected drugs. Eighty-seven percent of individuals who smoked crack reported sharing a used pipe, and one-third of respondents who shared crack pipes also reported burning or cracking their lips from the heat of the pipe during the past six months.

The sharing (borrowing or lending) of used needles in the past six months was reported among 38% of respondents. Approximately one-third of respondents positive for hepatitis C (HCV) reported lending their used needles to others, and one-third of HCV(-) respondents reported borrowing used needles. Approximately half of survey participants injected drugs in their own residence most often, and 15% reported injecting in the street most often.

The prevalence of HIV was 5.3%, with slight variation between North and Central Island sites. As blood specimens were tested for hepatitis C antibodies, a positive HCV result indicated either current or previous infection. Among respondents who provided a blood sample, 71.6 % were positive for hepatitis C antibodies, with a slight variation between sites. Four percent of respondents who provided dried blood samples tested positive for both HIV and HCV. Three-quarters of respondents had been tested for HIV and/or HCV within the past two years, and 75% of these respondents were correctly aware of their HCV(+) status. Almost one-quarter were unaware they had been infected with HCV. Thirty-five percent of those who were aware they had been infected with HCV had received care for the disease from a physician in the past year, and five percent had ever received prescribed drugs for their HCV infection. All respondents infected with HIV were aware of their positive status. Ninety percent were under the care of a physician for HIV, and the majority, 80%, had received medication for their infection at some point.

Of those surveyed, 81% were recruited from needle exchanges (NEX), and three-quarters reported ever using their services. Two thirds of respondents used the NEX occasionally, and 15% accessed NEX services at least weekly during the past six months. The majority of respondents reported returning their used needles to a NEX, but many respondents also disposed of their used needles by other methods such as breaking off the needle tips before dropping them in the garbage. Other needle disposal methods reported were burning, burying, dropping in sewers, and flushing down toilets.

Crack use in the past 6 months was twice as high among respondents in Central Island as in North Island. In Central Island, 14.5% of respondents reported injecting in the street most often, compared with 4.3% of North Island respondents. Also, a greater percentage of Central Island respondents reported living on the street at the time of the survey.

These findings present new information about people who inject drugs in the central and northern areas of Vancouver Island. The results underscore some of the critical issues that can be addressed by VIHA and service providers around existing risk behaviours that facilitate the transmission of HIV and hepatitis C virus.

Recent research conducted by the BC Centre for Disease Control indicates that among individuals who tested positive for HIV and hepatitis C in British Columbia between 1995 and 2008, there was a median time of 3.5 years between individuals being diagnosed with HCV and being diagnosed with HIV. The majority of individuals with HCV who later became HIV-positive reported using injection drugs.¹ The HIV rate in Central and North Island I-Track respondents (5.3%) is substantially lower than in South Island I-Track respondents (12.5 – 15.4%). However, the HCV rates are about the same (71.6% in Central-North respondents versus 68.5 – 73.8% in South respondents).² These rates, in conjunction with the BCCDC findings on the time between HCV and HIV diagnoses, suggest there may be a window of opportunity for interventions with IDU in Central and North Island to prevent an increase in HIV infections. VIHA and service provider agencies can use the information included in this report to better understand local harm reduction needs and to tailor services to prevent increased disease transmission and improve the health of people who inject drugs in Central and North Vancouver Island.

¹ Buxton J.A., Yu A., Alvarez M., Kuo M., Krajden M., Gilbert M., Kim P.H. HCV coinfection in HIV positive population in BC. Oral presentation. *Issues of Substance: Canadian Centre on Substance Abuse National Conference 2009*. Halifax, Nova Scotia. November 15-18, 2009.

² Epidemiology & Disease Control and Population Health Surveillance Unit. (2006). I-Track survey: Enhanced surveillance of risk behaviours and prevalence of HIV and hepatitis C among people who inject drugs. Victoria: Vancouver Island Health Authority.

1.0 INTRODUCTION

The human immunodeficiency virus (HIV) and hepatitis C virus (HCV) are blood-borne pathogens that are transmitted primarily through direct contact with blood and, to a lesser extent, other body fluids. People who inject drugs are at higher risk than the general population for acquiring these diseases because they may engage in behaviours such as sharing of needles and unprotected sex that expose them to infected blood and body fluids. The PHAC HIV surveillance report (2005) estimates that 58,000 Canadians were infected with HIV/AIDS in 2005 and that 17% of these cases were among people who inject drugs. Up to the end of June 2007, injection drug use accounted for 17.5% (5,465) of cumulative adult HIV-positive test reports.³ The national prevalence of HIV and hepatitis C among injecting drugs users remains much higher than in the general population.⁴ The World Health Organization (WHO) has recommended enhanced monitoring of these diseases in key populations that are at increased risk of exposure to HIV and Hepatitis C.

In 2002, the Public Health Agency of Canada (PHAC), Centre for Infectious Disease Prevention and Control, began implementing an enhanced national surveillance program called I-Track. The I-Track surveillance program is designed to track changes in the prevalence of HIV and hepatitis C (HCV) and associated risk behaviours through cross-sectional surveys conducted every few years at various sites across Canada. The Vancouver Island Health Authority (VIHA) and other health authorities throughout the country have partnered with PHAC to implement this program which also provides information to local service providers who are involved in the planning and implementation of prevention and control measures at the community level.

³ Public Health Agency of Canada. (2007). *HIV and AIDS in Canada. Selected Surveillance Tables to June 30, 2007*. Ottawa: Surveillance and Risk Assessment Division, Centre for Communicable Diseases and Infection Control.

⁴ Health Canada. (2004). *I-Track: Enhanced surveillance of risk behaviours among injecting drug users in Canada. Pilot survey report. February 2004*. Ottawa: Surveillance and Risk Assessment Division, Centre for Infectious Disease Prevention and Control. http://www.phac-aspc.gc.ca/i-track/psr-rep04/pdf/I-track_pilot_survey_report_feb-2004_e.pdf

2.0 BACKGROUND

In 2002, the IDU population in south Vancouver Island was estimated to be approximately 2000;⁵ however, current data from local agencies suggests this number has reached between 2500 and 3000. There is currently little data around drug use and risk activities associated with intravenous drug use in Central and North Vancouver Island. There is concern amongst community agencies who work with this population about increasing numbers of IDU in these areas and the lack of services available to them. The Vancouver Island Health Authority and several community agencies identified the I-Track survey as a research approach that could generate important information and insight into the need for prevention and treatment services for IDU in Central and North VIHA. In 2008, PHAC funded the expansion of I-Track into six communities in Central and North Vancouver Island. These six communities were selected for inclusion based on population size and the presence of needle exchange services regularly used by people who inject drugs.

2.1 ADVISORY COMMITTEE

An advisory committee was formed and consisted of the following members: VIHA's Public and Population Health Observatory (PPHO) research staff; Medical Health Officers for South, Central, and North VIHA (the Medical Health Officer for North Vancouver Island also acts as the Medical Director of Aboriginal Health, VIHA); the Director of AIDS Vancouver Island; and the Director of NARSF Programs (a multi-service agency that provides harm reduction services and operates fixed and mobile needle exchanges in Central Vancouver Island communities).

2.2 LETTER TO TRIBAL HEALTH COUNCIL

On the recommendation of the advisory committee, an informational letter was sent to the directors of tribal health councils in Central and North Island to introduce the survey. The letter emphasized that the population of interest in this particular survey was people who injected drugs, not First Nations per se; however, eligible members of this community might hear about the survey and want to participate.

⁵ Centre for Health Evaluation and Outcome Sciences. (2002, March). *Missed Opportunities: Putting a face on injection drug use and HIV/AIDS in the Capital Health Region*. Monograph Number 10. Vancouver, BC: Author. <http://www.cheos.ubc.ca/monographs/Monograph10.pdf>

2.3 MEMORANDUM OF AGREEMENT

PHAC provided the funding to VIHA to carry out the survey, and details were negotiated and finalized in a memorandum of agreement between the two agencies.

2.4 RECRUITMENT COMMUNITIES

2.4.1 Central Vancouver Island

Duncan - The city of Duncan, population 5,000,⁶ is located on the east coast of Central Vancouver Island about 40 km north of Victoria. An additional 35,000 people live in the surrounding area in nearby communities and on aboriginal reserves. One mobile needle exchange operates once a week, and there is no fixed needle exchange site. In this area there is no registry of IDU, and therefore demographic information is not available.

Nanaimo - Nanaimo is the second largest city on Vancouver Island with a population of 78,692.⁷ The city has a sizeable transient population and a relatively fluid street population. Nanaimo has both a mobile needle exchange service and a fixed site service. The fixed needle exchange site has approximately 250 registered clients and is located in a 'Red Zoned' area of the city. Nanaimo is one of the few Canadian cities to have identified a 'no-go' area to reduce drug dealing and related offences. Red-zoning restricts people who have been processed in the courts for drug-related offences from entering red-zone designated areas.

Port Alberni - Port Alberni, population 18,000,⁸ is a deep-sea port situated centrally on Vancouver Island. The number of IDU in Port Alberni is unknown, but estimates suggest there are between 50 and 300. The VIHA Public Health Unit there provides a limited needle exchange service from its clinic, but there is no other fixed needle exchange in the community. In April 2008, a mobile exchange began operating in the town one day per week. This service is beginning to make connections with the IDU community, but currently exchange numbers are low.

⁶ Statistics Canada, Census 2006-Community Profiles
<http://www12.statcan.ca/census-recensement/2006/ref/index-eng.cfm>

⁷ Statistics Canada, Census 2006-Community Profiles
<http://www12.statcan.ca/census-recensement/2006/ref/index-eng.cfm>

⁸ Statistics Canada, Census 2006-Community Profiles
<http://www12.statcan.ca/census-recensement/2006/ref/index-eng.cfm>

2.4.2 North Vancouver Island

Courtenay - The city of Courtenay has a population of 21,940⁹ and is situated on the east coast of Vancouver Island approximately 220 km north of Victoria. There is a transient homeless community, and its members often set up camps in the wooded areas surrounding the town. AIDS Vancouver Island operates both a fixed site and mobile needle exchange service in Courtenay. The mobile needle exchange team does strolls through the town and also travels to the camps to provide harm reduction services. AIDS Vancouver Island in Courtenay maintains a database of 245 registered users.

Campbell River - Campbell River is the fourth largest city on Vancouver Island and is home to approximately 30,000 residents,¹⁰ of whom 8% identify as aboriginal (off reserve). AIDS Vancouver Island runs the primary fixed needle exchange in Campbell River. The needle exchange has approximately 300 registered clients.

Port Hardy and Port McNeill - Port Hardy is a small, remote community on the east coast of North Vancouver Island with a population of 3822.¹¹ Approximately 8% of residents are aboriginal. The slightly smaller community of Port McNeill lies along the coast approximately 40 kilometres southeast of Port Hardy. AIDS Vancouver Island operates a fixed needle exchange site in Port Hardy and a program for mobile outreach harm reduction in Port McNeill and surrounding areas.

⁹ Statistics Canada, Census 2006 Community Profile
<http://www12.statcan.ca/censusrecensement/2006/ref/indexeng.cfm>

¹⁰ Statistics Canada, Census 2006 Community Profile
<http://www12.statcan.ca/censusrecensement/2006/ref/indexeng.cfm>

¹¹ Statistics Canada, Census 2006 Community Profile
<http://www12.statcan.ca/censusrecensement/2006/ref/indexeng.cfm>

3.0 METHODS

3.1 ETHICAL REVIEW PROCESS

The I-Track survey received approval from national and local ethical review boards. The I-Track protocol, core questionnaire, and site-specific questions were reviewed and approved by Health Canada's Research Ethics Board and VIHA's Health Research Ethics Board in August of 2008 prior to survey implementation.

3.2 CONFIDENTIALITY

Survey respondents are asked to provide a personal code which is a combination of their initials, date of birth, and gender. This personal code is then encrypted through a computer program, resulting in the generation of a unique ID number which cannot be traced back to the personal code or the participant. The questionnaire and blood sample are linked by the encrypted code thereby ensuring respondent anonymity. This encrypted code can also be used to track respondents who have participated in previous phases of the survey.

3.3 SURVEY DESIGN

The I-Track survey is designed as an intermittent cross-sectional survey using a combination of convenience and snowball sampling methodologies. It includes an interview-administered questionnaire and finger-prick blood sample. Participants were recruited from needle exchange sites and other locations where VIHA departments and community agencies provide services to the IDU population. On occasion, staff conducted surveys in participants' homes.

3.4 TARGET SAMPLE SIZE AND POPULATION

The target sample size for North and Central Vancouver Island combined was 300 – two-thirds (200) from Central Island communities and one-third (100) from North Island communities. This was based on the IDU population estimate in Victoria, which is approximately 0.9% (3000 IDU in a general population of 330,000), and the number of participants recruited in Victoria during previous I-Track survey rounds. The target sample size for each community was as follows: Central Island – Duncan (25), Nanaimo (125), and Port Alberni (50); North Island – Courtenay (40), Campbell River (40), and Port Hardy (20).

3.5 ELIGIBILITY CRITERIA AND SCREENING

Clients were screened for eligibility using the following criteria:

- Have injected drugs within the past 6 months;
- Meet the lower age limit for the age of consent (17 years of age and older);
- Appear capable of understanding information about the survey and therefore able to provide consent; and
- Not have already participated in this phase of the survey.

3.6 DUPLICATION

A master list of personal codes provided by previous participants was used to screen out respondents who wanted to repeat the survey. There were no instances of duplication within the Central and North Island communities or across the Central-North sites.

3.7 PROMOTION

I-Track was promoted using a variety of printed materials. Posters were put up in agencies with needle exchanges. Field coordinators organized informational sessions with the various agencies in the community, and the survey was also promoted by word of mouth amongst the IDU population. Promotional strategies were customized according to the site-specific challenges encountered in each community.

3.8 RECRUITMENT SITES

A total of 221 participants were recruited from six communities in Central and North Vancouver Island. Table 1 presents the actual and target sample sizes for each community.

Table 1: Recruitment sites and samples

Recruitment Site	Actual Sample Size (target)
<i>Central Vancouver Island</i>	
Nanaimo	64 (125)
Duncan	34 (25)
Port Alberni	26 (50)
<i>North Vancouver Island</i>	
Courtenay	40 (40)
Campbell River	41 (40)
Port Hardy/ Port McNeill	16 (20)
Total	221 (300)

3.9 QUESTIONNAIRE

The core questionnaire consists of approximately 50 questions and is administered across all sites in Canada. The core questionnaire is divided into the following sections: i) drug use and injection behaviours, ii) sexual behaviours, iii) HIV/HCV testing and care, and iv) demographics. Questions relating to drug use ask about drugs most injected, frequency of injection, sharing of needles and other equipment, and places where users inject. Sexual behaviour questions ask about condom use and number and type of sexual partners. The HIV/HCV testing and care sections focus on dates, frequency, location, and results of tests and about whether respondents are under the care of a physician for HIV or HCV. Demographic questions ask about gender, age, ethnicity, education and place of residence.

Based on recommendations of the advisory committee, additional questions added to the survey included changes in types of drugs used, injecting networks, crack use and pipe sharing behaviours, use of health and social services, employment, and housing.

3.10 BLOOD SPECIMEN

A sterile lancet was used to collect a finger-prick blood sample. The blood was preserved on a small card provided by the National Microbiology Laboratory. The blood samples were sent to the laboratory for analysis of HIV and hepatitis C and, if participants consented, were stored for future testing.

3.11 LOCAL DATA ANALYSIS APPROACH

The I-Track survey data was entered and cleaned by PHAC prior to being released to VIHA for local analysis. Local analyses were carried out using SPSS 17.0 software. Descriptive analyses were conducted on variables related to demographics, drug use, needle sharing behaviours, sexual behaviours, use of needle exchange services, and HIV/HCV testing and care. Laboratory-confirmed HIV and HCV results were analyzed in relation to demographics, duration of drug use, needle and equipment sharing behaviours, and respondent-reported disease status. Additional analyses were completed on local survey questions regarding crack pipe use and needle exchange use. Results are presented in aggregate and by recruitment site (North Island and Central Island).

3.12 LIMITATION OF ANALYSIS AND INTERPRETATION OF RESULTS

It is important to acknowledge the limitations of the I-TRACK survey and of the results presented. First, the survey did not select a random sample of the population. As such, the study sample may not represent all those who inject drugs in Central and North Vancouver Island, and extrapolating the results of this survey beyond the study sample could be misleading. Second, because the study sample was not randomly selected, results are descriptive and no statistical tests were performed. Third, bias may have occurred due to under-reporting of risk behaviours if respondents were reluctant to disclose such behaviours to the interviewer. Despite these limitations the results from this survey are an important first look at IDU in these regions and provide a baseline which can be compared to future surveys using a similar methodology and recruitment strategy.

4.0 RESULTS

4.1 RECRUITMENT SITES AND SAMPLE SIZE

Two hundred and twenty-one participants were recruited from six communities in Central (n=124) and North Vancouver Island (n=97). Respondents were recruited primarily from needle exchange sites where available; however, in some communities recruitment took place in VIHA departments and community agencies that provided services to the IDU population. Occasionally, staff travelled out of the recruitment venue to conduct surveys in participants' homes.

4.2 CHARACTERISTICS OF RESPONDENTS

Demographic characteristics of respondents are shown in Table 2. Sixty percent of respondents were male and 39% female, with a higher percentage of female respondents in North Island. Approximately half of survey respondents had not completed high school, and this was consistent across both sites. Those who identified themselves as aboriginal represented one quarter of the overall sample size with a higher percentage in North Island, just under one-third. To be eligible to participate in the survey, respondents had to be 17 years of age or older. The mean age for both sites was 40 years with about two-thirds of the participants between 30 and 49 years of age. Twelve percent of respondents were employed at the time of the interview with a higher percentage of employed respondents in North Island. A higher percentage of respondents in Central Island lived on the street at the time of interview, and 67% of all respondents had lived at least six months in the city or town where the survey took place. Thirty-two percent reported having lived in one other city in the past six months, and almost 20% had moved twice during this time.

4.3 DRUG USE HISTORY

Table 3 and 4 summarize information on respondents' history of drug use. Overall, 40% of respondents reported being 19 years of age or less when they first injected drugs, with some variation between North (36.4%) and Central Island (43.9%). Over one-third of respondents in Central Island and one-quarter of respondents in North Island reported first injecting drugs when they were 15 to 19 years of age. For both sites, the average amount of time since first injection was approximately 17 years.

Table 2: Characteristics of Respondents – Central and North Island

Demographics	Central Island % (n)	North Island % (n)	Combined Sites % (n)
Age group			
17 – 19 yrs	0.0 (0)	3.2 (3)	1.4 (3)
20 – 29 yrs	15.6 (19)	17.2 (16)	16.3 (35)
30 – 39 yrs	27.0 (33)	22.6 (21)	25.1 (54)
40 – 49 yrs	39.3 (48)	37.6 (35)	38.6 (83)
50+ yrs	18.0 (22)	19.4 (18)	18.6 (40)
Total	100 (122)	100 (93)	100 (215)
<i>Mean yrs (range)</i>	<i>40.6 (20-61)</i>	<i>40 (19-57)</i>	<i>40.3 (19-61)</i>
Gender			
Males	63.7 (79)	55.7 (54)	60.2 (133)
Females	35.5 (44)	44.3 (43)	39.4 (87)
Other	0.8 (1)	-	0.5 (1)
Total	100 (124)	100 (97)	100 (221)
Education			
Less than High School	51.3 (60)	51.1 (48)	51.2(108)
Completed High School	26.5 (31)	27.7 (26)	27.0 (57)
More than High School	22.2 (26)	21.3 (20)	21.8 (46)
Total	100 (117)	100 (94)	100 (211)
Ethnicity			
Non-Aboriginal	79.0 (98)	68.8 (66)	74.5 (164)
Aboriginal	21.0 (26)	31.3 (30)	25.5 (56)
Total	100 (124)	100 (96)	100 (220)
% Currently employed	9.1 (11)	17.0 (16)	12.6 (27)
Current place of residence			
House or Apartment	42.6 (52)	46.8 (44)	44.4 (96)
Street	13.1 (16)	2.1 (2)	8.3 (18)

Table 3: Age First Injected Drugs – Central and North Island

Age Group	Central Island % (n)	North Island % (n)	Combined Sites % (n)
5 - 9 yrs	0.8 (1)	2.1 (2)	1.4 (3)
10 – 14 yrs	8.1 (10)	8.3 (8)	8.2 (18)
15 - 19 yrs	35.0 (43)	26.0 (25)	31.1 (68)
20 – 29 yrs	32.5 (40)	37.5 (36)	34.7 (76)
30 – 39 yrs	18.7(23)	18.8 (18)	18.7 (41)
40 + yrs	4.9 (6)	7.3 (7)	5.9 (13)
Total	100 (123)	100 (96)	100 (219)
<i>Mean yrs (range)</i>	<i>23.2 (9-47)</i>	<i>24.1 (5-50)</i>	<i>23.6 (5-50)</i>

Table 4: Time Since First Injection - Combined Sites

Time Since First Injection	Combined Sites % (n)
< 1 yr	5.6 (12)
1 – 2 yrs	9.4 (20)
3 – 5 yrs	8.9 (19)
6 – 10 yrs	14.1 (30)
11 – 20 yrs	26.3 (56)
21 + yrs	35.7 (76)
Total	100 (213)
<i>Mean yrs (range)</i>	<i>17(0-42)</i>

4.4 DRUGS USED

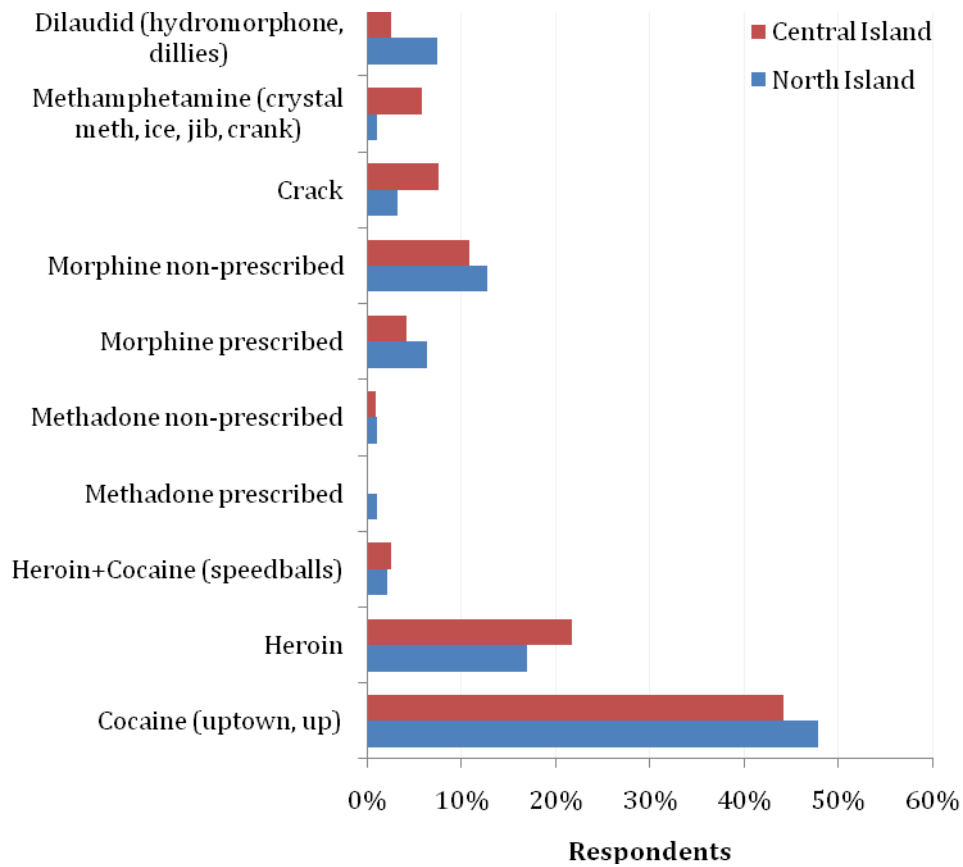
Table 5 summarizes information on the use of injected drugs in the six months prior to the respondent completing the survey. Over 85% of respondents reported injecting cocaine in the past 6 months, and slightly less than 50% reported it to be their injected drug of choice in the previous six months. Overall, drug use across both sites was similar for cocaine, heroin and morphine; however, a substantially greater proportion of respondents in Central Island than North Island reported injecting crack, amphetamine and crystal meth. Figure 1 presents by site the drugs that respondents reported injecting most often in the past six months.

Table 5: Drugs Injected in the Past 6 Months* - Combined Sites

Drug	% of Respondents who Reported Injecting <u>At All</u> in Past 6 Months	% of Respondents who Reported Injecting Drug <u>Most Often</u> in Past 6 Months
Cocaine	85.1	45.8
Heroin	55.2	19.6
Morphine (non-prescribed)	48.9	11.7
Dilaudid	41.2	4.7
Crack	37.6	5.6
Heroin + Cocaine (speedballs)	30.8	2.3
Oxycodone	26.7	0.0
Morphine (prescribed)	13.1	5.1
Crystal meth	14.0	3.7
Benzodiazapine	8.6	0.0
Amphetamines	8.6	0.0
Methadone (non-prescribed)	7.7	0.9
Methadone (prescribed)	5.9	0.5

* Not listed: Use of the following drugs was reported by 5% or less of respondents: talwin and Ritalin, Ritalin alone, PCP, steroids, barbiturates, fentanyl, ketamine, demerol, and heroin/fentanyl (China White).

Figure 1: Drugs Injected Most Often in Preceding 6 Months – Central and North Island



With regard to non-injected drugs, 86% of respondents reported using crack in the past 6 months, and 35% used it more than any other non-injected drug during that period of time (see Table 6). Crack use in the past 6 months among Central Island respondents was twice as high as it was among North Island respondents, and 44% of Central Island respondents reported using crack in the past six months more than any other non-injected drug.

Table 6: Non-Injected Drugs Used by IDU in the Past 6 Months – Combined Sites

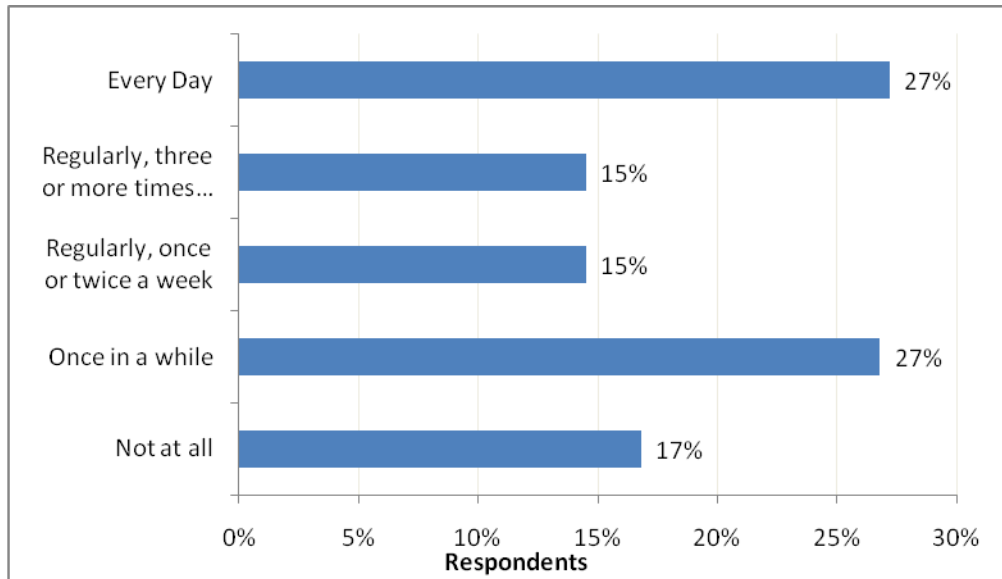
Drug	% of Respondents who Reported Using (without injecting) At All in Past 6 Months*	% of Respondents who Report Using (without injecting) Most Often in Past 6 Months
Crack	85.5	35.0
Cocaine	77.4	11.2
Marijuana	73.8	11.2
Alcohol	69.7	11.2
Tylenol with Codeine	51.6	1.9
Methadone (prescribed + non-prescribed)	42.5	9.3
Heroin	33.0	2.3
Oxycodone	33.0	0.9
Morphine (non-prescribed)	30.8	5.1
Benzodiazapine	27.6	1.4
Dilaudid	27.1	0.9
Ecstasy	22.6	0.5
Methamphetamine (crystal meth)	19.0	2.8
Amphetamines	18.1	0.0
Mushrooms	14.9	0.0
Morphine (prescribed)	11.3	4.7
Demerol	8.1	0.0
Acid	7.7	0.0
MDA	6.8	0.0
Barbiturates	5.9	0.0

* Not listed: Use of the following drugs was reported by less than 5% of respondents: ketamine, fentanyl, talwin and Ritalin, and solvents (drink, sniff).

Respondents were asked what injected and non-injected drugs they had stopped using in the previous one month. Approximately 70% reported they had not stopped using any drugs.

Figure 2 summarizes how often respondents injected during the previous month. Fifty-six percent of respondents injected at least once per week, and 27% injected every day during the past one month. About 17% of respondents had not injected at all during that time.

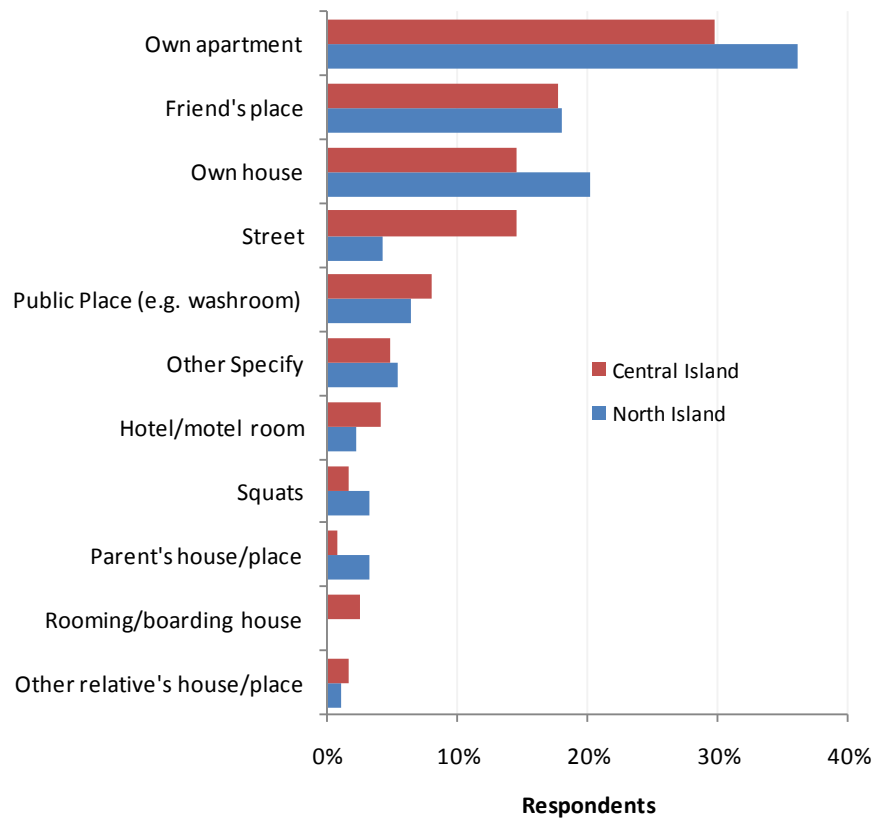
Figure 2: Frequency of Injection in the Past One Month – Combined Sites



4.5 PLACE OF INJECTION

Figure 3 provides a breakdown of the types of places where participants reported that they most often injected drugs. Approximately 50% of the respondents reported injecting in their own house or apartment most often in the past 6 months. A higher percentage of respondents in Central Island (14.5%) reported injecting in the street most often, compared to North Island (4.3%) respondents.

Figure 3: Places Where Respondents Injected Most Often in Preceding 6 Months – Central and North Island



4.6 DISEASE PREVALENCE

The overall prevalence of HIV among respondents who provided blood samples was 5.3% (see Table 7). The prevalence of HIV among respondents in Central Island (5.9%) was slightly higher than in respondents from North Island (4.4%). With regards to hepatitis C, the dried blood specimens were tested for antibodies, and a positive result indicated a current or previous infection.¹² Among respondents who provided a blood sample, 71.6 % were positive for hepatitis C

¹² HCV testing was performed using the Ortho® HCV version 3.0 EIA. Confirmatory testing is not performed for samples that test positive. A positive result indicates past or present HCV infection and does not discriminate acute from chronic or resolved infections. Validation of commercially available laboratory tests on dried blood spot (DBS) specimens for HCV is on-going.

antibodies, with a slight variation between sites. The majority of individuals with HIV had also been infected with hepatitis C.

Table 7: DBS Results - Estimated Prevalence of HIV, Hepatitis C and HIV/Hepatitis C Co-Infections - Central and North Island*

Test Result	Central Island % (n)	North Island % (n)	Combined Sites % (n)
HIV(+)	5.9 (7)	4.4 (4)	5.3 (11)
HCV(+)	72.0 (85)	71.1 (64)	71.6 (149)
HIV(+) & HCV(+)	5.1 (6)	3.3 (3)	4.3 (9)

* A positive HCV result indicates current or past infection.

Table 8 presents an overview of the demographic characteristics of respondents whose dried blood specimens were HCV positive. Age and gender characteristics were similar across both sites. Table 9 compares the prevalence of HCV by demographic characteristics. The prevalence of HCV, in the population surveyed, increased with age and time since first injection. Seventy-seven percent of respondents 30 years of age or older had DBS results that were positive for HCV antibodies, as did 81.7% of respondents who had first injected more than five years earlier. HCV prevalence was slightly higher among males (74.2%) than females (67.5%) and among non-aboriginals (73.2%) than aboriginal respondents (66.0%).

Table 8: Demographic Characteristics of HCV Positive Respondents - Combined sites

Characteristic	HCV Positive Respondents % (n)
Age group	
17 – 29 yrs	11.1 (16)
30 – 39 yrs	24.1 (35)
40 – 49 yrs	38.6 (56)
50+ yrs	26.2 (38)
Total	100 (145)
<i>Range yrs</i>	<i>19-61</i>
Gender	
Males	63.8 (95)
Females	36.2 (54)
Total	100 (149)
Education	
Some high school or less	47.5 (67)
High school and greater	52.5 (74)
Total	100 (141)
Ethnicity	
Aboriginal	22.3 (33)
Non-Aboriginal	77.7 (115)
Total	100 (148)

Table 9: The Prevalence of HCV by Age, Gender, Ethnicity and Time Since First Injection

– Combined Sites

	Prevalence of HCV % (n)
Age (yrs)	
Less than 30	44.4 (16)
30 and older	77.2 (129)
Gender	
Male	74.2 (95)
Female	67.5 (54)
Ethnicity	
Non-Aboriginal	73.2 (115)
Aboriginal	66.0 (33)
Time since first injection (yrs)	
5 years or less	37.5 (18)
Greater than 5 years	81.7 (125)

4.7 TESTING, TREATMENT AND AWARENESS OF HIV AND HCV

In general, approximately three-quarters of respondents indicated they had been tested for HIV and/or HCV in the past 2 years. Seventy-five percent of respondents who had ever tested for HCV were correctly aware of their HCV(+) status, and one-quarter of HCV(+) respondents were unaware they were infected or had been exposed to the virus (see Table 10). Thirty-five percent of those who tested positive were under the care of a physician for the disease at the time of the interview, and less than 5% had ever taken prescribed drugs for their hepatitis C infection.

One-hundred percent of respondents whose DBS results were HIV(+) reported having a previous HIV(+) test and were correctly aware of their status. Ninety percent of HIV(+) patients reported being under the care of a physician for the disease, and approximately 80% had received medication for their HIV infection at some point since their diagnosis.

Table 10: Awareness of HIV/Hepatitis C Status - Combined Sites

	HIV(+) % (n)	HCV(+) % (n)
Respondents who tested 'positive'	5.3 (11)	71.6 (149)
Respondents <u>not</u> aware of positive status*	0.0 (0)	24.2 (32)

* This includes those who reported being tested previously and who reported their most recent HIV or HCV test results as 'negative, ' indeterminate' or 'don't know.

4.8 RISK BEHAVIOURS - NEEDLE SHARING

Table 11 summarizes the characteristics of respondents who reported sharing used needles, either passing or receiving them. Approximately 38% of all respondents reported sharing used needles. Slightly greater than forty percent of respondents who reported sharing were between 30-39 years of age, although this age group only made up 25% of the survey sample. Among those who reported sharing used needles, approximately one-quarter were aboriginal. About half of the respondents who shared needles were males, and half were females. However, sharing was more prevalent among females (45%) than males (33%).

Table 11: Characteristics of Respondents Who Shared Used Needles (either Borrowed or Received)
– Central and North Island

Demographics	Central Island	North Island	Combined Sites
	% (n)	% (n)	% (n)
% of all respondents	36.9 (45)	38.3 (36)	37.5 (81)
Age Group			
17 – 29 yrs	17.8 (8)	19.5 (7)	18.5 (15)
30 – 39 yrs	44.4 (20)	36.1 (13)	40.7 (33)
40+ yrs	37.7 (17)	44.4 (16)	40.7 (33)
Total	100 (45)	100 (36)	100 (81)
Gender			
Males	48.9 (22)	55.6 (20)	51.9 (42)
Females	51.1 (23)	44.4 (16)	48.1 (39)
Total	100 (45)	100 (36)	100 (81)
Ethnicity			
Non-Aboriginal	82.2 (37)	69.4 (25)	76.5 (62)
Aboriginal	17.8 (8)	30.6 (11)	23.5 (19)
Total	100 (45)	100 (36)	100 (81)
Time since first injection			
5 yrs or less	31.8 (14)	30.6 (11)	31.3 (25)
Greater than 5 yrs	68.2 (30)	69.4 (25)	68.8 (55)
Total	100 (44)	100 (36)	(100) 80

Individuals who are infected with HIV and/or HCV, and who share their used needles and equipment, put IDU who are not infected at risk of acquiring these infections. Likewise, IDU who are negative for HIV and/or HCV are at risk of becoming infected when they inject with used needles or equipment.

Table 12 summarizes needle sharing behaviour among specific groups. Overall, about 30% passed their used needles to someone else, and 26% of respondents reported injecting with used needles they had received from someone else. None of the HIV(+) respondents reported passing on their used needles; however 28.6% of HIV(-) respondents reported receiving used needles. One-third of respondents who were HCV(+) passed their used needles to someone else, and about a third of HCV(-) respondents received used needles. A higher percentage of females (36%) than males

(25.4%) reported passing used needles. Passing used needles did not vary according to ethnicity, though a higher percentage of non-Aboriginals than Aboriginals reported receiving used needles (27.6% vs. 21.4%).

Table 12: Needle Sharing Behaviours Among Respondents - HIV Status, HCV Status, Gender and Ethnicity - Combined Sites

	Passing Used Needles % (n)	Receiving Used Needles % (n)
% of all respondents	29.5 (64)	25.9 (57)
HIV Status (DBS)		
% of HIV(+) respondents	0.0 (0)	9.1 (1)
% of HIV(-) respondents	32.6 (63)	28.6 (56)
HCV Status (DBS)		
% of HCV(+) respondents	33.3 (49)	24.8 (37)
% of HCV(-) respondents	24.6 (14)	34.5 (20)
Gender		
% of Males	25.4 (33)	25.8 (34)
% of Females	36.0 (31)	26.4 (23)
Ethnicity		
% of Aboriginal	30.9 (17)	21.4 (12)
% of Non-Aboriginal	29.2 (47)	27.6 (45)

4.9 RISK BEHAVIOURS - EQUIPMENT SHARING

Respondents were asked whether, in the past six months, they had passed used injection equipment to others or had received injection equipment that had been used by someone else. Injection equipment included water, filters, cookers, tourniquets, swabs and acidifiers. Approximately 60% of all respondents reported lending or borrowing equipment for others to use. A slightly higher percentage of respondents in North Island than Central Island reported borrowing or lending equipment.

4.10 NEEDLE EXCHANGE USE AND NEEDLE DISPOSAL

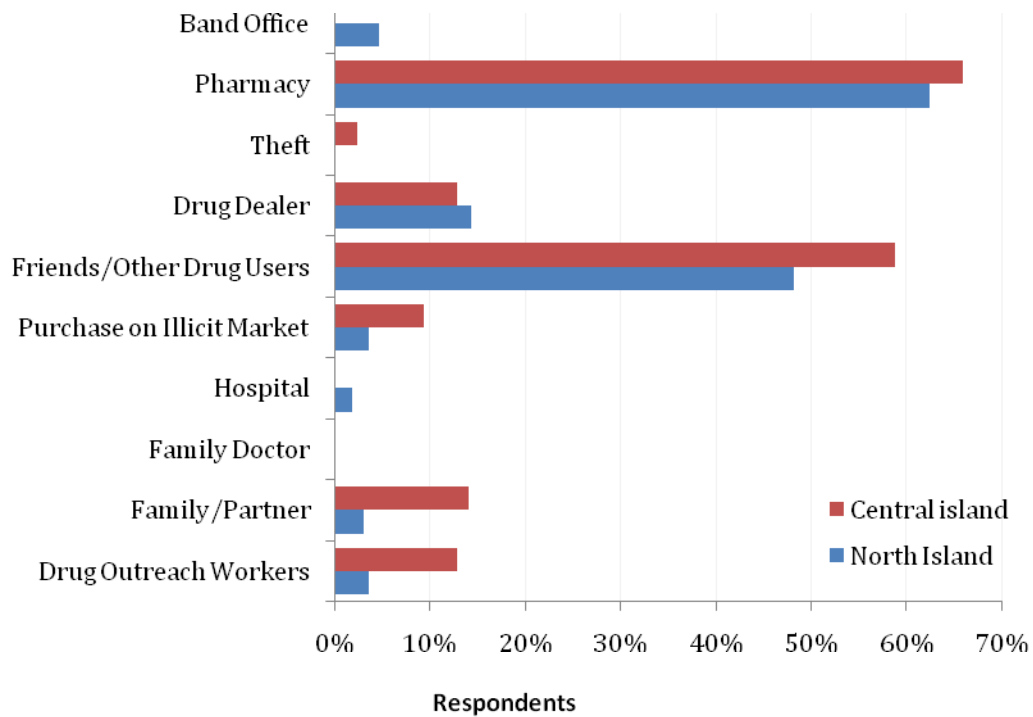
Table 13 highlights respondents' use of needle exchanges. The majority of respondents were interviewed at a needle exchange site, and of these respondents, 76% reported ever using the needle exchange's services. The needle exchange service was used on an occasional basis (once in awhile but not every week) by two-thirds of respondents, and 15% indicated they used the needle exchange two or three times per week during the previous six months. Needle exchange use was similar across sites; however, a higher percentage of respondents in North Island (50%) than Central Island (30%) reported regularly using the services of the needle exchange from where they were recruited.

Table 13: Use of Needle Exchange Services – Central and North Island

% of Respondents	Central Island % (n)	North Island % (n)	Combined % (n)
Interviewed at needle exchange site	68.5 (85)	96.9 (94)	81.0 (179)
Used services of needle exchange site where they were recruited	72.9 (62)	78.7 (74)	76.0 (136)
Ever used other needle exchange site	53.3 (65)	40.6 (39)	47.7 (104)
Ever used any needle exchange site	75.0 (93)	89.7 (87)	81.4 (180)

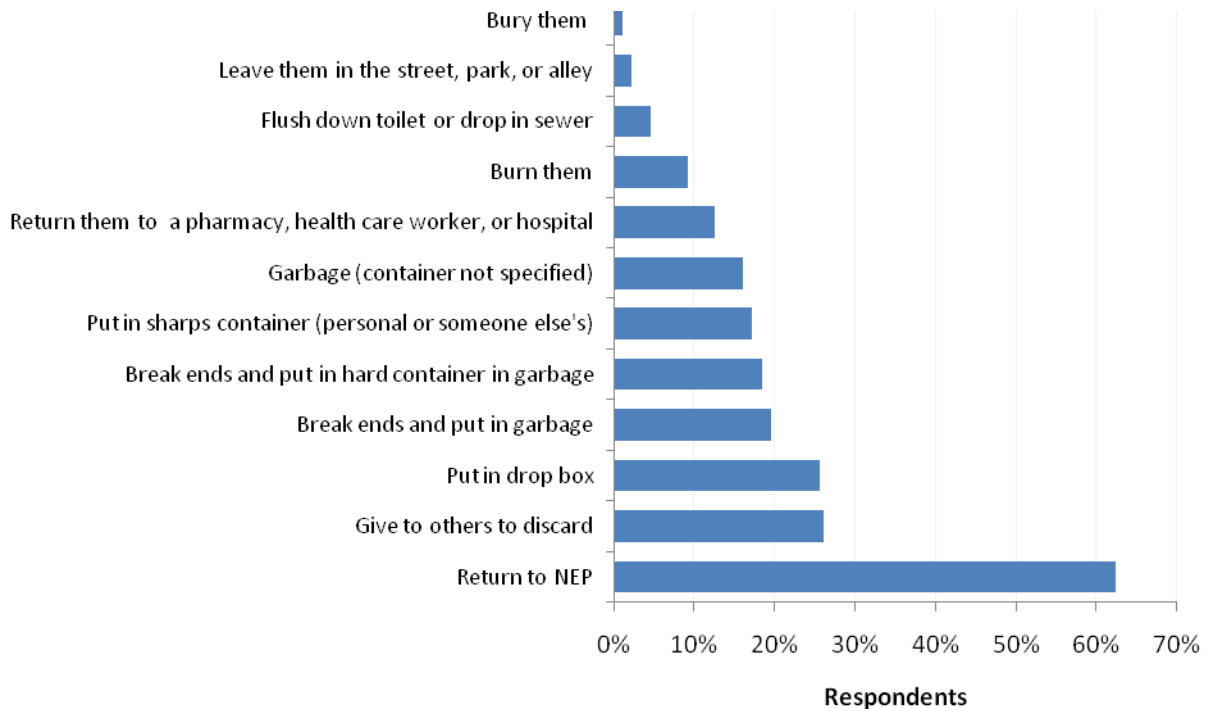
Figure 4 presents, by recruitment site, other places where survey participants obtained clean needles. Overall, two-thirds of respondents reported getting clean needles from sources other than needle exchange services, but differences occurred across recruitment sites with a higher percentage in Central Island (71.1%) than North Island (59.6%). Other sources of clean needles included other users (45.4%) and pharmacies (64%). A very small percentage of respondents obtained clean needles from other sources such as outreach services (9.2%), family members (9.9%), hospitals (0.7%), and band offices (2.8%).

Figure 4: Other Sources from which Respondents Get Clean Needles - Central and North Island



The safe disposal of used needles is a service provided by needle exchange sites. Respondents were asked questions about how they disposed of their used needles, and about two-thirds reported giving their used needles to needle exchange programs. Other methods of disposal used by respondents are summarized in Figure 5.

Figure 5: Needle Disposal Behaviour Among Respondents - Combined Sites



4.11 CRACK PIPE USE

Studies suggest that the sharing of crack pipes and the burnt lips resulting from the heated mouthpiece may increase the risk of acquiring hepatitis C.¹³ Table 14 summarizes crack use and pipe sharing behaviours amongst survey respondents in Central and North Island. Ninety-one percent of respondents reported smoking crack in the past 6 months, and one third of those who smoked crack reported having burnt or cracked lips. Approximately 87% of respondents who reported smoking crack in the past 6 months borrowed a pipe or lent their pipe to others, and 35% of these reported burnt or cracked lips in the past 6 months.

¹³ Tortu, S., McMahon, J., Pouget, E., & Hamid, R. (2004). Sharing of non-injection drug-use implements as a risk factor for Hepatitis C. *Substance use and Misuse*, 39(2), 211-224.

Table 14: Use of Crack and Crack Pipe Sharing Among Respondents – Central and North Island

% of Respondents	Central Island % (n)	North Island % (n)	Combined % (n)
Smoked crack in past 6 months	96.7 (118)	84.0 (79)	91.2 (197)
Smoked crack and had burnt or cracked lips in the past 6 months	35.9 (42)	30.4 (24)	33.7 (66)
Shared used pipe at all (either lend or receive) past 6 months	91.2 (93)	81.9 (59)	87.4 (152)
Shared used pipes and have had cracked/burnt lips from pipe	37.0 (34)	32.2 (19)	35.1 (53)

4.12 SEXUAL BEHAVIOURS

Respondents were asked about condom use with different types of sexual partners including regular, casual and client sex partners. Table 15 summarizes data on sexual behaviours and condom use of survey respondents. Approximately 50% (n=5) of respondents who were HIV(+) reported having sex in the past month, and 80% (n=4) of these reported wearing a condom when they last had sex. Fifteen percent of respondents reported having had sex with client sex partners in the past six months. Of these respondents, 87% were female.

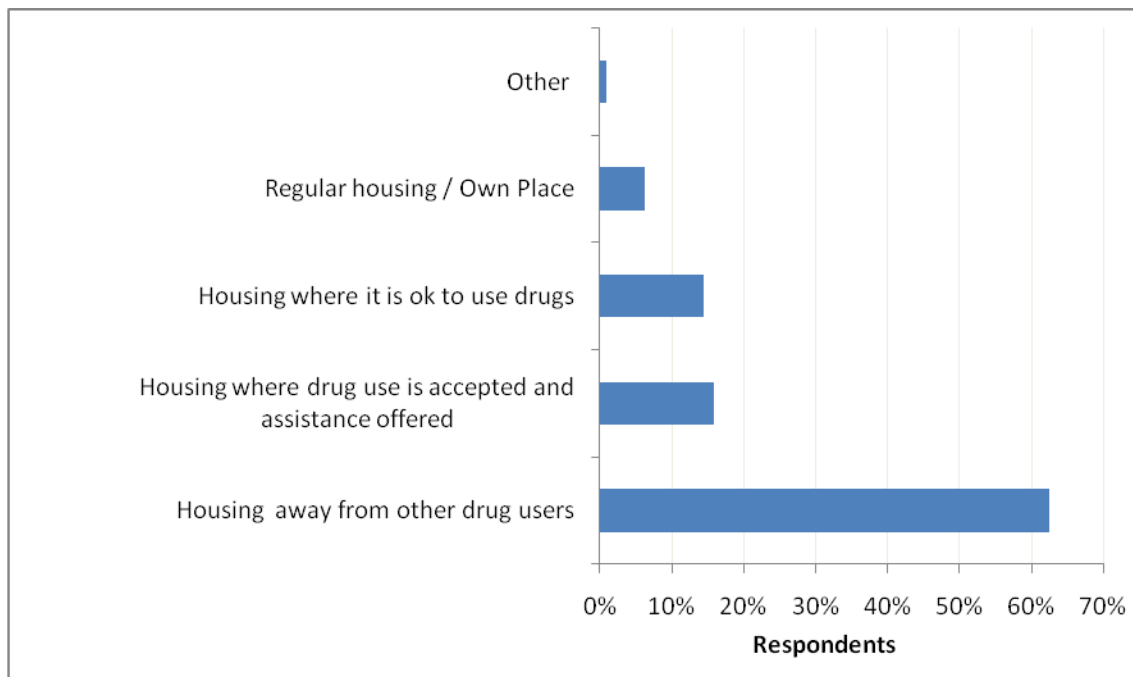
Table 15: Sexual Risk Behaviours among Respondents - Combined Sites

% of Respondents	Combined Sites % (n)
Had sex in past month	67.4 (147)
Had sex in the past month but did not use condom when last had sex	68.0 (100)
% of HIV(+) who had sex in past month and did not use condom when last had sex	9.0 (1)

4.13 HOUSING

Respondents were asked about the types of housing that would work best for them. Figure 6 summarizes the responses to this question. The majority of respondents indicated that they would prefer housing which was away from other drug users; however, approximately one-third would chose housing where it was acceptable to use drugs. Approximately 7% would prefer their own place or regular housing where they could make their own decisions regarding drug use.

Figure 6: Housing Preference of Respondents - Combined Sites



5.0 CONCLUSIONS

These survey results provide new and important information about disease prevalence and associated risk behaviours in IDU in central and northern Vancouver Island. Overall, HIV rates are low across both sites; however, the prevalence of HCV is high in both. This suggests that study participants in Central and North Island communities engage in behaviours that increase their risk of acquiring and/or transmitting hepatitis C and HIV.

A substantial number of IDU surveyed report sharing used needles, and many of these individuals are HCV-antibody positive. In addition, a great number of IDU who are HCV(-), and therefore susceptible to infection at the time the survey, are injecting with used needles. Crack use and pipe sharing are also highly prevalent, with many reporting burnt lips in the previous six months.

Results suggest there are differences in risk behaviours between IDU in Central and North Vancouver Island, with Central Island respondents being more likely to share crack pipes and used needles. This may be a reflection of the limited harm reduction services and lack of fixed-site needle exchanges in two of the three communities surveyed in Central Island.

While the majority of survey participants report using needle exchange services, almost 20% report never having used a needle exchange. Forty-percent of respondents return their used needles to the needle exchange; however, many respondents surveyed dispose of their used needles unsafely.

While the sample of individuals surveyed was not random and may not be representative of all IDU in Central and North Vancouver Island, the results can be interpreted as describing those individuals who took part in the survey and offer suggestions for service provision. The findings highlight some of the critical issues that exist around risk behaviours and the transmission of HIV and hepatitis C virus in the IDU population.

Recent research conducted by the BC Centre for Disease Control indicates that among individuals who tested positive for HIV and hepatitis C in British Columbia between 1995 and 2008, there was a median time of 3.5 years between individuals being diagnosed with HCV and being diagnosed with HIV. The majority of individuals with HCV who later became HIV-positive reported using injection drugs.¹⁴ The HIV rate in Central and North Island I-Track respondents (5.3%) is substantially lower than in South Island I-Track respondents (12.5 – 15.4%). However, the HCV rates are about the same (71.6% in Central-North respondents versus 68.5 – 73.8% in South respondents).¹⁵ These rates, in conjunction with the BCCDC findings on the time between HCV and HIV diagnoses, suggest there may be a window of opportunity for interventions with IDU in Central and North Island to prevent an increase in HIV infections. VIHA and service provider agencies can use the information included in this report to better understand local harm reduction needs and to tailor services to prevent increased disease transmission and improve the health of people who inject drugs in Central and North Vancouver Island.

¹⁴ Buxton J.A., Yu A., Alvarez M., Kuo M., Krajden M., Gilbert M., Kim P.H. HCV coinfection in HIV positive population in BC. Oral presentation. *Issues of Substance: Canadian Centre on Substance Abuse National Conference 2009*. Halifax, Nova Scotia. November 15-18, 2009.

¹⁵ Epidemiology & Disease Control and Population Health Surveillance Unit. (2006). I-Track survey: Enhanced surveillance of risk behaviours and prevalence of HIV and hepatitis C among people who inject drugs. Victoria: Vancouver Island Health Authority.