

2012

# Exploring the Health Issues of Hidden Homeless IV Drug users in a Mid-Sized Canadian Community.

Kimberley Dobson  
*University of Windsor*

Follow this and additional works at: <https://scholar.uwindsor.ca/etd>

---

## Recommended Citation

Dobson, Kimberley, "Exploring the Health Issues of Hidden Homeless IV Drug users in a Mid-Sized Canadian Community." (2012).  
*Electronic Theses and Dissertations*. 220.  
<https://scholar.uwindsor.ca/etd/220>

This online database contains the full-text of PhD dissertations and Masters' theses of University of Windsor students from 1954 forward. These documents are made available for personal study and research purposes only, in accordance with the Canadian Copyright Act and the Creative Commons license—CC BY-NC-ND (Attribution, Non-Commercial, No Derivative Works). Under this license, works must always be attributed to the copyright holder (original author), cannot be used for any commercial purposes, and may not be altered. Any other use would require the permission of the copyright holder. Students may inquire about withdrawing their dissertation and/or thesis from this database. For additional inquiries, please contact the repository administrator via email ([scholarship@uwindsor.ca](mailto:scholarship@uwindsor.ca)) or by telephone at 519-253-3000ext. 3208.

EXPLORING THE HEALTH ISSUES OF HIDDEN HOMELESS IV DRUG USERS IN  
A MID-SIZED CANADIAN COMMUNITY.

by  
Kimberley Dobson

A Thesis  
Submitted to the Faculty of Graduate Studies  
through Nursing  
in Partial Fulfillment of the Requirements for  
the Degree of Master of Science at the  
University of Windsor

Windsor, Ontario, Canada  
2011  
© 2011 Kimberley Dobson

Exploring the Health Issues of Hidden Homeless IV Drug Users in a Mid-Sized Canadian  
Community.

by

Kimberley Dobson

APPROVED BY:

---

Dr. K. Calderwood  
School of Social Work

---

Dr. J. Crawley  
Faculty of Nursing

---

Dr. D. Kane, Advisor  
Faculty of Nursing

---

Dr. M. El-Masri, Chair of Defense  
Faculty of Nursing

September 20, 2011

## AUTHOR'S DECLARATION OF ORIGINALITY

I hereby certify that I am the sole author of this thesis and that no part of this thesis has been published or submitted for publication.

I certify that, to the best of my knowledge, my thesis does not infringe upon anyone's copyright nor violate any proprietary rights and that any ideas, techniques, quotations, or any other material from the work of other people included in my thesis, published or otherwise, are fully acknowledged in accordance with the standard referencing practices. Furthermore, to the extent that I have included copyrighted material that surpasses the bounds of fair dealing within the meaning of the Canada Copyright Act, I certify that I have obtained a written permission from the copyright owner(s) to include such material(s) in my thesis and have included copies of such copyright clearances to my appendix.

I declare that this is a true copy of my thesis, including any final revisions, as approved by my thesis committee and the Graduate Studies office, and that this thesis has not been submitted for a higher degree to any other University or Institution.

## ABSTRACT

The purpose of this study was to explore the health issues that affect hidden homeless IV drug users, with respect to four determinants of health: physical environment, social environment, personal health practices and coping skills and health services. A comparison of hidden homeless IV drug users (IDUs) and non-injecting drug users (NIDUs) was conducted as a secondary analysis of data obtained in a needs assessment of the health and social services used by a hidden homeless population. The results suggest that IDUs have more health issues related to high risk behaviours, blood borne viral infections, stigmatization and lack of social support. Implications for practice include the need for a 'housing first' approach to housing; creation of a drop-in centre; and education regarding homelessness and drug use to eliminate the stigmatization that exists towards this population. Further research with a larger sample of hidden homeless IDUs is warranted.

## DEDICATION

I wish to dedicate this work to my children, Bromleigh and Aidan, who were beside me through this journey. Their innocence and sense of social justice inspired me to continue working and reminded me that through knowledge and understanding, it is possible to bring about change.

## ACKNOWLEDGEMENTS

I am deeply grateful to my thesis committee members for their guidance, wisdom and support during a journey of both personal and professional growth. I wish to thank my advisor, Dr. Debbie Kane for her continued support, encouragement and in-depth knowledge of nursing, research and violence. I wish to thank Dr. Jamie Crawley for allowing me to use the original data, her ongoing support and encouragement as well as in-depth knowledge of homelessness and drug use. For me, Dr. Kane and Dr. Crawley embody the art and science of nursing and I am honoured that I was able to work with such inspirational women. I also wish to thank Dr. Kimberly Calderwood for her keen eye for detail and objective insight and assistance in describing the complex and interrelated health issues experienced by the hidden homeless IV drug user.

I could not have done this without the strong support of my family. I wish to thank my children Bromleigh and Aidan for all their drawings and little notes, helping with chores, being patient when I was in ‘mid-thought’, believing in me, and making me smile and laugh by just being themselves. I also wish to thank my husband, Johnathan, for quietly listening to my frustrations, celebrating my successes, the frequent reassurances and the shoulder to cry on when I needed it. I want to thank my mother and father for their love and support, instilling within me a strong sense of social justice as well as all the prepared meals and last minute babysitting. I am also deeply grateful and wish to thank my sister Amanda, her husband Kevin and my nieces Molly and Ella, for taking Bromleigh and Aidan on special outings and activities, sleepovers and ‘play dates’. I would also like to thank my brothers, Michael and Gregory as well as my sister-in-law

Sarah, for all the funny jokes, voicemails, prayers and advice. All of you have made it possible for me to achieve my goal. Thank you.

Finally, I wish to thank all the individuals who participated in the original study and shared their life stories and personal experiences.



## TABLE OF CONTENTS

AUTHOR’S DECLARATION OF ORIGINALITY .....	iii
ABSTRACT .....	iv
DEDICATION .....	v
ACKNOWLEDGEMENTS .....	vi
LIST OF TABLES .....	x
CHAPTER	
I. INTRODUCTION	
Problem Statement .....	1
Significance to Nursing.....	4
Purpose of the Study .....	6
II. REVIEW OF LITERATURE	
Theoretical Framework .....	7
Population Health Approach .....	7
Description of the Literature Search .....	11
Demographics .....	12
Physical Environment .....	13
Housing and Homelessness .....	13
Homelessness and Intravenous Drug Use .....	16
Social Environment.....	17
Violence.....	17
Crime... ..	19
Social Isolation, Marginalization and Stigmatization.....	20
Personal Health Practices and Coping Skills .....	22
Intravenous Drug Use Initiation .....	22
Physical Harms .....	23
High Risk Behaviours.....	28
Housing Status and Risk Behaviours.....	30
Public Injecting.....	31
Health Services.....	34
Homeless Intravenous Drug Users and Treatment/Services .....	34
Health Inequity, Access to Care .....	36
Research on Needs of Homeless Intravenous Drug Users: What’s Missing? .....	38

Summary.....	49
Research Questions .....	51
<b>III. DESIGN AND METHODOLOGY</b>	
Research Design.....	52
Sampling.....	52
Data Collection.....	53
Protection of Participants' Rights .....	54
Definition of Terms.....	55
Data Analysis .....	56
<b>IV. RESULTS</b>	
Statistical Analysis.....	57
Demographics .....	58
Physical Environment .....	61
Social Environment.....	62
Personal Health Practices and Coping Skills .....	64
Health Services.....	70
<b>V. DISCUSSION</b>	
Demographics .....	75
Physical Environment .....	76
Social Environment.....	77
Personal Health Practices and Coping Skills .....	81
Health Services.....	86
Implications for Research .....	90
Implications for Practice .....	92
Implications for Policy Development .....	95
Strengths and Limitations .....	96
Summary.....	96
<b>REFERENCES .....</b>	<b>98</b>
<b>APPENDICES</b>	
Appendix A Survey Questionnaire .....	134
Appendix B Operational Definitions .....	145
<b>VITA AUCTORIS .....</b>	<b>148</b>

## LIST OF TABLES

Table 1	<i>Drug User Demographic Characteristics</i> .....	60
Table 2	<i>The Physical Environment of the Injection Drug Users and Non-Injection Drug Users</i> .....	62
Table 3	<i>The Social Environment of Injection Drug Users and Non-Injection Drug Users</i> .....	64
Table 4	<i>Personal Health Characteristics of Injection Drug Users and Non-Injection Drug Users</i> .....	65
Table 4.1	<i>Health Care Practice Characteristics of Injection Drug Users and Non-Injection Drug Users</i> .....	66
Table 4.2	<i>How Drugs are Obtained by Injection Drug Users and Non-Injection Drug Users</i> .....	67
Table 4.3	<i>High Risk Behaviour Characteristics of Injection Drug Users and Non-Injection Drug Users</i> .....	68
Table 4.4	<i>Comparison of Diagnoses of Injection Drug Users and Non-Injection Drug Users</i> .....	69
Table 5	<i>Health Service Characteristics of Injection Drug Users and Non-Injection Drug Users</i> .....	70
Table 5.1	<i>Comparison of Services Accessed by Injection Drug Users and Non-Injection Drug Users</i> .....	72
Table 5.2	<i>Reasons for Service and Shelter Use by Injection Drug Users and Non-Injection Drug Users</i> .....	73
Table 5.3	<i>Barriers to Services for Injection Drug Users and Non-Injection Drug Users</i> .....	74

## CHAPTER I

## INTRODUCTION

## Problem Statement.

Intravenous drug use (IDU) is a complicated and multifaceted health, social and economic issue that has serious consequences for the individual, family, community and society. Multiple social and physical harms, as well as economic factors associated with IDU all interrelate with each other and are influenced by each other. In 2004, it was estimated that there were between 75,000 and 125,000 intravenous drug users (IDUs) in Canada (Weekes, Percy, & Cumberland, 2005). However, the numbers tend to be underestimated, as it is difficult to obtain an accurate approximation of the population size. These individuals will not readily admit to their drug use due to the illegal aspect of drug use and the marginalization of their social lifestyle. In addition, the associated unstable housing and homelessness situation of IDUs means they are not accounted for in the Census Canada statistics. Therefore, various data sources, such as the police and coroner's office, as well as various treatment programs including needle exchanges are utilized to obtain estimates of injection drug use (Weekes et al., 2005).

The overall social cost of substance abuse in Canada in 2002 was estimated to be \$39.8 billion (Rehm et al., 2006) with estimates of annual costs per IV drug user between \$33,500 (Krahn et al., 2005) and \$49,000 (Fisher, Rehm & Blitz-Miller, 2000). IV drug users are 6 to 20 times more likely to die prematurely than the general population (O'Driscoll et al., 2001). This death rate is influenced by the social factors of loneliness, isolation, social marginalization (O'Driscoll et al., 2001; Seal et al., 2001) and

hopelessness (Heale, Dietze, & Fry, 2003; Tobin & Latkin, 2003). Other social factors involved with IDU include: employment issues; low income; stigmatization; and homelessness/unstable housing (Pach, Cerbone, & Gerstein, 2003; Weekes et al., 2005). There have been clear links established between IDU and crime (MacPherson, 2000; Naeem, Bhatti, Pickering, & Kingdon, 2007; Rehm et al., 2006) as well as decreased access to health care or inadequate health care treatment (Kaplan, Slywka, Slagle, & Ries, 2000; MacPherson, 2000; Pach et al., 2003; Palfreyman et al., 2007).

Intravenous drug use is associated with multiple health issues (Millson et al., 2004; Neale, 2004) and is predominantly linked in the literature to Hepatitis C and HIV/AIDS, with most studies focusing on the prevalence of these diseases and risk behaviours in the IV drug user population. Intravenous drug users have higher rates of mortality than the rest of the general population (Pach et al., 2003) and in 2005, 14% of new HIV infections in Canada were due to intravenous drug use (Public Health Agency of Canada[PHAC], 2006a, 2007).

Intravenous drug use is associated with unstable housing and homelessness (Weekes et al., 2005). Similar to IDU, homelessness is a complex web of interrelated determinants that influence, and are influenced by homelessness. The issue of homelessness also affects individuals, families, communities and society and can be found in all areas of Canadian culture including the suburbs, university campuses, large urban areas, rural regions, and the Arctic (Laird, 2007). Researchers have noted the similarity of risk factors for both homelessness and drug use (Kemp, Neale & Robertson, 2006; Neale, 2001) with homelessness identified as a risk factor for drug use and conversely, drug use as a factor for homelessness (Crawley & Daly, 2004; Kemp et al.,

2006; Wright, 2003). Canadian studies have suggested that rates of substance use are higher in the homeless population than that of the general population (Acorn, 1993; Baron, 1999; Roy et al., 2003). Notably, in the Windsor region, drug and alcohol addiction were reported as a main reason for self-identified homeless status (Medcalf & Mitchell, 2006).

Estimates of the homeless population, like those of the IDU population are often underestimated due to differences in definitions of homelessness, reporting methods, data collection techniques (seasonal variations and cross sectional designs), as well as the marginalized nature of the population itself (Canadian Population Health Initiative [CPHI], 2007). The resulting unclear prevalence and make-up of Canada's homeless IDU's creates an even greater challenge to determine their health needs, as well as the effectiveness of services, programs and policies. Homeless individuals frequently utilize emergency departments and are admitted to hospital up to five times more often and remain in hospital longer than the general population (Hwang, 2001). Specifically within the IDU population, one study found that IDUs who reported homelessness were more likely to use both emergency department and hospital services and be admitted via the emergency department (Palepu et al., 1999). It is estimated that 80% of all homeless people are hidden homeless (The Homeless Hub, 2008) with an estimated range of 450,000 to 900,000 individuals being hidden homeless (Wellesley Institute, 2010). Members of the Health Committee/Homeless Coalition of Windsor-Essex County have anecdotally suggested that there are large numbers of hidden homeless living in Windsor and Essex County (Maria Hamilton, Community Developer, Personal Communication, October 5, 2010).

## Significance to Nursing.

All nurses in Ontario must meet the professional standards of care set out by the College of Nurses of Ontario. A guiding principle delineated in these standards maintains that the client is the central focus of the nurse's care, and as such, care is to be directed towards client needs (College of Nurses of Ontario, 2009). The Registered Nurses Association of Ontario (RNAO), which is the province's nursing professional body, also stated in their patient-centred care best practice guidelines, that ascertaining issues affecting the health of clients is a fundamental aspect of providing nursing care (Registered Nurses Association of Ontario [RNAO], 2006). In order to identify these issues, one strategy the RNAO recommends is the use of a survey to gain the perspective of the client in regards to their health (RNAO, 2006). Thus, it is possible to identify the issues of an IDU population in a hidden homeless setting through the use of indicators – specifically a questionnaire designed for the hidden homeless population. Client responses to survey questions will identify issues faced by this population. Information shared is associated with medical/mental health issues, service utilization, living conditions or other issues related to the non-medical determinants. Involving clients in assessments has been recognized as a key strategy to build a stronger Canadian health care system; a system which is centred on the patient (Erie St. Clair Local Health Integration Network, 2006).

To have effective and relevant public health policy for IDUs, the input and views of IDUs need to be brought forward to involve them in the process of policy development (Brogly, Mercier, Bruneau, Palepu, & Franco, 2003). According to Wiebe (2000a), there is support for the inclusion of users of injection drugs, or their peers, in the development

and provision of services. It is critical to involve the IDUs themselves as a source of information about their health care needs and possible solutions to their concerns (Neale, 2004; Pach et al., 2003; Robinson, 2006). However, as discussed by Hankins (1998), IDUs have previously had minimal input into program development. The IV drug user may have different values and beliefs from the health care provider, possibly resulting in incongruity between what the health care provider has set forth as relevant and appropriate and the needs of the IDUs. Therefore, it is essential that there is an understanding of the patient's perceptions.

It has been suggested that the planning of services for drug users be based on local assessments, specifically the particular needs of unique groups such as homeless IDUs (Health Protection Agency, Health Protection Scotland, National Public Health Service for Wales, Communicable Disease Surveillance Centre Northern Ireland, & Centre for Research on Drugs and Health Behaviour, 2005). Despite the significant consequences of IDU and homelessness as well as the seriousness of the associated issues, no research has been found which describes the health issues of the IDU in a hidden homeless population.

One of the strategic research priorities discussed by Frankish, Hwang and Quantz (2005) is the inclusion of Canadian studies to examine the "relations between homelessness and the broader non-medical determinants of health" (p. S28). This priority is supported by Health Canada (2001) in which it is reported that there is a clear need for a health determinants approach when examining IDU in Canada as factors such as homelessness and poverty are associated with the initiation of IDU and participation in high risk behaviours.



### Purpose of the Study.

Thus, the purpose of this study was to describe the health issues of hidden homeless IDUs in a mid-sized Canadian community through a comparison of hidden homeless IDUs and non-injecting drug users (NIDUs). The health issues described included the four key determinants of health: physical environments; personal health practices and coping skills; health services; and social environments. The intended goal of this study is to provide research-based knowledge that will aid in planning and implementing comprehensive, wholistic, patient centred, cost-effective care for the hidden homeless injection drug user. In addition, a goal of this study is to influence policy regarding planning and implementation of care that will ultimately decrease health care disparities and reduce health care burdens.

## CHAPTER II

## REVIEW OF THE LITERATURE

Theoretical Framework.

*Population health approach.*

According to Health Canada (1998), it is necessary to understand the population involved in order to understand a problem and plan interventions for that population. Thus, the conceptual framework chosen for this study is the population health approach. This approach allows for the analysis and prioritization of the direction of care for a population or particular subpopulation (Health Canada, 1998). This methodology has been used with IDU's in addressing the issue of the HIV epidemic in Vancouver which explored poverty, inadequate/lack of safe housing, isolation and marginalization, unsupported education, unemployment, inaccessible services and health care (Health Canada, 1998). This approach frames health in the context of various interrelating factors which are not medical interventions or lifestyle choices, but the living conditions that individuals experience that affect their health; also known as the determinants of health (Health Canada, 1998; Mikkonen & Raphael, 2010). The goal of this approach is to improve the health of the general population and to reduce inequities between the sub-populations (Health Canada, 1998).

The determinants of health are used to identify their effect on health and are considered when planning interventions to improve health (Health Canada, 1998). They include: income and social status; employment and working conditions; education; social

support networks; social environments; gender and culture; physical environments; biology and genetic endowment; healthy child development; personal health practices and coping skills; and health services (PHAC, 2010). According to Raphael (2003), these interacting determinants of health which directly impact health, are the best predictors of health of individuals and populations and structure lifestyle choices. Thus, the determinants of health are more important to the health of Canadians than either biomedical interventions or lifestyle choices (Raphael, 2003). Canadian policy makers should be made aware of these research findings, as Canada is considered a world leader in developing findings through the population health approach (Raphael, 2003).

The population health framework focuses awareness on the quality of social interactions. On the micro level, this involves targeting social issues including social inclusion and cohesion. On the macro level, issues are addressed through public policies with the goal of enhancing social cohesion and quality of life (Health Canada, 1998). There are eight guiding principles to the population health approach.

The first principle is that health is not just a state of being but a resource for everyday living. This principle involves more than the absence of disease (Health Canada, 1998). It recognizes a broader definition of health that incorporates physical, social, economic factors, as well as the ability to grow as an individual - striving towards goals and obtaining skills/education.

The second principle is that the determinants of health do not exist in isolation from each other but interrelate to form a complex web (Health Canada, 1998). All the

determinants interrelate with each other and influence IDU and are influenced by IDU. This interaction impacts the health of the user.

The third principle is that the focus of investment of interventions be rooted upstream to reduce the probability a health issue will occur or that it will become worse. Thus, the earlier in the casual chain an intervention is initiated, the greater the benefits to health. The question is directed at whether the intervention will “help maintain or improve group health or quality of life” (Health Canada, 1998, p. 9).

The fourth principle is that health is the responsibility of all Canadians with an emphasis on the importance of engagement and social change (Health Canada, 1998). Many of the determinants are beyond the control of IDUs; however IDUs are often socially excluded, treated as criminals and victims of discrimination. Therefore, if health is the responsibility of all Canadians, it becomes critical that IDUs be treated with respect and their worth as individuals be recognized. In addition, it is equally important that their IDU be recognized as a health and not a criminal issue, and they are included in society. Stigmatization, in particular, which is based on the morals, values and beliefs of others, can be influenced by the community through the aforementioned engagement and social change.

The fifth principle is that decisions are evidence-based with not only disease and mortality statistics but also data related to the determinants of health (Health Canada, 1998). The sixth principle is increased accountability for health outcomes and thus planning/choosing interventions to maximize health gains. Accordingly, importance is

placed on outcome evaluation, especially the reduction of health inequities between populations.

The seventh principle concerns a horizontal approach to dealing with health issues such as the involvement of the individuals, families, community and collaboration between health care professionals, social service professionals and government policy-makers (Health Canada, 1998). Issues facing the hidden homeless IDUs vary on such a horizontal plane. Nursing professionals can play a vital role in assessing these health issues, planning care, collaborating between service providers, educating IDUs, the public and families, and advocating for IDUs on a political level.

The eighth and final principle is the utilization of multiple strategies in multiple settings, systems and sectors (Health Canada, 1998). An assessment of the hidden homeless sub-population will detect health disparities and then specific strategies can be formulated and targeted towards improving the health of the hidden homeless IDU population. Interventions may be directed at the general population, homeless/at risk for homelessness/hidden homeless sub-populations or solely at the IDUs in these settings, whichever action best improves the health of the hidden homeless IDUs. In dealing specifically with the issues related to social environment, the assessment would determine the associated factors and the extent of the issue and then the planned intervention would be directed at the general population.

The realization that health is not solely determined by an individual's physical body, but also involves social and political factors, was a key aspect in the choice in the use of this approach as the framework for this study. This approach also takes into

account the complexity of the issues related to IDU, the importance of social inclusion, inequality as well as the multiple interrelated factors that impact the health of this population. The fifth and sixth principles support the importance of an assessment of health issues in order to identify and prioritize the type of health issues and health outcomes. In light of the significant issues found in the literature related to IDU, this proposed study has focused on four determinants of health: physical environment, social environment, health services and personal health practices and coping.

#### Description of the Literature Search.

An extensive review of the literature was conducted on the following databases: CINAHL; SocINDEX; Web of Science/Web of Knowledge; OVID; EBM Reviews-Cochrane Database of Systematic Reviews; Healthstar; Social Work Abstracts; NASW Clinical Register and MEDLINE. In addition to these databases, Google Scholar and the Google search engine were also used to find applicable literature and data. The following terms and their various combinations were used in the search process: IDU, IDA, IVDU, IVDA, drug, substance, use\*, abuse\*, misuse\*, inject\*, intravenous, homeless\*, hidden, couch, surf\*, concealed, doubled AND up, health, need\*, assessment.

This literature review will focus on a description of demographic characteristics of drug users followed by a discussion of issues related to IDU according to four determinants of health. Specifically, the physical environment will be examined which includes homelessness; the social environment with a focus on violence, social isolation, marginalization and stigmatization; personal health practices and coping skills which involves a review of IDU initiation, physical harms, and high risk behaviours especially

related to blood-borne viral infections and housing status; and lastly health services will be examined which focuses on current treatment, services and access/barriers to care. Finally, research conducted related to the health issues of homeless IDUs and resulting gaps in the literature will be addressed.

#### Demographics.

In Canada, the typical drug user is male and between the ages of 20-24 years old. Drug users are also more likely to be single or never married and live in non rural areas, and they have attained a high school level of education or less (Adlaf, Begin, & Sawka, 2005). According to the I-Track surveillance report (PHAC, 2006a), IDU's in Canada tend to be men with an education level of high school or lower and of Aboriginal ethnic background. It was also reported that most IDU's are mobile and move frequently and are at higher risk for unstable housing accommodations. The majority of IDU occurs among high school dropouts (Galea, Nandi, & Vlahov, 2004; Wiebe, 2000a, 2000b; Weekes et al., 2005). According to the I-Track survey (PHAC, 2006a), 76% (2250) of people surveyed, had a high school level of education or less which leads to employment problems as injection users are more likely to be unemployed and of lower socioeconomic status/income (Galea et al., 2004; Wiebe, 2000a, 2000b; Weekes et al., 2005). Consequently, injection drug users are more apt to rely heavily on health and social service agencies (Weekes et al., 2005).

## Physical Environment.

### *Housing and homelessness.*

According to the Universal Declaration of Human Rights (International Bill of Human Rights, 1948), everyone has the right to housing or a standard of living that supports their health and well being, but in Canada, this right comes under scrutiny. In 2006, Canada's homeless and inadequate housing situation was described as a "national emergency" (United Nations Committee on Economic, Social and Cultural Rights) and again in 2007, Canada was identified as having a national housing crisis that needed immediate attention (United Nations, 2007). Specifically in Ontario, in response to multiple political changes, municipalities have declared homelessness a national disaster. Political changes include: reduced rates in Ontario welfare, continuing loss of private rental/social housing, as well as the cancellation of both Canada's national housing program and the Ontario Rental Housing Protection Act (RNAO, n.d).

According to the Ottawa Charter for Health Promotion, shelter is a basic prerequisite for health (World Health Organization, Canadian Public Health Association & Welfare Canada, 1986). In Canada, it is recognized as a social determinant of health in which a lack of adequate housing results in various health consequences (Mikkonen & Raphael, 2010) such as mental illness, decreased quality of life, escalated morbidity and mortality rates, and increased health care use and costs (Bines, 1994; Khandor & Mason, 2007; Palepu et al., 1999; RNAO, n.d.). Mikkonen and Raphael (2010) note that homeless individuals are 8-10 times more likely to die at an early age than the general population. The social consequences of homelessness include discrimination,



stigmatization, social exclusion, violence and powerlessness (Crawley & Daly, 2004; Khandor & Mason, 2007; RNAO, n.d.).

It has been estimated that there are approximately 300,000 homeless individuals living in Canada (Laird, 2007). According to the 2001 census data, the homeless population in Ontario is approximately 33,940 individuals, this number includes individuals in correctional facilities, shelters, motels, hostels, rooming houses and school residences (Statistics Canada, 2002). The data from shelter counts alone in Ontario total 6,100 people and specifically in Windsor, the total is 200 individuals (Statistics Canada, 2002).

Stable housing can be considered that in which the individual is living in their own home/apartment or in a parent's home (PHAC, 2006a). A problem arises in attempting to define homelessness, as there is no universal definition. For some, it refers to a lack of housing or having absolutely no shelter (Hwang, 2001) whereas for others it refers to a continuum ranging from a complete lack of shelter to inadequate shelter (Barnaby, Penn, & Erikson, 2010) and even at-risk for homelessness (Start Me Up Niagara, 2006). Further complicating our understanding of the health issues of the hidden homeless IV drug user is the inconsistent definitions used to define "hidden" homelessness.

In an attempt to clarify the definition, the RNAO (n.d.) has categorized three types of homelessness: absolute, concealed and at risk of homelessness. Concealed or hidden homeless are not sleeping outdoors but temporarily staying with friends or family. They are concealed or hidden homeless because they are not included in "shelter counts" and

are also referred to as ‘couch-surfing’ or being ‘doubled-up’ (Frankish et al., 2005). In contrast, absolute homeless individuals are those who are sleeping outdoors or in shelters. Those at risk of homelessness are individuals/families that are having difficulty meeting the elements of core housing needs such as adequacy, suitability and affordability. The Wellesley Institute (2010) compares the absolute and hidden homeless populations to that of an iceberg in which you only see the top, or the absolute homeless; however there is much more under the surface.

“Homeless” in Canada began as a term to describe a state of having “housing” which was often of poor quality, but lacking the social and psychological aspect of “home” (Hulchanski, 2009). The term “homelessness” came into existence in Canada in the 1980’s to capture the social issue of being “unhoused”. The lack of clarity arises as different meanings are attached to the word “homeless”. Hulchanski (2009) also commented that adding the suffix “-ness” has created an ongoing problem as the term homeless has become conceptualized to include a wide range of varying issues depending on who is using the term and how they are using it. As such, unstable housing can take many forms. Common places where IDUs reported living include a friend’s place, hotel/motel, rooming/boarding house, shelter/hostel, squats and on the street (PHAC, 2006a).

The causes of homelessness are complicated and varied. The factors for homelessness are related to a combination of economic, physical, psychological and social issues. These factors include: a lack of affordable housing; wait lists for subsidized housing; insufficient/lack of income (poverty) and unemployment (Federation of Canadian Municipalities, 2004; RNAO, n.d.). Other factors for homelessness include:

education; substance use/addiction, lack of social supports and services, prison release; mental illness; domestic violence; and vulnerable groups (including all aspects of sex, race, disability and sexual orientation) (RNAO, n.d.).

Several assessments have been conducted with homeless individuals (Hudson et al., 2010) especially in Ontario (Collins, 2010; Diaski, 2007; Khandor & Mason, 2007; SHS Consulting, 2009; Start Me Up Niagara, 2006; Toronto Shelter, Support & Housing Administration, 2009). Key themes that emerged from these studies is the need for stable housing, difficulty accessing social services and substance use treatment, lack of clear information and collaboration between services and agencies; food security, safety, and discrimination.

#### *Homelessness and intravenous drug use.*

Intravenous drug use in particular has been associated with homelessness (Corneil et al., 2006; Homeless Link, 2010; Kemp et al., 2006). Studies done in Canada have suggested that rates of substance use are higher in the homeless population than that of the general population (Acorn, 1993; Baron, 1999; Roy et al., 2003). Many studies have documented that IDU are a mobile population, often moving between cities, smaller communities, and across international borders due to work, security, or access to narcotics (Hahn, Page-Shafer, Ford, Paciorek, & Luma, 2008; PHAC, 2006a; Rachlis et al., 2007). I-Track survey results indicated that 40% (1220) of participants reported living in unstable housing, however, the proportion varied in different cities with Edmonton (57.6% or 159), Toronto (56.9% or 148) and Victoria (53.5% or 136) reporting higher proportions of participants living in unstable housing (PHAC, 2006a).

There have been several studies conducted in the United Kingdom investigating the health of homeless drug users. In a study by Crawley and Daly (2004) homeless drug users reported that their homeless status led to an escalation of non-injecting to injecting methods of drug use, especially heroin (Crawley & Daly, 2004). Other studies revealed that addiction related to IDU, was the main expressed health concern of the homeless population (Fountain & Howes, 2002; Griffiths, 2002).

Tompkins, Wright and Jones (2005) identified that homeless IDUs had physical health concerns, especially regarding their HCV status. As noted by the researchers, despite commonly held beliefs in society that homeless IDUs perceive their needs to be things such as drugs and money, their study found that the injector's focus of concern was on their physical health. Galea and Vlahov (2002) suggest that homelessness influences the health of IDUs as a result of problems in accessing health care, difficulties following treatment schedules and high risk behaviours.

Social Environment.

*Violence.*

Violence is a major cause of morbidity and mortality among IDUs, with studies suggesting elevated rates of physical violence among IDUs recruited from drug treatment programs and street-based environments (Chermack & Blow, 2002; Marshall, Fairbairn, Li, Wood, & Kerr, 2008). Estimates of the rate of violence directed towards drug users is underreported due to victims not reporting incidents as they are confused about details of the event and do not want to talk to police while under the influence of drugs (Goldstein, 1985). Risk factors associated with IDU violence include: mental illness, alcohol use,

frequent crack smoking, homelessness, and requiring help injecting (Marshall et al., 2008). Furthermore, Marshall et al. (2008) found that female violence was positively associated with binge drug use and drug dealing, while for men it was associated with frequent heroin injection and recent incarceration. After examining participant's reports on the perpetrators of the violence, as well as the nature of the violent experience, Marshall and colleagues observed specific gender differences. Women reported being attacked by acquaintances, partners and individuals involved in the sex trade; whereas males were more likely to report being attacked by strangers or the police. For female IDUs, the nature of the violence was more likely to be reported as strangulation or physically threatened, while men were significantly more likely to report being attacked by weapons. Marshall et al. discuss the observed association of homelessness and violence and explain that individuals who are homeless are more susceptible to violence due to the lack of protective shelter. To generate income, the homeless person may engage in activities for profit; that have a higher risk for violence. The individual who is homeless is more apt to engage in the street-based drug economy in which increased levels of violence have become normalized.

In a qualitative study conducted by Epele (2002) with female IDU participants, it was found that female IDUs often survive through what is known as the "street economy" which involves the sex trade, shoplifting and drug dealing. This street economy leads to multiple dangers and risks and places women in a role of subordination to men in which they are "used and abused". Through participant narratives, Epele reports that women are more often the target of theft, violence, and homicide. But interestingly, motivation for

the violence against the women is two-fold: to discipline and/or control the women; and to send a message to others that they could be next.

*Crime.*

There is a strong relationship between injection drug use and various types of criminal behaviour and the criminal sub-culture (Weekes, Thomas, & Graves, 2004). In 2007, the drug crime rate in the City of Windsor was reported as 285 per 100,000 residents which is an increase from 158 per 100,000 residents in 1998 (Artaman, 2009). In Canada, approximately 18.3% of offenders reported injecting drugs before coming to prison. Of these, 54.6% injected during the six months before incarceration (Weekes et al., 2004). The link between substance use and crime can occur in three main ways: 1) as a result of the psychopharmacological effects of the drug; 2) as an “acquisitive” crime to pay for drugs, such as theft to support drug needs; and 3) criminal activity as a way of transacting business in relation to drugs, such as committing murder as part of the drug trade business (Goldstein, 1985; Weekes et al., 2004). This is demonstrated in a study conducted by Degenhardt and colleagues (2005) in which a heroin shortage in Australia in 2001 led to IDUs switching to cocaine which is more expensive and tends to produce more violent behaviour. The results of this study found an increase in the rate of violent crime that coincided with an increase in cocaine use in New South Wales, whereas other regions which did not display increases in cocaine usage also did not report increases in violent crime. The researchers reported that the violent acquisitive crime increase was related to both the effects of the cocaine use, as well as the increased financial burden of obtaining the cocaine.

In general, just over half of all Canadian federal offenders report that substance use was either directly or indirectly related to one or more of the offences on their current conviction. In addition, federal offenders are more likely to be readmitted to custody if they have more serious substance use problems (Weekes et al., 2004). It has been noted that drug users may resort to various forms of illegal activities, including drug dealing, sex trade work and acquisitive crime to generate enough income to support their drug needs (DeBeck et al., 2007; Weekes et al., 2004).

*Social isolation, marginalization and stigmatization.*

In Canadian society, drug users are stigmatized and individuals who inject drugs are stigmatized to an even greater degree (Federal/Provincial/Territorial (F/P/T) Advisory Committee on Population Health, F/P/T Committee on Alcohol and Other Drug Issues F/P/T Advisory Committee on AIDS, & F/P/T Heads of Corrections Working Group on HIV/AIDS, 2001). These committees commented that this stigmatization extends to a rejection by society based on the illegal aspect of the behaviour, the IDUs tendency towards a disorganized lifestyle and their susceptibility to diseases. The report continued to note that views held by a vast portion of society, are that the IDUs are criminals and derelicts with labels, manipulative, difficult to manage, and disruptive. In an American study done in Brooklyn, New York by Mateu-Gelabert et al. (2005), 71% of 363 non-users interviewed said they strongly disliked injection drug users and used disparaging terms to refer to them. The study also reported that these same 71% of non-users attributed negative traits to IDUs such as promiscuous, weak, stealing/begging, untrustworthy, and ignorant; however, stigmatizing injection drug users is not restricted to non-users.

Interestingly, IDUs tend to judge each other with a realm of stigmatization within the population (Fitzgerald, McDonald, & Klugman, 2004; Mateu-Gelabert et al., 2005; Simmonds & Coomber, 2009). Many of the IDUs tend to distance themselves from one another due to a mutual distrust, negative impressions of IDUs and the attribution of derogatory characteristics to other IDUs (Mateu-Gelabert et al., 2005). Simmonds and Coomber (2009) described a hierarchy of stigmatization within the IDU population. These researchers found that the IDUs in their sample judged and stigmatized other IDUs based on the perceptions of who acted “responsibly”. The lowest in the hierarchy was the homeless IDU due to their sharing of needles, the manner in which they disposed of their needles and the perception that they “don’t care”. Sharing needles was seen as something done by “dirty, lazy people” who acted irresponsibly. The IDUs in Simmonds and Coomber’s study who shared needles were also highly stigmatized within the IDU population. Those who did not share and who were not homeless were considered ‘normal’ IDU and were judgmental towards the ‘lower’ IDU even though some admitted to sharing syringes. Further up the hierarchy are the steroid injectors who distance themselves from “junkies” who use street drugs. Steroid users felt they were ‘normal people’ as their drugs did not create a dependence leading to needle sharing and criminal activity. Thus, the steroid user looks down on the “junkie”, and the ‘normal IDU’ looks down on those who share needles and all of the injectors look down on the homeless IDU. In the IDU population, this stigmatization and regular stereotyping such as drug “addict” in society widens the gap of social isolation, marginalization and loneliness (Weekes et al., 2005; Wiebe, 2000a).



The isolation and difficulties interacting socially often causes relationship problems with friends and family (Weekes et al., 2005). In response to stigmatization and marginalization, it was reported in Mateu-Gelabert et al.'s 2005 study that users attempt to hide their use in order to avoid stigma and to maintain friends, family, and partners, as well as access to resources such as housing and employment. As a result of these attitudes and fallacies, various harms have affected this drug using subculture such as, public apathy; undiagnosed mental illness and treatment and rehabilitation programme inaccessibility. Thus, the detrimental effects of stigma in the health care realm can be observed, as certain populations become viewed as less "worthy or deserving" of services than others (Simmonds & Coomber, 2009). Negative attitudes portrayed by health care professionals, as well as the stigma placed upon the homeless IDU population creates several barriers such as: difficulty with accessing services available to other people; employment opportunities; and difficulty in obtaining or maintaining housing (Canadian AIDS Society & Canadian Harm Reduction Network, 2008). In addition, these negative attitudes and stigmatization also discourages the individual IDU experiencing homelessness from accessing needed care (Haldenby, Berman, & Forchuk, 2007).

Personal Health Practices and Coping Skills.

*Intravenous drug use initiation.*

The age of first injection varies by community, but on average occurs in late adolescence or in the early twenties in Canada (Patton, 2006). Poverty, low education, unstable family structure, homelessness, unemployment, poor social support networks, partners who are IDUs and the availability of injectable drugs influence the onset and

continuance of injection drug use (Galea et al., 2004; Patton, 2006). However, certain groups and individuals are more susceptible, especially street-involved youth, Aboriginal people, prison populations, sex trade workers and victims of physical, emotional, and/or sexual abuse (Patton, 2006).

Research has identified homelessness as a predictor of initiation of injection drug use (Emmanuel & Attarad, 2006; March, Oviedo-Joekes, & Romero, 2005; Neaigus et al., 2006; Parriott & Auerswald, 2009). Many homeless non-IDU drug users find temporary refuge in hostels and shelters; however, these environments have been reported as factors for IDU initiation as a result of their link to an escalation of drug use, selling of drugs and culture of drug consumption (Crawley & Daly, 2004; Wadd, Hutchinson, Taylor, Ahmed, & Goldberg, 2006). In fact, individuals who are without housing tend to initiate into IDU at an earlier age (Abelson et al., 2006). Homelessness is not only a factor in initiating IDU, but it has been reported alongside needle-exchange usage as being a factor for not ceasing injection drug use (Lum, Sears, & Guydish, 2005; Steensma, Boivin, Blais, & Roy, 2005). Shah and colleagues (2006) reported homelessness as a factor to shorter time to injection relapse as well as longer time to cessation. Other factors found in this study that prolonged time to cessation included high risk behaviours such as: drug overdose, sharing needles, injecting speedball and daily injecting.

#### *Physical harms.*

In the Canadian Addiction Survey (Adlaf et al., 2005), the most commonly reported harm involved physical health. Injection drug use affects the pulmonary, renal, neurological, hematologic, cardiovascular and immune systems and is associated with:

abscesses, venous ulcers, vascular damage, endocarditis, blood-borne viral infections and perinatal transmission of infectious diseases to unborn children (Day, Conroy, Lowe, Page, & Dolan, 2006; Pieper, Kirsner, Thomas, & Birk, 2007; Weekes et al., 2005). In addition, IDU is associated with malnutrition, sleep deprivation, unintentional injuries, self inflicted injuries, fatal and non fatal overdoses, suicide, and mental health problems, such as depression (Collins, et al., 2006; Lopez, de Saxe Zerden, Fitzgerald, & Lundgren, 2008; Weekes et al., 2005). Cocaine injection is of particular concern because some heavy users inject up to 20 times a day which considerably increases the risk for contracting a variety of health problems (Weekes et al., 2005).

Injection drug users have higher rates of mortality than the rest of the general population (Pach et al., 2003) and are 6 to 20 times more likely to die prematurely (O'Driscoll et al., 2001). Infectious diseases are a major cause of morbidity and mortality among IDUs (Millson et al., 2004). Psychiatric co-morbidities are reported in up to 30% of IDU and are risk factors for needle sharing, more frequent sex for money/gifts and being raped; all of which can lead to infection (Mertz et al., 2008).

Intravenous drug users who are homeless are also more likely to have more drug-related infections such as cutaneous injection-related infections – abscesses and/or cellulitis (Health Protection Agency et al., 2005; Gyaramathi, Neaigus, & Ujhelyi, 2009; Lloyd-Smith et al., 2008) and sexually transmitted infections (Linton, Singh, Turbow, & Legg, 2009). Drug related infections are often related to the unsanitary conditions related to public injecting as well as using certain injecting sites. Not only do homeless IDUs have a greater risk for infection but they are at risk for specific infections. In the United Kingdom, two studies have found that homeless IDUs are at greater risk of methicillin-

resistant staphylococcus aureus colonization (MRSA) (Cooke, Howard, Hugh-Jones & Brown, 2008; Otter & French, 2008). Homeless individuals and IDUs have been identified in the literature as high risk populations for becoming infected with tuberculosis (American Thoracic Society, Centres for Disease Control and Prevention, 2000; Chin et al., 1998; Nyamathi, Sands, Pattatucci-Aragon, Berg, & Leake, 2004; Schluger et al., 1997). Nyamathi et al. (2004) found that there was a lack of knowledge about tuberculosis in this high risk population especially in regards to modes of transmission and risk factors for infection. Sexually transmitted infections are related to high risk sexual behaviours which were mentioned previously and include: sex trade; multiple partners, not using a condom during intercourse as well as survival sex or trading sex for food, shelter, money, drugs or alcohol (Linton et al., 2009). High risk sexual behaviours may spread other more serious illnesses other than sexually transmitted infections.

Intravenous drug use is predominantly linked in the literature to Hepatitis C (HCV) and HIV/AIDS with research studies primarily focusing on the prevalence of these diseases in the IV drug using population. As of December 31, 2006, injection drug use accounted for 8% (1,536) of cumulative adult AIDS cases in Canada and 17% of cumulative adult positive HIV test reports (Dell & Davis, 2008). Differences were noted according to gender and race with 31% of female IDUs with HIV versus 15% of males in 2006 and the proportion of new HIV infections in 2005 among Aboriginal Canadians attributable to IDU substantially higher (53%) compared with all Canadians (14%) (Dell & Davis, 2008). According to the I-Track Canadian surveillance study (PHAC, 2006a), two-thirds of the 3031 participants (65.7%), on average, were HCV positive and just over

1 in 10 (11.7%) were infected with both HIV and HCV. Similar results were found in international studies when a review of the literature conducted, indicated that 50%–95% of IDU populations were HCV-infected (Hagan, 1998).

Injection drug users are at risk of acquiring HIV and HCV, as well as other blood-borne infections through contaminated needles (needle sharing), unsafe sex practices, and the sharing of other equipment required for injection, such as water, cotton, etc. (PHAC, 2006a). In many countries, HIV has spread most rapidly among IDUs, with the biggest risk factor for HIV transmission being the sharing of injecting equipment (Joint United Nations Programme on HIV/AIDS [UNAIDS], 2000). The data from the I-Track surveillance (PHAC, 2006a) documented relatively high levels of needle sharing (15% or 604 IDUs in previous 6 months) and multi-person use of other drug injecting paraphernalia (30.9% or 902 IDUs in previous 6 months). The Public Health Agency of Canada (2006a) has emphasized that the conditions exist for the spread of blood-borne viruses among networks of IDUs. Injection drug use is specifically the primary risk factor for HCV transmission, as the first six months is a critical period when the threat of contracting HCV increases with the length of time that an individual has been injecting drugs (Haydon, Fischer, & Kraiden, 2005). Due to the lengthy incubation period between HCV infection and the development of symptoms, it is estimated that, in Canada, the disease burden and social costs associated with HCV will continue to rise steadily over time (Haydon et al., 2005). The risk of HCV transmission in IDUs is exacerbated by certain individual factors and social characteristics such as: HIV co-infection, status of immune system, Aboriginal ethnicity, contact with correctional environments, degree of risk behaviours and homelessness (Haydon et al., 2005).

With respect to housing status, numerous studies have demonstrated that homeless IDUs have a greater risk and higher rates of blood-borne viral infections (Tompkins et al., 2005) namely HIV and hepatitis, especially HCV (Advisory Council on the Misuse of Drugs[ACMD], 2009; Craine et al., 2009, 2010; Kim et al., 2009; Linton et al., 2009). Homeless IDUs have been identified quite extensively in the literature as being at increased risk of harm due to their associated increased risk behaviours, higher levels of injecting risk, and unsanitary living conditions (Briggs et al., 2009; Craine, 2009; Gyarmathy et al., 2009; Linton et al., 2009). Other factors identified in the literature as being linked with increased HCV and HIV risk include not being prescribed substitution treatment (such as methadone), not being involved with addiction treatment, staying in hostels and groin injecting (Corneil et al., 2006; Craine & Lyons, 2006; Rhodes, Stoneman et al., 2006; Wadd et al., 2006).

In addition, studies have reported an association between time spent in jails/prisons and detention centres with IDU especially in regards to blood-borne viral infections (BBVI) and risk behaviour (ACMD, 2009; Cheng et al., 2010; Weekes et al., 2004). A health care needs assessment of federal inmates in Canada reported that as a risk behaviour, IDU is more common among inmates than in the general population, with almost half of all injectors in prison indicating their equipment was not clean or they did not know if it was clean prior to use (Anonymous, 2004). A study conducted in Toronto reported that 24% of 100 homeless youth had injected drugs within a correctional facility (Barnaby et al., 2010). This study also reported that youth continue to be exposed to drugs within the facilities and continue to inject throughout their sentence, including initiating high risk behaviours such as, needle sharing.

Needle sharing is a frequent occurrence in prisons due to the scarcity of needles and syringes in the correctional setting. It has been noted that it is more difficult to bring injecting equipment into prison facilities than it is to smuggle drugs inside, thus only a small amount of needles exist within a prison population (Small et al., 2005). Small et al. (2005) reported that used syringes will circulate “endlessly” and since they are scarce rather than disposing of the syringe parts will be replaced and the points resharpener or “new” ones will be made from parts of old syringes and even pens. It has been documented that the sharing of equipment is not a random occurrence but takes place within a context of a social connection that involves three patterns of sharing: amongst friends, members of the same clique, or as a result of a trade or payment (Small et al., 2005). Due to the limited availability of injecting equipment in prison, an inmate who is HIV positive may not disclose their status for fear that they would not gain access to syringes (Small et al., 2005). Thus, the scarcity of injecting equipment creates an environment of sharing behaviour which poses a large risk of BBVI transmission.

#### *High risk behaviours.*

High risk behaviours that have been associated with homeless IDUs include: amphetamine /methamphetamine use; crack cocaine injecting (frequent injecting and sharing); drug bingeing; and frequent drug use (ACMD, 2009; Cheng, 2010; Craine et al., 2009; Deren, Kang, Mino, & Guarino, 2010). Other behaviours include: engaging in unprotected sex; multiple sex partners; and trading sex for money/food/shelter/drugs /alcohol (Deren et al., 2010; PHAC, 2006b; Rusch et al., 2009) as well as hasty injecting practices, needle/syringe and injection equipment sharing, groin injecting and self-reported public injecting (Briggs et al., 2009; Craine et al., 2009; Rhodes, Kimber et al.,

2006; Rhodes, Stoneman et al., 2006;). In particular, snowballing (co-injecting heroin and crack cocaine) is associated with increased risk of HCV related to higher rates of risky injection practices such as communal sharing of drugs (to have enough money for both heroin and cocaine); reusing injecting equipment; sharing needles/syringes/equipment and peer injecting (Wilkins, Bissell, & Meier, 2010).

Roy, Nonn et al. (2007) found in their study that when young IDUs are going through a period of intense consumption they are often homeless with a narrow social network. This social network consists of street IDUs, or street individuals who make it possible to do drugs. These social interactions involve collectively buying drugs, avoiding overdose or eluding police when committing illegal acts. These street youth come to consider it either very difficult or impossible to avoid contracting HCV, due to the conditions of public injecting. This fatalist view appears to be supported by the knowledge that many of their peers are infected with HCV (Roy, Nonn et al., 2007). The researchers found that many of the youth in the study trivialize the consequences of their risk-taking behaviours due to their fatalistic perspective. There is less concern for HCV amongst this group because the threat of liver disease is too distant when compared to the daily difficulties they encounter (Rhodes & Treloar, 2008; Roy, Nonn et al., 2007).

Homeless IDUs have primary concerns that often include shelter, hunger, sepsis, serious abscesses, chronic pain, tuberculosis, overdose and risk of unknown drug strengths/purity. Other concerns of IDUs include barriers, such as lack of housing, employment, education, lack of access to drug treatment programs, inadequate diet and stigma (Canadian AIDS Society & Canadian Harm Reduction Network, 2008). Thus, amongst the street IDU



network, the belief becomes that having HCV is trivial and sometimes it is even viewed as confirmation that one belongs to the group (Roy, Nonn et al., 2007).

In contrast, other IDU youth have some stability and control over their drug use (Roy, Nonn et al., 2007). Roy, Nonn et al. (2007) described how these IDUs have housing with friends or family in which there was more control in the environment and therefore more control over the sterility of injection supplies and sharing of supplies was avoided. In this setting, HCV was viewed as serious and the youth were fearful of contracting the disease. For this group, the meaning of having HCV changed to that of being a “junkie”. The researchers concluded that one of the main findings of their study was that the relationship that young IDUs have with the streets, influences their risk behaviours and meaning of contracting HCV (Roy, Nonn et al., 2007). In addition to this study, Crawley and Daly (2004) also found that drug use is affected by the type of accommodation inhabited. Crawley and Daly found that if an individual lived in an environment that was structured and had a form of social support their drug use became more stable; whereas if an individual lived in an environment where drug use was the norm, such as the streets, then drug use increased or they transitioned from non-injection drug use to injecting drugs.

#### *Housing status and risk behaviours.*

Dickson-Gomez et al. (2009) conducted a study which investigated the relationship between housing status and HIV risk behaviours. The researchers found that individuals who were hidden homeless experienced a wide variation in regards to risk. There can be a reduction in drug use if the hidden homeless individual is staying with

family or with people who do not use drugs, but it may also limit the amount of time the individual remains at that location. Most often the participants reported they stayed with people who are also drug users. The consequence of this was an escalation in drug use and higher risk for contracting/spreading BBVI as often drugs or sex are considered payment for staying the night. This type of accommodation is considered insecure and participants felt they could be on the streets at any moment if the lessee of the apartment was not satisfied with what they were providing for staying there or if the lessee was evicted. However, there is also more control over the cleanliness and preparation of drugs as well as the injection process due to the presence of clean water, bleach and some sense of privacy.

*Public injecting.*

Homelessness has been associated with public injecting and shooting gallery use (Briggs et al., 2009; Craine et al., 2009; Marshall, Kerr, Qi, Montaner, & Wood, 2010; Philbin et al., 2008) and has been reported to be the strongest predictor of public injecting (Navarro & Leonard, 2004). Individuals inject their drugs in places such as abandoned buildings, public washrooms/toilets, parking lots, alleys, stairwells, parks, school yards and shooting galleries predominantly, because, due to socioeconomic factors, they have nowhere else to go (Health Protection Agency et al., 2005; Navarro & Leonard, 2004; Rhodes, Kimber et al., 2006; Tompkins et al., 2005).

Public injecting is associated with increased HCV and HIV risk behaviours including syringe sharing, frequent and hasty injecting, and engaging in unprotected intercourse (Craine et al., 2009; Marshall et al., 2010; McKnight et al., 2007; Roy, Nonn

et al., 2007). With no place to store their equipment, homeless IDUs often have to use discarded equipment or share needles/equipment and will drop used syringes outdoors (Marshall et al., 2010). It has also been noted that due to lack of stable income, drugs will be purchased by a group of IDUs (Navarro & Leonard, 2004; Roy, Nonn et al., 2007). The drugs are then shared through syringe-mediated practices in which one syringe is used to mix the drug solution and then the mixture is distributed into one or more syringes for injection. In this process, the drug solution is transferred from one syringe into another with the needle (frontloading) or plunger (backloading) removed (Open Society Institute & Equitas, 2009).

A study conducted in Vancouver reported that public injecting often occurs in unsanitary conditions such as alcoves or doorways in alleys (Small, Rhodes, Wood, & Kerr, 2007). The researchers noted the unsanitary conditions in the area where they conducted their surveys stating that urine and feces was often present in the alleys especially the alcoves in which injecting occurs due to a shortage of public washrooms. Although sterile water is provided through needle exchange programmes, the lack of running water prevents an individual from washing their hands or the injection site prior to injecting. In addition, the lack of adequate flat surfaces results in large garbage bins or 'dumpsters' being used by IDUs to prepare injections and lay out injection supplies (Small et al., 2007). Thus, it is extremely difficult for the homeless IDU to maintain hygienic injection practices and store sterile injecting equipment appropriately (Health Protection Agency et al., 2005; Roy, Nonn et al., 2007).

In an attempt to deter public injecting, police often patrol areas known to be frequented by IDUs (Small et al., 2007). Public injecting is considered unsafe by many

IDUs not only because of the unsanitary conditions but also due to the risk of being assaulted and/or robbed by others, and being arrested or assaulted by the police (Briggs et al., 2009; Small et al., 2007). This lack of safety results in anxiety associated with a fear of interruption during injection and a sense of feeling rushed (Briggs et al., 2009; Marshall et al., 2010; Small et al., 2007). This seems to coincide with research done by Topp, Hudson and Maher, (2010) in which they assessed psychological distress in psychostimulant injectors and found that higher test scores related to distress were independently associated with recent public injection. This anxiety often led to an increase in risky injection practices, such as hasty injecting, as the focus of attention is shifted away from injecting safely and properly towards protecting one's self and one's drug (Briggs et al., 2009; Rhodes & Treloar, 2008; Small et al., 2007). It is common for IDUs to mix their drugs in the barrel of the syringe and omit filtering the solution, as well as not cleaning the injection site with alcohol swabs in an attempt to rush through the injection process (Marshall et al., 2010; Small et al., 2007).

Overdose is more common among IDUs who inject in public settings. It has been suggested that one factor could be the hasty injection practices associated with public injecting as the individual does not often stop to "taste" the drug to test the strength which may result in a concentration that is stronger than intended (Kerr et al., 2007). The potential consequence to this is too much drug being administered which can possibly lead to an overdose or death with reports of an association between homelessness and increased risk of death from overdose (O'Driscoll et al., 2001).

Thus, public injecting is associated with high risk injection practices which include hasty injection practices, sharing needles/equipment/drugs, using discarded

needles/equipment and the improper mixing of drug solutions. These high risk injection practices place the homeless IDU at high risk for BBVI and other harms.

Health Services.

*Homeless intravenous drug users and treatments/services.*

Palepu and her colleagues (2010) found that current enrolment in addiction treatment was negatively associated with obtaining stable housing. However, Palepu et al. explained that their results suggest that during periods when an individual accesses treatment they are in a state of instability in which priorities shift to basic needs of food and shelter rather than looking towards stable accommodations. This coincides with a study done in 1999 in which 61% of 695 homeless IDU youth identified that basic needs (food, shelter, clothing or money) would make their lives better (Dematteo et al., 1999). However, perhaps it is that homeless IDUs require more support. Research conducted by Corsi, Kwiatkowski and Booth (2007) identified that more support directed towards homeless IDUs positively influenced entering treatment. The support forms or predictors of treatment entry included more contact with outreach workers and the support of stable living arrangements.

Factors for the highest re-entry into treatment include: individuals experiencing homelessness; having injected within the previous month; and heroin or heroin/cocaine injectors (Chassler, Lundgren, & Lonsdale, 2006). Individuals who tend to frequently re-enter drug treatment services are those with more severe drug problems such as heroin users and IDUs, who have reported a greater perceived need for these and other services (Grella, Hser & Hsieh, 2003; Hser, Grella, Hsieh, Anglin & Brown, 1999). In a study by

Hser et al. (1999), treatment experienced individuals were less likely to observe treatment program rules and had a greater perceived need for services in other areas of their lives such as private counselling sessions. This lack of counselling and failure to follow program rules possibly led to treatment experienced individuals experiencing a greater amount of unmet needs. One of these needs is housing, as homeless status was found to predict relapse as well as be associated with treatment re-entry (Scott, Foss, & Dennis, 2005). Thus, social support and environmental factors influence an individual's ability to remain abstinent. Hser et al. found that individuals who had support during the follow-up period post treatment were more likely to refrain from drugs, whereas those who lived in a drug environment, such as returning to the streets, were prone to relapse.

Homelessness has been identified as a factor for seeking medical care (Reynolds, Fisher, Jaffe, & Edwards, 2006). Waldrop-Valverde and Valverde (2005) reported a high rate of adherence with antiretroviral medications in homeless and marginally housed IDUs; however a failure to follow through with medical routines has also been reported (Galea & Vlahov, 2002). Thus, it is important to assess individual readiness and ability to follow medical treatment plans according to their circumstances (e.g., living on the streets, affordability).

Hostels are often another service that is available to homeless IDUs. However, research performed in 2009 by Briggs et al. discovered that hostels can be viewed as either a "safe haven" from the hostile street environment or one which involved high risk related to patterns of drug use and injecting. As a safe haven, a hostel was a retreat from public injection and all the related anxiety as well as a refuge from the outdoors. It gave an individual some control over the injection process. In contrast, findings suggested that

these settings were more of a risk environment in which drugs were prevalent as well as pressuring, bullying and intimidation from others for drugs and money (Briggs et al., 2009). In this environment, new IDU networks were formed with consequences of more frequent drug use, increased risk of BBVI and initiation of IDU (Briggs et al., 2009; Crawley & Daly, 2004; Wadd et al., 2006). High risk behaviours have been observed in hostels such as sharing syringes/needles - accepting needles/syringes previously used by multiple people, injecting with used needles or syringes in a shooting gallery, passing on used needles and syringes, and sharing equipment during preparation with used needles/syringes (Wadd et al., 2006). Thus, hostels are a possible environment associated with indiscriminate, high risk injecting behaviours that promote and initiate IDU.

*Health inequity, access to care.*

In a study conducted by Patton (2006), 48 key informants were gathered from across the provinces of Nova Scotia, New Brunswick, Prince Edward Island and Newfoundland and Labrador. The areas represented included: needle exchange programmes; addiction services; Departments of Health and Community Services (Addictions and Mental Health); AIDS coalitions/committees; community health clinics; Legal Aid; hepatitis outreach; hepatology hospital services; Department of Health Promotion and Protection (Prevention and Treatment Services); Ministry of Health; Department of Health (Communicable Disease Prevention); several social programs (e.g., John Howard Society); correctional centres; law enforcement; physicians; pharmacists; and a First Nations AIDS task force.

These key informants were asked what barriers they thought would impact people who injected drugs (Patton, 2006). A number of common barriers were identified including: lack of housing; difficulty in securing and maintaining employment; poverty; lack of social support networks; family history of abuse and violence; lack of formal education; mental illness; stigma and discrimination, especially when trying to access health care services and appropriate health services. All of the identified barriers have also been reported in the literature (Fischer et al., 2004; Patton, 2006; PHAC, 2006a).

An Australia study found that current IDUs diagnosed with HCV were more likely to report discrimination than those individuals, who never injected, especially by a general practitioner as opposed to a specialist related to the HCV (Day, Jayasuriya & Stone, 2004). Day and her colleagues (2003) concluded that the discrimination appeared to be based on injection drug use rather than HCV status. In a study conducted by Stoové, Gifford and Dorec (2005) with a sample of women and men with HCV, considerable variance existed in regards to HCV treatment, care service utilization and current IDU status. The results suggested that current IDUs were particularly unlikely to have been referred for specialist assessment, and when referred were unlikely to have received HCV antiviral therapy. They concluded that current IDU status rather than IDU-related HCV acquisition appeared to be the greatest barrier to referral. Another study of HCV infected individuals conducted by Day and colleagues (2003) reported similar findings in which discrimination of HCV infected IDUs in health care settings resulted in reduced contact between these individuals and health care services. In addition, IDU status was reported as the primary factor for refusal of services. A Canadian study also found that dentists treating HIV infected individuals had a greater unwillingness to treat



IDU clients (McCarthy, Koval, & MacDonald, 1999). In addition to the above barriers, politically, many countries and programmes do not want to provide supportive services openly to a population whose risk behaviour is illegal despite the evidence that effective interventions for drug injectors can provide health and economic benefits to society as a whole (UNAIDS, 2000).

#### Research on Issues of Homeless Intravenous Drug Users: What's Missing?

Research tends to focus on individuals who are absolutely homeless or who come into contact with services and as a result there is little data in regards to the hidden homeless drug user. In addition, the majority of research relating to homelessness utilizes the broad definition of homelessness which includes all three classifications of homelessness presented by the RNAO (n.d.); absolute homelessness, hidden homelessness and at-risk for homelessness. Thus, the concept of hidden homeless is incorporated into both absolute and at-risk for homelessness.

To add to the confusion, there are also inconsistent definitions of hidden homeless itself. Although there is no 'official' definition of homelessness in Canada, the government published a paper regarding defining homelessness and defined hidden homeless as "people without a place of their own who live in a car, with family or friends, or in a long-term institution" (Echenberg & Jensen, 2008, p.1). They further clarify relative homelessness, also known as at-risk for homelessness, as "those who are housed but who reside in substandard shelter and/or who may be at risk of losing their homes" (Echenberg & Jensen, 2008, p.2). However, several Canadian studies use the terms absolute and relative homeless (as synonymous with hidden or concealed homelessness)

as defined by the United Nations which again is a distinct and different interpretation (Novac, 2006; Tutty et al., 2009). By using inconsistent terms and definitions, it not only confuses the issue of homelessness, but it is also difficult to ascertain whether the health issues of the varying types of homelessness differ and makes comparisons of research findings exceedingly complicated.

Studies conducted have focused primarily on the homeless population or IDU population. Of these studies, the majority of the research has concentrated on specific issues such as: risk factors, risk behaviours and blood-borne viral infections (BBVI). Canadian studies have involved IDU 'street youth', 'street-involved' or 'street-active' individuals (Krusi, Fast, Small, Wood, & Kerr, 2010; Roy et al., 2001; Roy, Boudreau, Leclerc, Boivin, & Godin, 2007; Roy, Haley, Leclerc, Boudreau, & Boivin, 2007; Roy, Haley, Leclerc, Cedras, & Boivin, 2002; Wong, Marshall, Kerr, Lai, & Wood, 2009; Wood et al., 2008). There has been research done with drug using homeless youth; whose age range in the literature spans from 14-29 years old (Hathazi, Lankenau, Sanders, & Bloom, 2009; Parriott & Auerswald, 2009; Sanders, Lankenau, Jackson-Bloom, & Hathazi, 2009); however, research involving an assessment of homeless youth's needs was predominantly conducted over 13 years ago.

Canadian studies that examined the issues of homeless individuals were conducted predominantly on a regional level (Barnaby et al., 2010; Collins, 2010; Diaski, 2007; Medcalf & Mitchell, 2006; Meyer & Estable, 2002; SHS Consulting, 2009; Start Me Up Niagara, 2006; Toronto Shelter, Support & Housing Administration, 2009). A weakness in many of these studies is that they are focussed towards service utilization and miss many of the broader non-medical determinants of health such as safety/assault, risk

behaviours related to drug use and sexual practices, criminal activity, social supports, health/medications and transportation. In addition, many of these studies since they are focussed towards service utilization are specific to certain areas and many of the findings cannot be applied to other settings. Studies that focused on homeless drug users were from international sources and those studies of drug users that included IDUs were examined from specific perspectives that have been identified throughout this proposal (e.g., predominantly BBVI risk behaviours and stigmatization, access to services and need for housing) (Christiani, Hudson, Nyamathi, Mutere, & Sweat, 2008; Hudson et al., 2010; Lawless & Corr, 2005; Neale & Kennedy, 2002). Two Canadian studies were conducted that specifically investigated hidden homelessness (Atkinson et al., 2011; Distasio, Sylvestre, & Mulligan, 2005). Another hidden homeless study is also underway in the UK by Crisis, an organization involved in research related to the causes and nature of homelessness (Crisis, n.d.). In cooperation with Sheffield Hallam University, Crisis is carrying out research into the hidden homeless population which will investigate the extent of the issue, and explore their experiences and needs as well as identify the consequences of living in this insecure living arrangement (Crisis, n.d.). This report is expected to be published in 2011.

A study conducted in Windsor-Essex County gathered the perspectives of homeless and at-risk of homelessness individuals on service utilization and gaps/priorities in service in the region with respect to the needs of this population (Medcalf & Mitchell, 2006). It is not known whether the hidden homeless were included in this study. The priority issues identified by the 52 respondents include housing and employment as well as decreased waiting times for services. The role of addiction in the issue of

homelessness and for those at-risk of homelessness was highlighted in this study. In light of the reductions in addiction treatment services to the region in July 2006, the study recommended the monitoring of the impact of these reductions for those who are homeless/at-risk of homelessness.

Medcalf and Mitchell (2006) looked at the service utilization and service needs of the homeless of this community. Although drug use was a factor that impacted service use and the services that were identified as being a need, the focus was not on IV drug users. Thus, it did not address the hidden homeless IV drug user in the Windsor-Essex region.

Another Canadian study was found that specifically focused on the hidden homeless population. Distasio, Sylvestre and Mulligan (2005) conducted research on hidden homelessness among Aboriginal peoples in three cities in western Canada – Regina and Saskatoon, Saskatchewan and Winnipeg Manitoba. The study included both hidden homeless Aboriginal individuals and 60 service providers. Informal discussions were held with 40 hidden homeless individuals followed by the completion of 179 surveys by Aboriginal hidden homeless persons. Finally, a traditional “Indigenous Talking Circle” was held to share knowledge related to housing distress. There were many reasons for the respondent’s current housing state; however, key findings included poverty and lack of housing opportunities. One need identified in this study included housing that is culturally appropriate such as being able to accommodate inter-generational living arrangements, cooperatives that support Aboriginal ownership and operation, accommodate preparation of wild game as well as healing and counselling programs. In addition, it was reported that discrimination hindered access to shelter as

well as migration to urban centres. The researchers note that the significance of informal support networks such as family providing shelter must be acknowledged and financial resources be made available to those households. Finally, there is a need to communicate programs and options available as lack of knowledge was identified in the study as a barrier to housing and service usage.

The study conducted by Distasio and colleagues (2005) was valuable in that it addressed the issue of hidden homelessness. However, it was narrow in focus and examined only the issues of mobility, shelter and services/support. The issues of addiction were not addressed nor were the majority of the determinants of health part of the study. A gap in knowledge remains as to what other issues may be present in this population.

A study conducted in Toronto did not focus specifically on drug users but did address the issue of substance use in a sample of 368 homeless individuals (Khandor & Mason, 2007). The survey was conducted to assess the health status and living conditions of homeless people, explore the nature and causes of homelessness, as well as service usage and barriers. The definition of homelessness included the hidden homeless which accounted for 39% of the sample size. The survey was extremely comprehensive and examined broader non-medical determinants of health. It included issues of: accommodation; sleep; hygiene; food insecurity; social isolation; patterns of homelessness; physical/mental and oral health; substance use; access to health care/services and health care/service utilization; barriers to health care and social services including benefits, identification and discrimination; income; and violence/safety. Safety was reported to be a serious concern with reports of 1 in 3 respondents having been

physically assaulted in the previous year. It was noted that many homeless individuals lacked basic needs such as the ability to practice hygiene routines, food and adequate sleep. The study also raised awareness for the need to improve access to health care and detox/substance use programs, improve follow-up care and appropriate discharge treatment plans, as well as changing health care provider's negative attitudes towards the homeless population.

Khandor and Mason's (2007) study comprehensively examined the factors influencing the lives of the homeless individual, but not specifically the hidden homeless individual. As well, substance use and drug treatment programs (including IDU) were investigated primarily in regards to frequencies. The homeless respondents identified substance use treatment as an issue, however other issues related specifically to the substance user were not identified. In particular, the issues related to IDUs were not considered. Thus, the study may have been very comprehensive and investigated the use of drugs; however, it did not address the issues of hidden homeless IDUs.

Meyer and Estable (2002) interviewed participants in Ottawa to examine homelessness and substance use pertaining to service needs on obtaining and sustaining housing. The goals were to identify examples of interventions that have led to sustainable housing for homeless persons with addictions or concurrent disorders as well as identify service needs for planning of service delivery in the effort to house this population. This qualitative study involved 18 homeless or previously homeless individuals, four landlords as well as a focus group with service providers. As with other studies, this study also incorporated the hidden homeless as three participants were residing with friends and absolute homeless as four individuals were in a shelter setting. The sample also included

nine individuals who were in some form of housing and two people in a residential treatment program. The study found that key barriers for maintaining housing included substance use, mental illness and lack of housing. Participants indicated that there were enough services; however, there was a need for improved collaboration and integration of services between agencies and a need to improve access to addiction treatment. Individuals also expressed the necessity of addressing existing stigma and negative attitudes related to homelessness and poverty. A recurring need mentioned by both participants and service providers was that of long term support/discharge planning especially after residential treatment and release from correctional facilities; examples such as quick referral to relapse-prevention programmes and transitional housing immediately after discharge.

Meyer and Estable's (2002) study was comprehensive in that it provided the perspectives of the landlords, service providers, and substance users who had obtained housing of some form. A variety of issues were addressed, such as mental health, medications, crime, social supports from the individual's perspective. However, Meyer and Estable addressed these issues and examined substance use in the context of attaining and maintaining housing. The issues related to the health of the individual were not the focus of the study. Intravenous drug use was not addressed in the study but rather included a wide range of substances. Finally, the sample included various forms of accommodation such as housed, sheltered, hidden and residential treatment centres. In such a diverse sample, the needs of the hidden homeless are not able to be examined for differences and similarities to other forms of homelessness. Therefore, this study did not fill the gap in knowledge related to the health issues of hidden homeless IDUs.

Toronto was the site of a study conducted with 100 homeless, substance-using youth (Barnaby et al., 2010). The purpose of this assessment was to identify the health status, current substance use, and harm reduction practices of the area's homeless youth who use substances as well as examine needs, gaps and barriers to appropriate services. The study included IDU's (33%) as well as the hidden homeless population, which was defined as absolute homelessness by the researchers. The report identified 69% of the participants as staying with friends or acquaintances within the past 6 months; 40% within the last 7 days as well as other individuals living in abandoned buildings, stairwells or temporarily in motels. The survey and focus group data included information on: education; income (legal and illegal); living conditions; safety issues, drug use/exposure; harms/risk behaviours (drug and sexual); conflict with law enforcement; stigmatization; health issues (mental and physical); service usage and barriers. The findings from this study indicate that key barriers to service include discrimination, transportation, hours of service, waiting lists and lack of knowledge of services available. In addition, the youth also described how the instability in their lives due to their lack of housing created a barrier as they were not able to plan from one day to the next. Safety was a concern as 29% of the respondents had been either physically or sexually assaulted within the past six months. As well, 39% of the youth reported that they had been assaulted by the police which they stated were more violent than other assaults they experienced. Other health issues included: housing; decreasing stigma; low barrier access to services; harm reduction support groups/counselling/crisis intervention; individual and political advocacy support.



Barnaby and colleagues (2010) investigated the issues surrounding drug use and harm reduction with homeless youth with data pertaining to IDU. The age range was from 16-25 years of age and was targeting a specific age population with broad range of drug use practices. The intended narrow harm reduction focus of substance use excluded many other factors that affect the health of substance users. Therefore, this study addressed some concerns, but contained gaps when examining the health issues of the hidden homeless IV drug user.

More specific than substance use and homelessness, three international studies were located that examined drug use within the homeless population (Christiani et al., 2008; Lawless & Corr, 2005; Neale & Kennedy, 2002). All of these studies included hidden and absolute homelessness within the broad definition of “homelessness” and included IDUs within the context of “drug user”. In Ireland, a study assessed the needs of 355 homeless drug users as well as barriers to accessing care/services (Lawless & Corr, 2005). The study reported that service providers perceived that homeless services do not adequately meet the needs of homeless drug users due to: lack of knowledge around drug issues; stigma; and abstinence-oriented approaches. The primary identified need in the Irish study was stable housing followed by training and employment opportunities, health care services, drug and/or alcohol treatment, legal assistance, emergency accommodations, food and psychiatric treatment. Other reported health issues included long term support/follow-up after discharge from treatment centres, collaboration between services, access to services (refusal to treat homeless drug users), decreased waiting times for drug and alcohol treatment, increased day services and drop-in centres, increased availability and access to needle exchanges.

Neale and Kennedy (2002) interviewed 36 Scottish homeless drug users and 12 service providers to identify their perspective of basic standards of good practice. It was reported by service users that although assistance with housing and drug problems was important it was other general forms of support that was even more essential. These forms of support included food, drinks, clean clothes, transportation, budgeting, life skills and assistance finding a doctor. The study noted that for the service user, critical needs were emotional support and a safe environment. Service providers stated a need for staff trained in issues of homelessness and drug use, as well as knowledge of services and ability to link clients to services. Both groups felt that other health issues included, having positive environments, non-judgmental attitudes, provision of a range of supports, collaboration between agencies, and follow-up support.

The third international study was an American study of 54 homeless drug using youth which assessed health care needs, access/barriers to drug treatment and health care services (Christiani et al., 2008). Health care issues identified in this study included concerns related to pregnancy, trauma, mental health issues, dental and skin disorders, sexually transmitted infections and drug use complications. Barriers to health care needs were: financial, fragmented services, structural, including interagency referrals, need for identification and lack of continuity of care; and finally personal which included discrimination, being treated with disrespect or being lectured and feeling lost in the health care system.

A drawback of these studies is that the hidden homeless population was placed amongst the other homeless populations; hence the health issues of the hidden homeless cannot be specifically identified. In addition, although IDUs were included in the studies,

the samples were incorporating various types of drug users. Finally, these studies were conducted internationally which does not advance knowledge of the health issues of homeless drug users in the Canadian context. A gap in knowledge remains as the health issues of the hidden homeless IV drug user are lost within the broad contexts of homelessness and drug user; therefore the issues that affect the health of this population remain unclear.

A study was conducted in the Windsor-Essex region that examined the needs, health concerns and service usage of the hidden homeless population (Atkinson et al., 2011). This study was a quantitative and qualitative design that surveyed 34 participants, including IDUs and non injecting drug users (NIDUs). The survey was comprehensive and included most of the determinants of health including: safety; sleep; food security; transportation; social support; accommodation; physical/mental/oral/sexual health; health and social service usage as well as barriers; substance use; income; criminal history; income; and employment. The primary accommodation was with friends or family and the main reason for lack of permanent housing was due to addiction. The study reported three main themes related to identified needs of the hidden homeless: food, transportation and addiction. Recommendations based on the findings included collaboration between agencies to reduce gaps in care and decrease duplication of services; continued exploration of the needs of the hidden homeless; implementation of system navigators for the hidden homeless to increase awareness of services available and facilitate access to services; and education of care providers to decrease stigma and stereotypes related to the hidden homeless.

The study by Atkinson and colleagues (2011) assessed many facets of drug use including: IDU, initiation; risk behaviours, types of drugs used, cost of drugs, how drugs are paid for and impact of drug use. Regardless of the extensive assessment of drug use in the hidden homeless population however, the study did not specifically target the IV drug user nor was the study assessing the health issues of IDUs in a hidden homeless population. Thus, our understanding of the health issues of the IV drug user in this unique population remains unclear.

#### Summary.

There appear to be several common themes throughout the research investigating the health issues of the homeless, homeless drug user or hidden homeless. An expressed priority need is stable housing; however, the inability to find or maintain housing tends to be related to economic factors or drug/alcohol use. The most common barrier to services/care was stigma and discrimination from the public and health care providers. Access to both substance use treatment and social services was reported as extremely difficult resulting in long wait lists with poor collaboration amongst services and miscommunication. Other key issues include: hygiene, long term follow-up care and support after discharge from residential treatment centres, hospitals and correction facilities, food insecurity, safety, employment and financial assistance.

The Department of Human Resources and Skills Development Canada (HRSDC) (2009) identified that gaps exist in the understanding of the needs of hidden homeless individuals. In addition, the HRSDC noted that data development through research was ‘crucial’ and thus supported assessment studies, especially issues affecting health which

were labelled a priority domain. An even larger gap in knowledge exists regarding the health issues of the hidden homeless IV drug user. The incorporation of the definition of hidden homelessness into the broader definition of homelessness as well as the inconsistency in the definition of the term further hides this population and the understanding of whether it has unique and differing health issues.

These findings are also similar to the concept of drug use. Intravenous drug users are incorporated into studies of drug users who use drugs in a variety of different ways. However, IDU has its own unique risks, complications, consequences and thus, health issues. The issues affecting the health of the IV drug user are lost in a study when they are examined in the context of drug users. Many of the studies have had a specific, narrow focus that have not assessed many of the determinants of health found in the literature that impact the lives of IDUs; or the studies have had specific age categories which excludes certain individuals. The fact that the hidden homeless IDU are a marginalized and hidden population often results in their exclusion from studies; thus it is difficult to assess issues affecting their health, plan interventions or create various housing and homeless policies. Yet despite the importance of recognizing the needs of this vulnerable population, studies conducted to date have focused on investigating the issues of the homeless, hidden homeless or the homeless drug user, but no studies have been located that have described the health issues of hidden homeless IDUs. It is crucial to examine wholistically the issues affecting the health of hidden homeless IDUs to ensure that relevant, appropriate services are available. Thus, what is missing in the literature is a study with a clearly defined sample of hidden homeless IV drug users, in

which issues affecting health are described from an approach that looks at a wide range of factors that could impact their health – such as the population health approach.

Research Questions.

Thus, the research questions brought forward include:

- 1) Is there a difference between the health issues of hidden homeless IDUs and NIDUs in terms of the physical environments?
- 2) Is there a difference between the health issues of hidden homeless IDUs and NIDUs in terms of the social environments?
- 3) Is there a difference between the health issues of hidden homeless IDUs and NIDUs in terms of personal health practices and coping skills?
- 4) Is there a difference between the health issues of hidden homeless IDUs and NIDUs in terms of access and usage of health services?

## CHAPTER III

## DESIGN AND METHODOLOGY

## Research Design.

This study was a pilot study of a secondary analysis of data obtained from a 2010 research study entitled “Hidden No More: Needs Assessment of Service Use by the Hidden Homeless” (Atkinson et al., 2011). The original study was a descriptive design that included both quantitative and qualitative data gathered through the use of a modified survey tool created by Dr. Olivia Washington (see Appendix A). The survey tool used in the study by Atkinson and colleagues (2011) included 108 questions that addressed multiple determinants of health including: income; social support including marital status; education; employment history; housing/living arrangements; transportation; crime; violence; sexual/physical/mental/dental health; drug and alcohol use; IDU; risk behaviours; children(custody/number/age); barriers/usage of community and health services; and personal characteristics (culture/ethnicity, gender, age, sexual orientation).

## Sampling.

The criteria for inclusion into the original study was the age of 14 years or older as well as a ‘no’ response to the following pre-screening question, “Do you have a permanent residence/a home that you can return to whenever you so choose?” A ‘no’ response was further clarified by asking where the individual were currently staying and where they had been living within the past six months to determine if they met exclusion criteria. For the purposes of the current study an additional inclusion criteria was drug

use and exclusion criteria was solely the consumption of alcohol with no other drug use. The original study and the current study exclusion criteria were the same: individuals who had a permanent residence or absolutely homeless (living on the streets or who had stayed in a shelter). Individuals were recruited into the initial study through network and snowball sampling techniques. Participants had been referred from several local community organizations, peer mentors as well as referred by word-of-mouth. Of 122 potential participants who presented at study screening sessions, only 34 met the inclusion criteria and as noted by the researchers, due to the word-of-mouth sampling technique, it may be the \$20 participation compensation drew the large number of individuals (Atkinson et al., 2011). Peer mentors were compensated \$20 for a training session as well as a stipend of \$10 for each individual referred to the study. A training session was provided for the interviewers to ensure consistency.

#### Data Collection.

In the original study, eligible participants were led to a private office for the duration of the interview. These interviews were completed at two local community organizations - one in the city of Windsor and the other in Essex County. Due to the unknown status of some of the participants' literacy levels, all informed consents were read aloud to participants prior to beginning the questionnaire, which was interviewer-administered. The informed consent for the initial study conducted by Atkinson et al. (2011) outlined the purpose, the risks benefits, confidentiality; refusal to participate as well as the right to withdraw from the study at any time. Participants were also informed they may only answer questions they chose to answer and they may stop the interview at any time. It was also explained to the participants that if they expressed feeling



overwhelmed from describing their experiences, the interview would be stopped and they would be taken immediately to a health care provider/counsellor working on the site. Any questions or concerns were answered at the time of consent and individuals were informed they could have questions answered at any time during the proposed study period. Informed consents were signed for both participation in the research study and consent to audio taping. The interview data was recorded by the interviewer on the questionnaire sheet as well as audio taped for later transcription. Individuals were compensated \$20 by the primary investigator from Street Health for participating in the study.

#### Protection of Participants' Rights.

Both the current study and the original study received approval from the Research Ethics Board at the University of Windsor, Windsor, Ontario. To maintain the protection and confidentiality of participants only three individuals conducted all interviews in the original study. Original study data including questionnaires and tape recordings did not contain any information that might identify the participants and individuals were assigned a participant identification number for referencing. All data, including tape recordings, questionnaires and transcripts were kept in a locked filing cabinet within a locked office at Street Health with only members of the study team from the Health Committee/Homeless Coalition of Windsor-Essex County and research team members from the Faculty of Nursing having access to these files. To ensure confidentiality, informed consents were kept in a separate locked filing cabinet from the questionnaires. At the end of each day during the initial study, all the completed informed consents and questionnaires were transported to Street Health and secured.

## Definition of Terms.

For this study, the hidden homeless were identified as, “individuals or families living in locations not intended for human habitation (e.g., abandoned buildings) and/or continuously moving among temporary housing arrangements provided by strangers, friends, or family” (City of Hamilton and Social Planning & Research Council of Hamilton, 2007). In contrast, the absolute homeless were identified as individuals living on the streets or in shelters (RNAO, n.d.). Health was defined as “the capacity of people to adapt to, respond to, or control life’s challenges and changes” (Frankish, Green, Ratner, Chomik, & Larsen, 1996). It is both objective and subjective and goes beyond lifestyle or behaviour and the absence of illness/infirmity (Frankish et al., 1996). It is a multidimensional concept that incorporates the ability to acquire skills, education and employment, pursue goals and live a life in dignity. This concept of health was affected by a range of social, socio-economic and physical environmental factors – the determinants of health. Thus, questions in the questionnaire which address the determinants of health were utilized to assess the participants’ health issues.

The following definitions of the four determinants have been used from the Public Health Agency of Canada (2003). Health services are the access and use of both social and health services. The social environment is the notion of social networks and support within a community and is influenced by issues of social stability, acceptance of diversity and safety. In contrast, the physical environment is the space around us including the built environment which incorporates housing, transportation, and community design. Personal health practices and coping skills are actions and choices made by an individual

that promote health and prevent disease, enable them to cope with challenges and solve problems, and develop independence.

Injection drug use was defined as a process in which psychoactive substances are injected directly into an artery, vein, muscle or tissue (Weekes et al., 2005). Injection drug users are individuals who inject drugs. The IDU status of the participant was assessed with the question “Do you inject drugs?” The demographics of the participants were evaluated with questions pertaining to age, gender, ethnicity, sexual orientation, marital status, have children/custody, level of education, income and whether they were born in Windsor/how long have they lived in Windsor. Questions from the questionnaire have been categorized according to the four determinants specifically addressed in this study. See appendix B for operational definitions.

#### Data Analysis.

Univariate analysis was performed to obtain demographic data and bivariate analysis was conducted to obtain comparison data. Questions that had a yes/no response were treated as dichotomous variables. Answers to questions that were not a yes/no response or considered a continuous variable were coded and grouped into categorical variables. In order to analyze demographic differences as well as mean differences between the IDUs and non-IDUs group, Fisher’s exact test for categorical variables was performed as cell counts were less than or equal to five. All statistical analysis was done with SPSS statistical software version 19.0.

## CHAPTER IV

## RESULTS

## Statistical Analysis.

All data was analyzed using the Statistical Package for the Social Sciences (SPSS) 19.0. There were four cases that were removed from this study as they did not meet the current study inclusion criteria. The cases removed included two individuals who did not use drugs other than alcohol and two individuals that did not use any form of substances; leaving an N= 30 for statistical analysis. Significance was based on a one-tailed alpha of 0.05.

In the survey, multiple responses were allowed. The survey tool included instances where multiple questions assessed the same issue with a resulting duplication of responses. To analyze the data on participant's service utilization, reasons for utilization of services and barriers to accessing services, the responses of multiple questions that addressed these issues were grouped and categorized with a yes/no response. Duplication of data was eliminated as a participant's response could only be accounted for once in the analysis. It was found that individuals were providing the same responses in multiple places and by grouping and categorizing the answers; an accurate portrayal of results was obtained. The responses of the four following service utilization questions were grouped and categorized: "What health services have you used in the last 12 months?"; "Have you used any other health services?"; "What organizations have you used?" and "What other services have you accessed?" The reasons for the utilization of services were analyzed by grouping and categorizing the results from the following two

questions: “Why did you use these health service(s)?” and “Why do you still use the service?” There were two questions that assessed barriers to accessing services: “What has stopped you from using medical or other social services” and “Are there any other barriers to accessing services, besides those given previously?” The responses to the questions regarding these barriers were also grouped and categorized.

Participants were asked if they felt safe and secure where they were currently staying with a yes, no response. For statistical purposes, those individuals who responded “sometimes” were considered to be not safe and secure where they were currently staying. To further aid in analysis, the category of “street economy” was created as a dichotomous “yes/no” response to summarize various types of methods utilized to obtain drugs. This category included: stealing, hustling, prostitution and panhandling.

Univariate analysis was used to assess the characteristics of the injection drug user population and bivariate analysis i.e., Fischer’s exact tests were used to compare differences between the IDUs and the NIDUs.

#### Demographics.

Of the total sample (N=30), the median age of participants was 32 years of age. The respondents were predominantly male (70%) and the majority of participants identified themselves as Caucasian (87%). The sample of drug users included 18 (60%) NIDUs and 40% IDUs (n=12).

Table 1 summarizes the demographics of the IDUs and NIDUs sample. The age range of IDUs was between 20 and 50 years (median = 33 years), and the NIDUs age

range was between 15 and 53 (median=30 years). The majority of both groups were represented by males (IDUs, 67%; NIDUs, 72%) and self identified as Caucasian (IDUs, 92%; NIDUs, 83%). Almost all of the injecting participants (83%) and 67% of the non-injectors identified themselves as single. Sixty seven percent of injectors and 56% of non-injectors reported they had children, yet none of the participants in either group had their children living with them. All of the IDUs and 84% of NIDUs stated they had an education of high school or less. Over half of the IDUs and  $\frac{3}{4}$  of NIDUs reported an income from social assistance programs and approximately  $\frac{1}{3}$  of participants from both groups reported no form of income. Half of the non-injectors and  $\frac{3}{4}$  of IDUs were not born in the region; however, from both groups, 33% had been in the area for over 10 years and  $\frac{1}{4}$  had been there for less than one year.

Table 1

*Drug User Demographic Characteristics*

Characteristic	<u>IV Drug Users</u>		<u>Non-IV Drug User</u>	
	Frequency	Percentage (%)	Frequency	Percentage (%)
<b>Gender</b>				
Male	8	67	13	72
Female	4	33	5	28
<b>Sexual Orientation</b>				
Heterosexual	12	100	12	68
Bisexual	0	0	5	28
Gay	0	0	1	5
<b>Age (Years)</b>				
19 and younger	0	0	4	22
20-29	4	33	5	28
30-39	5	42	6	33
40 and older	3	25	3	17
<b>Ethnicity</b>				
Caucasian	11	92	15	83
Black	1	8	1	5
Aboriginal	0	0	2	11
<b>Born in Windsor</b>				
No	9	75	9	50
<b>Marital Status</b>				
Single	10	83	12	67
Divorced	1	8	1	5
Separated	1	8	1	5
Partner	0	0	3	17
Widowed	0	0	1	5
<b>Children</b>				
Yes	8	67	10	56
<b>Children With You</b>				
No	8	100	10	100
<b>Level of Education</b>				
Less than High school	7	58	10	56
High school	5	42	5	28
Some college/university	0	0	2	11
Other	0	0	1	5
<b>Current Income</b>				
Ontario Works	4	33	8	44
Ontario Disability Support Program	3	25	1	5
None	4	33	5	28
Panhandle	1	8	3	17
Other	0	0	1	5

### Physical Environment.

Table 2 provides a comparison of the IDUs and the NIDUs with regards to physical environment characteristics. There were no significant differences found between the groups in regards to the physical environment. Walking was the predominant mode of transportation for both groups as reported by 75% of injectors and 83% of non-injectors. The majority of both groups, 92% of injectors and 61% of NIDUs, reported they were currently staying with friends. Participants from both groups also reported currently staying in more than one type of accommodation with 15% of IDUs and 17% of non-injectors stating they were alternating between some combination of friends, shelters/street, family or “other” which included a “dry house” and motel. All of the IDUs stated that they had been absolutely homeless at some point; whereas 78% of NIDUs reported they had ever lived on the streets or in shelters. Addiction was reported as the main reason for lack of housing by 59% of IDUs participants; whereas, for non-injectors the most frequent response for lack of housing was lack of finances (33%) followed closely by unemployment (28%) and addiction (28%).



Table 2

*The Physical Environment of the Injection Drug User and Non-Injection Drug User.*

Physical Environment Characteristic	<u>IV Drug Users</u>		<u>Non-IV Drug Users</u>		p
	Frequency	Percentage (%)	Frequency	Percentage (%)	
<b>Transportation</b>					
Walking	9	75	15	83	.455
Bus Pass	3	25	7	39	.350
Bikes	2	17	2	11	.531
Bus Ticket	1	8	3	17	.469
Rides	1	8	2	11	.653
<b>Currently Staying</b>					
Friends	11	92	11	61	.073
Shelter/Streets	2	17	5	28	.403
Family	1	8	3	17	.469
Other	1	8	3	17	.469
<b>Absolutely Homeless</b>					
Yes	12	100	14	78	.112
<b>Reasons for No Permanent Housing</b>					
Addiction	7	59	5	28	.098
Other	3	25	2	11	.304
Finances	3	25	6	33	.472
Lost housing	1	8	4	22	.318
Unemployment	1	8	5	28	.204
Family Issues	0	0	3	17	.201

Social Environment.

Table 3 summarizes the differences in the characteristics of the social environment between the IDUs and NIDUs. A large proportion of both IDUs and NIDUs reported that they did not feel safe where they were currently staying (75% and 50%, respectively); however, no significant difference was found between the groups ( $p = 0.162$ ).

There was a trend towards significance found with regards to assault. Almost three times more IDUs than NIDUs reported being assaulted in the previous six months (58% and 22%, respectively). It is not known where the assault took place or if there were multiple assaults in that timeframe; however, multiple perpetrators of the assault(s) were reported by one injector and one NIDU respondent. All of the NIDUs had been assaulted by known persons; whereas the IDUs were evenly spread out amongst strangers, known persons and the police (25%; 25%; 17%, respectively). When gender differences related to assault were examined within the total sample (N=30), it was found that 67% of the female participants and 24% of male participants reported being victims of assault within the previous six months ( $p = 0.035$ ). Investigation of known perpetrators of assault within the total sample also revealed that significantly more of these types of assaults occurred with women than men (71% vs. 29%, respectively;  $p = 0.014$ ). Furthermore, within the injecting sample, analysis of gender differences related to assault also revealed significant findings. It was found that all of the participants who reported being assaulted by persons they knew were female ( $p = 0.018$ ) which was 75% of all injecting women; whereas men who injected reported being assaulted by strangers and the police.

Significant findings were obtained regarding previous incarceration, and social supports. More IDUs reported being incarcerated within the previous year as compared to the NIDUs (75% versus 33%, respectively;  $p = 0.03$ ). Injection users reported a greater lack of any social support (42% vs. 6%;  $p = 0.026$ ), with “other” forms of support being the predominant response. Other forms of social support for the IDUs included support groups, the jail chaplain and the needle exchange coordinator. It was found that 75% of

injection users reported attending support groups with 61% of NIDUs stating they accessed these groups. In contrast, NIDUs stated they had more social support especially in the form of friends (IDUs, 17% vs. NIDUs, 72%;  $p = 0.004$ ) and family (IDUs 8%, NIDUs, 44%;  $p = 0.04$ ).

Table 3

*The Social Environment of Injection Drug Users and Non-Injection Drug Users*

Social Environment Characteristic	IV Drug Users		Non-IV Drug Users		p
	Frequency	Percentage (%)	Frequency	Percentage (%)	
<b>Feel Safe</b>					
No	9	75	9	50	.162
<b>Social Support</b>					
None	5	42	1	5	.026*
Other	3	25	1	5	.588
Friend	2	17	13	72	.004*
Social Worker	2	17	5	28	.403
Family	1	8	8	44	.04*
<b>Assaulted in Last 6 Months</b>					
Yes	7	58	4	22	.052
<b>Perpetrator of Assault</b>					
Stranger	3	25	1	5	.163
Known	3	25	4	22	.597
Police	2	17	1	5	.347
<b>Support Groups</b>					
Yes	9	75	11	61	.35
<b>Jail Within Past Year</b>					
Yes	9	75	6	33	.03*

Note. \*  $p \leq .05$ .

Personal Health Practices and Coping Skills.

Table 4 summarizes the differences in personal health characteristics between IDUs and NIDUs. When assessing self rated health, the injection drug users rated their health 'fair' (42%) to 'poor' (33%); whereas the NIDUs felt their health was 'good'

(39%) to 'fair' (56%). When asked if they felt their drug use affected their lives and health, both groups felt that their drug use affected their health more than it did their lives. Of the IDUs, 83% felt their drug use affected their health yet only 67% felt it affected their lives. Similarly, 78% of NIDUs felt their drug use affected their health as opposed to 56% who felt it affected their lives. The majority of participants from both groups reported they only obtain 4-6 hours of sleep a night (83% IDUs and 56% NIDUs).

Table 4

*Personal Health Characteristics of Injection Drug Users and Non-Injection Drug Users.*

Personal Health Characteristics	IV Drug Users		Non-IV Drug Users		p
	Frequency	Percentage (%)	Frequency	Percentage (%)	
<b>Self Rated Health</b>					
Excellent	0	0	0	0	
Good	3	25	7	39	.35
Fair	5	42	10	56	.355
Poor	4	33	1	5	.068
<b>Drug Use Affects Life</b>					
Yes	8	67	10	56	.412
<b>Drug Use Affects Health</b>					
Yes	10	83	14	78	.545
<b>Hours of Sleep per Night</b>					
Don't know	0	0	1	5	.6
0-3h	0	0	2	11	.352
4-6h	10	83	10	56	.117
More than 6 hours	2	17	5	28	.403

Table 4.1 compares the results of health care practice characteristics between the injection users and non-injection users. Half of hidden homeless IV drug users and 39% of non-injectors responded that they had seen a health care practitioner within the past month with 92% of the injectors and 61% of NIDUs having seen a practitioner within the previous 2 months. Despite recent visits to health care practitioners, only 30% of all

study participants reported having a physical exam within the previous year with 50% of IDUs and 56% of NIDUs having answered that they did not know when their last physical exam was, or responded that it was over four years ago. Two thirds of the injecting individuals and 50% of NIDUs reported that they had obtained sexually transmitted infection testing within the previous year.

Table 4.1

*Health Care Practice Characteristics of Injection Drug Users and Non-Injection Drug Users.*

Health Care Practice Characteristics	<u>IV Drug Users</u>		<u>Non-IV Drug Users</u>		p
	Frequency	Percentage (%)	Frequency	Percentage (%)	
<b>Last Dr/NP Visit</b>					
Less than 1 month	6	50	7	39	.410
1-2 months	5	42	4	22	.231
3-6 months	1	8	3	17	.469
Over 6 months	0	0	2	11	.352
Don't know	0	0	2	11	.352
<b>Last physical</b>					
Don't know	3	25	7	39	.350
0-1 year	4	33	5	28	.528
2-4 years	2	17	3	17	.696
Over 4 years	3	25	3	17	.455
<b>Last STI Test</b>					
0-3 months	3	25	3	17	.455
4-6 months	1	8	2	11	.653
7months-1year	4	33	4	22	.396
Over 1 year	3	25	6	33	.472
Don't know	1	8	3	17	.469

Multiple and various responses were given for how drugs were obtained with no significant differences noted between the IDUs and NIDUs (refer to Table 4.2). Almost half the IDUs reported that drugs were available and given, 1/3 stated they pay for their drugs with money and another 1/3 reported they steal to obtain drugs. The majority of

NIDUs identified that drugs were available/given or they paid money to obtain drugs (28% and 28%). It was found that a greater number of injecting participants (59%) compared to 39% of non-injectors obtained their drug through street economy methods, such as stealing, prostitution, hustling and panhandling.

Table 4.2

*How Drugs are obtained by Injection Drug Users and Non-Injection Drug Users.*

High Risk Behaviour Characteristics	<u>IV Drug Users</u>		<u>Non-IV Drug Users</u>		p
	Frequency	Percentage (%)	Frequency	Percentage (%)	
<b>How Drugs obtained</b>					
Available/Given)	5	42	5	28	.344
Money	4	33	5	28	.528
Stealing	4	33	2	11	.153
Work	2	17	3	17	.696
Hustle	2	17	3	17	.696
Prostitution	2	17	2	11	.531
Panhandle	2	17	1	5	.347
Other	2	17	3	17	.696
Street Economy <sup>1</sup>	7	58	7	39	.251

<sup>1</sup> Street Economy includes: stealing, prostitution, hustling and panhandling

Table 4.3 provides a summary of coping skills in relation to high risk behaviours between IDUs and NIDUs. When examining risk behaviours, 50% of injecting participants reported they had required help injecting and 58% stated they had shared syringes. Half of the hidden homeless IDUs in the study and 39% of NIDUs reported that they had shared drug paraphernalia. A greater number of injectors reported having used drugs within the past 2 days. Three quarters of IDUs answered that they had used drugs within the previous 2 days with 42% reporting they had used drugs that day. In contrast, 56% of the NIDUs had used drugs within the previous 2 days with the majority stating they had last used drugs the previous 1-2 days (39%) and only 17% reporting they had

used drugs that day. In regards to other risk behaviours, 92% of IDUs and 61% of NIDUs reported that they practiced safe sex. Condoms were reported to be used by 67% of IDUs and by 67% of non-injectors, with the other form of safe sex described as ‘abstinence’.

Table 4.3

*High Risk Behaviour Characteristics of Injection Drug Users and Non-Injection Drug Users.*

Coping Skills – High Risk Behaviour Characteristics	<u>IV Drug Users</u>		<u>Non-IV Drug Users</u>		p
	Frequency	Percentage (%)	Frequency	Percentage (%)	
<b>Practice Safe Sex</b>					
Yes	11	92	11	61	.073
<b>Condom Use</b>					
Yes	8	67	12	67	.650
<b>Needed Help Injecting</b>					
Yes	6	50			
<b>Shared Syringes</b>					
Yes	7	58			
<b>Last Shared Syringes</b>					
1-2 weeks	2	28.6			
1 year	2	28.6			
4 years or more	2	28.6			
<b>Shared Paraphernalia</b>					
Yes	6	50	7	39	.41
<b>Last Used Drugs</b>					
Today	5	42	3	17	.137
1-2days	4	33	7	39	.534
1 week-1month	1	8	6	33	.125
2-6 months	2	17	2	11	.531

Table 4.4 compares diagnoses reported by study participants. All of the IDUs and 89% of NIDUs reported having a medical diagnosis. Significantly greater numbers of injectors reported having Hepatitis C (67% vs. 17%;  $p = 0.008$ ), hypertension (58%, vs. 11%;  $p = 0.009$ ), and liver problems (42% vs. 5%;  $p = 0.026$ ). Although the most frequently reported diagnosis for the injecting group was a “mental health condition”

(75%), both groups similarly reported experiencing anxiety (58% IDUs and 56% NIDUs) and depression (42% IDUs and 44% NIDUs). Dental problems were also found to be experienced by a large number of individuals in both groups (50% IDUs and 56% NIDUs). Although not statistically significant, a greater number of IDUs reported sleep problems (58% vs. 33%) and skin problems (42% vs. 17%); whereas respiratory problems were identified by a larger number of NIDUs (50% vs. 33%). Self reports of sexually transmitted infections were similarly reported by both injectors (17%) and non-injectors (11%) and HIV/AIDS was reported by only one injecting participant.

Table 4.4

*Comparison of Diagnoses of Injection Drug Users and Non-Injection Drug Users.*

Personal Health Characteristics-	<u>IV Drug Users</u>		<u>Non-IV Drug Users</u>		p
	Frequency	Percentage (%)	Frequency	Percentage (%)	
<b>Diagnosis</b>					
Mental Health Condition	9	75	8	44	.1
Hepatitis C	8	67	3	17	.008*
High Blood Pressure	7	58	2	11	.009*
Sleep Problems	7	58	6	33	.164
Anxiety	7	58	10	56	.59
Dental Problems	6	50	10	56	.529
Liver Problems	5	42	1	5	.026*
Skin Problems	5	42	3	17	.137
Depression	5	42	8	44	.59
Gastric reflux	4	33	5	28	.528
Eye problems	4	33	5	28	.528
Respiratory Problems	4	33	9	50	.301
Heart Problems	3	25	1	5	.163
Sexually transmitted infections	2	17	2	11	.531
HIV/AIDS	1	8	0	0	.4

Note. \*  $p \leq .05$ .



## Health Services.

Table 5 summarizes the differences in health service characteristics between IDUs and NIDUs. A large percentage of individuals in both the injecting and non-injecting groups had a health card (92% and 83%, respectively) and a family doctor (59% and 61%, respectively). When reviewing services accessed for medical care, similar findings were noted between the groups. Clinics, hospitals and doctors were reported as being accessed almost equally to obtain medical care by both injectors and NIDUs. A significant difference ( $p = 0.021$ ) was found between the IDUs and NIDUs with respect to addiction treatment as 92% of IDUs reported they had been in an addiction treatment in contrast to 50% of NIDUs. Participants who injected reported re-entering treatment more often than NIDUs (2 vs. 0.5 times, respectively).

Table 5

*Health Service Characteristics of Injection Drug Users and Non-Injection Drug Users.*

Health Service Characteristic	<u>IV Drug Users</u>		<u>Non-IV Drug Users</u>		p
	Frequency	Percentage (%)	Frequency	Percentage (%)	
<b>Have Health Card</b>					
Yes	11	92	15	83	.469
<b>Have a Family Doctor</b>					
Yes	7	59	11	61	.588
<b>Go for Medical Care</b>					
Clinic	6	50	9	50	.645
Doctor	5	42	8	44	.590
Hospital	5	42	7	39	.588
<b>Mental Health Treatment</b>					
Yes	4	33	7	39	.534
<b>Addiction Treatment</b>					
Yes	11	92	9	50	.021*
<b>Times in Treatment</b>					
Median	2		0.5		

Note. \*  $p \leq .05$ .

All of the study participants reported using a variety of services in the region (refer to Table 5.1). The primary service accessed by the injection drug users was the harm reduction center with a significantly larger number of individuals accessing this service than NIDUs (83% vs. 33%,  $p = 0.038$ ). Despite this difference, the majority of both the injectors and non-injectors reported the same reason for accessing the service. Almost 2/3 of both IDUs and NIDUs who used the harm reduction centre reported they accessed the centre for social purposes (60% IDUs and 63% NIDUs). Other reasons given for accessing the centre included the needle exchange program (40% IDUs) as well as to obtain condoms (30% IDUs and 37% NIDUs).

In contrast to the injecting users, the primary services accessed by 61% of NIDUs were homeless services which were also utilized by 67% of injectors. Homeless services addressed many basic needs and included services such as hygiene supplies, laundry facilities, showers, lockers, and clothing. Two other services predominantly used by both groups that addressed basic and immediate needs including: food and shelter programs (IDUs, 67% vs. Non-IDUs, 56%) and medical/mental health services (IDUs, 67% vs. Non-IDUs, 56%). Other services that addressed prevention and preventative health were reported by more IDUs, yet overall by fewer study participants.

Table 5.1

*Comparison of Services Accessed by Injection Drug Users and Non-Injection Drug Users.*

Health Services Characteristic	<u>IV Drug Users</u>		<u>Non-IV Drug Users</u>		p
	Frequency	Percentage (%)	Frequency	Percentage (%)	
<b>Services Used</b>					
Harm Reduction Center	10	83	6	33	.038*
Medical/Mental Health	8	67	10	56	.412
Food/Shelter	8	67	10	56	.412
Homeless	8	67	11	61	.534
Disability Services	7	58	6	33	.164
Employment services	5	42	9	50	.469
Immunization Clinics	4	33	3	17	.266
Housing Services	4	33	8	44	.412
Screening	3	25	1	5	.163
Addiction Treatment	3	25	2	11	.304
Other	3	25	3	17	.455
Eye Care	2	17	0	0	.152
Foot Care	1	8	0	0	.4
Career Services	0	0	5	28	.06
Youth Programs	0	0	4	22	.112

Note. \*  $p \leq .05$ .

Table 5.2 summarizes the reasons for service and shelter use by IDUs and NIDUs. The three main reasons reported similarly by both groups for accessing services included: medical care (68% and 56%) followed equally by socializing (58% and 50%) and food/shelter (58% and 50%). Of the IDUs, the primary reasons for using a shelter were getting help (33%) and it is ‘the only place to go’ (25%). Just under half of the IDUs stated they would not go to a shelter due to safety issues. These issues included theft, assault, and fear. When assessing the reasons why NIDUs would not go to a shelter, the most frequently stated reasons were health concerns (28%) and pride/comfort (28%) with safety being the least cited reason (11%).

Table 5.2

*Reasons for Service and Shelter Use by Injection Drug Users and Non-Injection Drug Users.*

Health Services Characteristic	<u>IV Drug Users</u>		<u>Non-IV Drug Users</u>		p
	Frequency	Percentage (%)	Frequency	Percentage (%)	
<b>Reasons for Service Use</b>					
Medical Issue	8	68	10	56	.412
Socializing	7	58	9	50	.471
Food/Shelter	7	58	9	50	.471
Needle Exchange Program	4	33	0	0	.018*
Hygiene/Self Care	4	33	9	50	.301
Addiction	3	25	2	11	.304
Safe Sex (Condoms)	3	25	4	22	.597
Mental Health Issue	2	17	5	28	.403
Prescriptions	2	17	5	28	.403
Obtain Information	2	17	2	11	.531
Communication Needs	2	17	4	22	.545
Other	2	17	3	17	.696
Obtain Identification	1	8	3	17	.469
<b>Why go to a Shelter</b>					
Get help	4	33	4	22	.396
Nowhere else to go	3	25	6	33	.472
Bad weather	2	17	1	5	.347
Would not go	2	17	5	28	.403
Get off the street	1	8	2	11	.653
<b>Why Not Go to a Shelter</b>					
Safety	5	42	2	11	.068
No reason not to go	4	33	3	17	.266
Health	3	25	5	28	.604
Pride/comfort	3	25	5	28	.604
Drugs	0	0	3	17	.201

Note. \*  $p \leq .05$ .

The barrier to services reported by the greatest number of IDUs was self, motivation and pride (33%) in which responses included: myself, motivation, need direction from others, and feeling discouraged and hopeless; whereas, transportation was

the barrier for the majority of NIDUs (39%) (Refer to Table 5.3). Stigma/negative attitudes and having no fixed address were also reported to be a barrier to accessing services by a larger number of IDUs than NIDUs (25% vs. 5%; 25% vs. 5%, respectively). In contrast, a greater number of non-injectors reported not needing services (22% vs. 8%) and medical/mental health issues (22% vs. 8%) as barriers to obtaining services.

Table 5.3

*Barriers to Services for Injection Drug Users and Non-Injection Drug Users.*

Health Service Barriers	<u>IV Drug Users</u>		<u>Non-IV Drug Users</u>		p
	Frequency	Percentage (%)	Frequency	Percentage (%)	
<b>Barriers to Service Use</b>					
Self, Motivation, Pride	4	33	2	11	.153
Stigma/negative attitudes	3	25	1	5	.163
No Fixed Address	3	25	1	5	.163
Transportation	3	25	7	39	.35
Service Issues	3	25	6	33	.472
Trust	2	17	1	5	.347
No need	1	8	4	22	.318
Physical/Mental Health Issues	1	8	4	22	.318
Addiction	0	0	2	11	.352

## CHAPTER V

## DISCUSSION

The purpose of this study was to identify the health issues of the hidden homeless IDUs by means of their responses to questions that addressed four key determinants of health. The findings suggest that there are several key issues that are consistent with research amongst the homeless population that has unique implications for the hidden homeless. As described in chapter 3 of this thesis, this study was a secondary analysis of a prior study conducted by Atkinson et al. (2011) that investigated the needs of hidden homeless individuals.

In this final chapter, possible meanings to the research findings will be discussed in the context of the four determinants of health followed by recommendations for further research, practice and policy.

#### Demographics.

The demographics of the IDUs participants in this study were fairly consistent with demographics of IDUs in Canada (PHAC, 2006a). The ages of IDUs in this study were spread between 20-50 years of age with a median age of 33 years which was slightly older than that reported by Adlaf and colleagues (2005). Furthermore, the I-Track sample was comprised of 42% self-identified Aboriginal individuals, in contrast to the 92% of Caucasian participants in this study (PHAC, 2006a). Yet, as noted in the I-Track report, there are regional differences in demographic data. According to the 2006 census data (Statistics Canada, 2007), the Windsor region has an identified Aboriginal population of

3,960 which comprises 1.85% of the total Aboriginal and non-Aboriginal identity population and as such is a relatively small population. However, the sample is similar to that of Vancouver where 2/3 of an ongoing prospective cohort study of current and former IDUs were reported as Caucasian (Urban Health Research Initiative, 2009).

#### Physical Environment.

Transportation was reported to be a barrier to accessing services but it is also a component of the physical environment. When examining the main modes of transportation, over  $\frac{3}{4}$  of all respondents stated that walking was their means of travelling around the region. Walking has been found to be the main mode of transportation in other homeless studies (Muirhead, Robertson, & Secrest, 2011). Foot problems are prevalent in the homeless population with risk factors identified within this sample's population including: walking or prolonged standing; illegal drug use specifically including IDU; smoking and hypertension; poor hygiene and exposure to elements (Hwang, 2001; Wrenn, 1990). It has been reported in the literature that both preventative care and early detection of minor problems may prevent major complications, loss of independence and increased costs to the health care system, (Muirhead et al., 2011; Wrenn, 1990). Homeless individuals have been found to not access foot care services (Wrenn, 1990), which is consistent with the findings of this study in which only one individual reported utilizing this available service. Over half of the participants reported being homeless a year or less with only 17% reporting foot problems. With the existing presence of risk factors for foot problems, as time progresses, it could be anticipated that there will be an increased prevalence of foot problems observed within this population.

A large percentage of both IDUs and NIDUs stated that they had been absolutely homeless (100% and 78%, respectively). This suggests periods of instability in their lives as well as a cycle or continuum of homelessness in which an individual moves back and forth through the different types of homelessness and periods of housing in a non-linear fashion (City of Hamilton & Social Planning and Research Council of Hamilton, 2007; Echenberg & Jensen, 2008). The self-identified reasons for study participant's current homeless state were varied. The primary reason expressed by IDUs was their addiction with a notable gap until the next reported reason of lack of finances. For the non-IV drug users the reasons were relatively consistent between lack of finances, addiction, and unemployment. These reasons are similar to those identified in the homeless literature. Addiction was reported to be the primary reported reason for the participant's current homeless state in a study conducted with the homeless and at-risk for homeless in the Windsor-Essex region (Medcalf & Mitchell, 2006). In contrast to the current study, Medcalf and Mitchell (2006) reported that family (23%) and crime (13%) issues followed addiction as reasons for the participant's current homeless state. An understanding of the self-identified reasons for homelessness is valuable in understanding the role of addiction and homelessness. Both homelessness and drug use are complicated issues with many factors, and as such treating an addiction may not necessarily lead to an individual obtaining housing.

#### Social Environment.

The significant findings in this study of the majority of IDUs having no form of social support with a majority of NIDUs having friend and family support is consistent with previous literature (Lafuente, 2003; Weekes et al., 2005). Although almost half of



the IDUs sample identified they had no social support and 67% reported they were staying with friends. It was clarified by one of the IDUs that the “friend” was more of an “acquaintance” who was another drug user or “junkie” and thus the term “friend” was open to personal interpretation. Regardless of how the term “friend” was individually identified, the results suggest that even though the hidden homeless IDUs have a place to stay they do not feel they are in an environment that offers social support or staying with individuals who are ‘there for them’.

Safety and violence remain concerns within both the hidden homeless injection and non-injection using populations. Marshall and colleagues (2008) posited that lack of a protective shelter placed homeless individuals at a greater risk for violence. When looking at the total sample almost 2/3 of the individuals did not feel safe in their current living arrangements with more IDUs than NIDUs reporting feeling unsafe. One possible explanation for the difference between the subsamples could be that the NIDUs are staying in places that are a supportive environment as well as some of them are staying with family members. However, this is difficult to ascertain with the sample size available. It is not known in what manner the participants did not feel safe and secure, such as insecurity of being asked to leave at any moment, physical/sexual violence or for some other reason, since the original study did not investigate the matter further. Yet, it is known that hidden homeless individuals in this study reported that a protective shelter from the elements and the streets does not necessarily mean feeling safe and secure.

The finding that just under 2/3 of injecting participants reported being victims of recent assault is consistent with published reports of elevated rates of violence amongst homeless IDUs (Chermack & Blow, 2002; Marshall et al., 2008). Analysis of gender

differences within the IDUs revealed that all of the individuals who were assaulted by persons they knew were female ( $p = 0.018$ ); which accounts for 75% of the female injectors, whereas men reported being assaulted by strangers and the police. These findings are the same as those reported by Marshall et al. (2008) in which women who inject were more likely to be attacked by acquaintances and partners, whereas males tended to report being assaulted by strangers and the police.

Marshall and colleagues (2008) found that violence amongst male IDUs was associated with recent incarceration. Similar to Marshall's findings, all but one of the injection users who had been assaulted stated they had been in jail within the past year. In contrast to Marshall's findings, the association between jail and violence was not limited to the male IDUs as all of the female injecting participants who experienced violence were recently incarcerated. However, this could be due to the small sample size or possibly the sample itself, given that 75% had reported recent incarceration. The finding that the majority of IDU participants were incarcerated is consistent with published literature (Pollini et al., 2009; Wood, Li, et al., 2005). The finding that a significantly higher number of IDUs had been incarcerated than those who did not inject has also been reported as significant in previous literature (Novak & Kral, 2011). This has implications for blood-borne viral infection (BBVI) risk due to the increased prevalence of syringe sharing in prison (Small et al., 2005) which occurs amongst a population of fellow prisoners that have a high prevalence of infections (Jurgens, Ball & Verster, 2009) and the lack of prison needle exchange programs in Canada.

Needing help injecting and involvement in the street economy was identified by Marshall et al. (2008) as risk factors for violence and is consistent with findings in this

study. Of the seven IDUs who reported being victims of violence, three reported having had needed help injecting. Kipke, O'Conner, Palmer and MacKenzie (1995) further defined "street economy" to not only include prostitution, theft and drug dealing but also panhandling and scams or cons. Hustling has many connotations including sex work (Lankenau, Clatts, Welle, Goldsamt, & Gwadz, 2005). One female injector clarified hustling as a form of scamming or conning others:

Like we hustle... a lot of people know that...I am a crack user or I can get drugs so like say they come up "oh can you get me a half ball?" I'll go get it and then I'll chop like a 40 off it or something or...if they want 100 I'll only order a 60 and I'll pocket 40 until the end of the day I got 120 to buy myself a 120 dollars worth.  
(ACW0070)

Within the IDUs sample, 58% of the individuals obtained their drugs by means of the street economy which included: panhandling, theft, hustling and prostitution and 1/3 of these individuals were victims of violence. Normalization of violence related to the street economy has been documented in the literature (Marshall et al., 2008) and is similar to findings within this IDUs population. In relation to the normalization of violence and hustling, one female injection user stated:

I don't do it that much cuz it will catch up to you...You know on the streets like you can't be ripping people off like flat out... it is very unsafe but it's the way it goes. (ACW0070)

Thus, the findings suggest that safety for the hidden homeless, like the absolute homeless, is a concern for both the injection and non-injection users. The same risk

factors are present in the hidden homeless IDUs as with the absolute homeless injectors which include: peer injecting, recent incarceration and involvement in the street economy. These findings suggest that those that have a covering under which to sleep or a temporary refuge throughout the day, the threat to safety/violence as well as actual violence is a part of their daily lives.

#### Personal Health Practices and Coping Skills.

Intravenous drug users experiencing hidden homelessness reported poorer health than those who did not inject drugs. This is consistent with the findings by Novak and Kral (2011) who reported that IDUs had a lower perceived general health status than NIDUs. Since “health” has many different personal meanings and the question was a self-reported general health, this feeling of ‘health’ is an individual perception. Interestingly, both the IDUs and the NIDUs (N=30) felt their drug use affected their health (80%) more so than it affected their life (60%). This lower general health status of the study participants could be their perception of health from a physical perspective and associated to their multiple reported medical diagnoses. It suggests they could see how their addiction could affect their physical wellbeing to a greater degree than other aspects that impact their health. For instance, the majority of injection users reported that their addiction was the reason for their current living situation. The literature review provided information on the impact of homelessness and drug use/IDU on the health of an individual from more than a physical perspective. Many respondents reported they did not have their children or lost family and friends due to their addiction, lack of housing or both. One of the final questions in the questionnaire asked the respondents what three things they would wish for or change. Many of the responses from both groups included

references to family and their kids such as: “my kids back”; “my kids”; “being with my family again” and “family back”. This understanding of how they perceive their own health as well as if they feel their current situation impacts their health is valuable information for planning services and care.

The findings that almost all of the IDUs participants had seen a primary health care practitioner for treatment or follow-up for a particular health issue is consistent with research that IDUs have high rates of primary care and emergency department use (Kerr et al., 2004; Palepu et al., 1999). The findings from this study suggest that although they frequently seek care for treatment, preventative health care is not a focus of care with only 1/3 of the individuals having had a physical within the past year. This has also been found in previous research (Chitwood, Sanchez, Comerford, & McCoy, 2001; Diaski, 2007) in which the researchers suggest that the daily existence of supporting their drug use takes precedence over preventative health care.

It appears that education regarding safe sex is having a positive impact on the IDUs in this study. The majority have had sexually transmitted infection (STI) testing within the year and all but one individual reported having safe sex through condom use or abstinence. This is reflected in the low rate of reported STI diagnoses. Literature identified lack of condom use, multiple partners, survival sex as high risk sexual behaviours for the spread of BBVI (Deren et al., 2010; PHAC, 2006b; Rusch et al., 2009). Although participants reported using condoms or abstinence as a form of safe sex, prostitution was reported as a form of obtaining drugs. It is unknown if other high risk sexual behaviours exist such as trading sex for their accommodation or if they have multiple partners.

Although IDUs participants indicated they practiced safe sex, high risk injecting and drug practices remain prevalent. High risk behaviours that have been noted in the literature that are consistent with findings in this study are: needle sharing, sharing of drug paraphernalia, peer injecting, contact with correctional environments, and homelessness (ACMD, 2009; Cheng et al., 2010; Haydon et al., 2005). Strike et al. (2009) reported that that food insecurity amongst IDUs was correlated with the sharing of injection equipment and thus a risk of increased BBVI transmission. Although correlational tests were not performed in this study, the findings that the majority of IDUs only eat 1 meal a day and that over half the sample had shared syringes raises the possibility that the food insecurity experienced by the hidden homeless IDUs in the study not only affects their health in terms of improper nutrition, but it may also impact their health by means of their injecting behaviour. It also suggests that although the hidden homeless IDUs have temporary accommodations they do not have access to food.

Even though a needle exchange program exists in the region, the majority of IDUs reported high risk injecting behaviours which have been identified in the literature: sharing of both drug paraphernalia/needles and peer injecting (Wilkins et al., 2010). Despite efforts to educate this unique population on the dangers of sharing drug equipment including needles, other risk factors for BBVIs, and the presence of needle exchange services there remains a high rate of risky injecting and drug practices in the region. These behaviours have the potential to spread BBVIs amongst the IDUs as well as to the general population. Other risk factors for BBVI transmission related to injection practices which may be distinctly unique to the hidden homeless population were not

assessed in this study such as injecting: location; frequency; type of drug; and injection history.

Significantly higher rates of HCV were found amongst the IDUs. A reason for this may be that the majority of IDUs in the study also reported associated risk factors for HCV such as equipment sharing, peer injecting and history of incarceration. The presence of these risks factors and elevated rates of HCV are consistent with previous research with IDUs (ACMD, 2009; Craine et al., 2009; Haydon et al., 2005; Kim et al., 2009). The high rates of incarceration are also of concern in regards to HCV rates due to the risk of increased sharing behaviours found in research studies (ACMD, 2009; Anonymous, 2004 Cheng et al., 2010). However, questions pertaining to injecting practices in prison were not assessed in this study and thus it is not known if the IDUs in this study had injected or shared equipment while incarcerated.

It is suggested on the local harm reduction service website that the low rates of HIV in the region is due to the needle exchange program with a 99.02% return rate of used syringes (AIDS Committee of Windsor, n.d.). This notation of low HIV rates in the region is consistent with this study's findings and is a very positive message that suggests that the IDU population is aware of the service and used syringes are being disposed of properly decreasing harm to the general population. The issue of sharing of both drug paraphernalia and syringes still remains concerning due to the high HCV rates and the similar modes of transmission between HCV and HIV. The study findings of high rates of HCV and low rates of HIV with continued high risk injecting behaviours may also be a result of the increased virulence of HCV than HIV as the chance of contracting HCV is 10 times greater than for HIV via injection route (Reintjes & Wiessing, 2007). Another

possible explanation may be that the level of syringe sharing behaviour may not be sufficient to maintain HIV within the IDU population but is sufficient to maintain HCV transmission (Vickerman, Hickman, May, Kretzschmar, & Wiessing, 2010).

Another significant finding of this study is that of higher rates of hypertension amongst the hidden homeless IDUs in comparison to that of the NIDUs. Hypertension is noted extensively in the literature as being associated with stress and has been found previously within the homeless population (Bowdler & Barrell, 1987; Khandor & Mason, 2007). The majority of the IDUs reported a diagnosis of sleep problems with an average of 5 hours of sleep a night which is consistent with prior findings (Khandor & Mason, 2007). According to Canadian statistics, IDUs participants are getting considerably less sleep than the general population as men average 9 hours of sleep and women average 8.8 hours of sleep a night (Statistics Canada, 2006). The impact of sleep disturbances has been found to contribute to various conditions including depression (Cho et al., 2008; Gorwood, 2010). The finding that the majority of both IDUs and NIDUs suffered from anxiety and/or depression is similar to results published from previous studies (Lopez et al., 2008; Weekes et al., 2005).

Diaski (2007) found in his study that participants were fearful of the insecurity and safety of the accommodations of shelters related to theft and assault which is common to the majority of IDUs reports of why they would not stay in a shelter in this study. Diaski further noted that this constant stress and worry of violence led to sleep disturbances and when accompanied by feelings of exclusion, the result was a sense of depression. This is a possible explanation for the similar findings reported in this study. The constant worry and stress related to lack of safety, violence and theft may lead to the



hidden homeless IDUs diagnosis of hypertension, anxiety and sleep disturbances. This lack of sleep may place the individual at a higher risk for depression, especially in the presence of feelings of exclusion and rejection.

#### Health Services.

Consistent with the literature, the findings indicate that both IDUs and NIDUs relied on health and social service agencies in the region (Weekes et al., 2005).

Encouraging findings included that almost all the participants had a health insurance card, and those individuals who reported not having one also reported they were accessing services to obtain one. In addition, over half of the IDUs reported they had a family doctor. These findings are different from those found in previous homeless studies in which the lack of family doctor and lack of a provincial health card were identified as barriers to accessing care (Barnaby et al., 2010; Khandor & Mason, 2007).

The primary and secondary reasons reported as barriers to treatment were: self/motivation/pride and negative attitudes/stigma. Stigma has been identified in research as a major barrier to accessing care (Barnaby et al., 2010; Haldenby, 2007; Khandor & Mason, 2007). Sharp et al. (1991) has previously documented that feelings of stigma experienced by IDUs are often internalized resulting in a lowered self image and decreased motivation. Therefore, the stigma that the hidden homeless IDUs reported may be a factor for the lack of “motivation” and the expression that it was “themselves” that were barriers to accessing available services.

In contrast to the IDUs, the NIDUs cited transportation and service issues such as: not enough services, difficulty accessing services because programs were full; policy

issues at shelters; age restrictions and money/ identification requirements as the main barriers to accessing services. A possible explanation for this difference between the groups is that IDUs experience stigma to a greater degree than NIDUs (F/P/T Advisory Committee on Population Health et al., 2001). The barriers to care for the NIDUs in this study are consistent with previous studies (Barnaby et al., 2010; Christiani et al., 2008; Khandor & Mason, 2007). Specific to this region, the previous study by Medcalf and Mitchell (2006) reported that participants indicated that there was not enough services for addiction and explained that region was experiencing funding difficulties. Consistent with this study, other barriers noted by Medcalf and Mitchell included difficulty accessing services due to wait times, policy issues at shelters, and the need for more resources/services in the area.

The primary service utilized by hidden homeless IDUs is the regional harm reduction centre, followed equally by medical/mental health services, food/shelter services and homeless services. The use of medical/mental health services is consistent with reports of increase use of these types of services. The temporary living arrangements of the hidden homeless does not mean these individuals have access to various amenities similar those individuals who are housed, and as such the majority of IDUs require many of the same services as those who live on the streets or shelters. This is demonstrated in the findings by the use of organizations that provide food and homeless services which provide assistance with basic care such as: laundry; hygiene (showers, personal hygiene supply packs, and clothing) as well as locker use. The reported use of shelters may relate to the cyclical and unstable nature of homelessness in which individuals may move in and out of absolute and hidden homelessness. It may also

be possible that as living conditions change, so do the needs and service usage of the hidden homeless IDUs. This would require a longitudinal study to assess the service usage trends in this population. Except for the harm reduction service, the predominant services accessed by the NIDUs were the same as those of the IDUs namely the services of: food/shelter, medical/mental health and the homeless.

In contrast, the 2006 study by Medcalf and Mitchell reported the two main services used by homeless persons in this region to be those that provided food/shelter and social assistance programs. These results are similar to the findings reported by the NIDUs participants in this study. Interestingly, 15% of participants in the 2006 study reported they did not use any form of social or health services; whereas all the individuals in this study reported using some type of health and/or social service. This difference may be due to participant recall bias in the 2006 study since the question was open-ended or it may be a result of improvements in educating the homeless population of available services. One explanation for the high rate of responses for medical/mental health service usage is that open-ended questions specifically assessed “health service” utilization within the previous 12 months. Interestingly, there were 4 responses of no health services used and all of the responses were by NIDUs which further supports the findings that homeless IDUs frequently utilize medical services.

The primary reason for accessing services was reported by both groups to be for medical issues followed equally by socializing purposes and food/shelter. This suggests that socializing and being with other individuals is as important as physical health, food and shelter. The primary service used by IDUs participants was the harm reduction centre; however the finding that the majority of participants primarily used the service for

socializing purposes was unexpected. It may be that the IDUs feel comfortable due to presence of the needle exchange program with other IDUs as well as the organization's principals of harm reduction which states:

Calling for the non-judgmental, non-coercive provision of services and resources to people who use drugs to assist them in reducing harm to themselves and to others (AIDS Committee of Windsor, n.d, para. 4)

Furthermore, the findings also demonstrated that it was not only the IDUs who utilized the harm reduction centre for socializing. Of the 6 NIDUs participants who reported using the harm reduction centre, five individuals used the organization for either socializing or socializing/obtaining free condoms. In addition to the harm reduction centre, food/shelter services, homeless services and a homeless youth program were also cited as being utilized by participants for socializing purposes. Since the results demonstrate that social interaction is important for both the NIDUs and the IDUs perhaps these organizations offer a safe, non-judgmental supportive environment in which they do not feel excluded and rejected. These findings are noteworthy as the majority of IDUs in this study reported no form of social support, often experience stigmatization and violence, as well as feelings of insecurity related to safety.

Addiction treatment usage was found to be significantly higher in the IDUs group than the NIDUs group with a four times greater re-entry rate. The greater re-entry rate amongst the IDUs group is similar to previous study results (Chassler et al., 2006; Scott et al., 2005). The finding that a greater number of IDUs reported having entered addiction treatment is consistent with research published by Novak and Kral (2011) who reported

that in contrast to NIDUs, a greater number of IDUs reported receiving and perceiving a need for addiction treatment. There are many factors identified in the literature that affect an individual's ability to remain abstinent. Those who return to a drug environment, lack social support, have a greater need for multiple services and who are involved in crime are more prone to relapse (Grella et al., 2003; Hser et al., 1999; Shah et al., 2006) all of which were reported by the majority of injecting participants in this study. This suggests that for successful treatment outcomes a multi-faceted approach that addresses the unique needs and issues of both homelessness (hidden and absolute) and injection drug use should be taken into account for treatment and aftercare planning.

#### Implications for Research.

There is a specific need to conduct further research amongst the hidden homeless injection drug users. This study explored key issues facing this unique population and provided insight into areas where gaps in knowledge remain. In particular, the research from which this study originates was conducted amongst the hidden homeless population and did not target the injection users; therefore specific issues related to IDU were not addressed. A participatory action approach would benefit this population as it would include and empower hidden homeless IDUs in the identification of needs/issues and formulation of possible actions/solutions.

Many of the IDUs in this study experienced violence, high blood pressure, sleep disturbances, depression, and anxiety. In addition, these IDUs reported feelings of fear and anxiety related to staying in shelters due to the possibility of violence. Further

investigation is warranted to gain a clearer understanding of these symptoms individually and as interrelated concepts.

To adequately assess the injecting risk behaviours in the hidden homeless population, further studies on the injection practices are recommended. Given the impact of public injecting, research is required amongst the hidden homeless to examine the locations of where they are consuming their drugs. Although this study assessed which drugs were being used by the participants, it was not known by which route the drugs were consumed nor how often the individuals injected. Since there is an association between the type of drugs being injected and the frequency of injecting with increased risk of BBVI, further investigation would be beneficial in identifying if these are issues for the hidden homeless population. It is also recommended that the length of injecting use in this population be examined, as literature reports that the first six months of injecting are critical for the threat of contracting HCV, with increased risk of acquiring the disease after onset of injection drug use. In addition, the risk of HIV is greater after increasing durations of injecting use (Garten et al., 2005; Haydon et al., 2005). Given the findings of the HIV and HCV rates it would be beneficial to have a complete understanding of the population's injecting behaviour to assess the BBVI risk in the region.

Further investigation into the safety of the hidden homeless is vital, especially in regards to how they do not feel safe where they are currently staying and what safety means to them. This understanding and involvement of the hidden homeless is critical to ensure that appropriate care can be implemented.

### Implications for Practice.

Education of individuals working with the homeless, drug users and IDUs in particular remains an issue to change attitudes and thus decrease the discrimination and stigma that exists. An effort towards addressing stigma as well as the unwillingness to treat the homeless and IDUs within the health care realm should occur in the educational facilities which train the health care providers, including nursing, social work and medicine. It would be most beneficial if presentations were given by homeless IDUs that were able to discuss their experiences and recommendations. Continued educational campaigns with the general public focussing on the causes of homelessness as well as IDU as a health issue rather than a criminal issue may help in decreasing the negative attitudes. These campaigns could bring forth the issues of stigma and violence to the forefront and address them directly through education. Finally, continued collaboration with police services may promote understanding of this unique population and decrease the negative attitudes and associated violence.

Shelters are a necessary temporary refuge for those who lack a place to sleep and should not be used as a long term solution for the broader issue of homelessness. As a refuge from the streets, these services need to acknowledge and address the issues of safety. Further collaboration with IDUs may produce ideas that promote safety and decrease the unwillingness of their use. Additional staff and the incorporation of lockers in the facilities may aid in decreasing episodes of theft and assaults.

Safety and violence are key issues for the homeless, the absolute homeless IDUs and the findings suggest the hidden homeless IDUs and NIDUs are not feeling safe where

they are staying. One strategy identified is to provide stable, safe housing in which an individual can control their environment, lock the door and have a safe place to keep their belongings (Diaski, 2007; Haldenby, 2007; Lafuente, 2003; Noddings, 2002). This lends to a sense of security and safety and decreases the threat of violence.

One type of housing that could be assessed for the region is that of “Housing First” in which individuals with addictions are provided housing with a harm reduction perspective in which the person does not have to receive treatment or abstain prior to obtaining accommodation (Falvo, 2008). There are only two requirements to this program: individuals must agree to participate in a money management program with staff in which they direct 30% of their income towards rent and they must agree to at least two staff visits to their apartment per month (Falvo, 2008). These individuals have access to a variety of supports through a 24 hour multi-disciplinary Assertive Community Treatment (ACT) team. This team is led by a psychiatrist and includes: a social worker, vocational trainer, addictions worker, nurse practitioner and housing worker as well as access to harm reduction support groups, addiction counselling and residential addiction treatment with a guaranteed residence upon discharge (Falvo, 2008).

This type of approach has been assessed in Toronto, Ontario (City of Toronto, 2007) and the findings addressed some of the key issues associated with homeless (hidden and absolute) IDUs. The report documented that approximately  $\frac{3}{4}$  of respondents stated decreased drug use,  $\frac{1}{3}$  reported ceasing drug use, there was a 56% reduction in the numbers of individuals arrested, a 68% reduction in incarcerations and a 40% decrease in visits to emergency departments (City of Toronto, 2007). Therefore, the implications for a “Housing First” model approach are substantial. It would be a step towards addressing



the issues of safety, violence, crime, drug use and related insecurity, anxiety, and sleep disturbance in this vulnerable population.

It is important to stress the success of the needle exchange program in decreasing the transmission of BBVI. The findings demonstrate a high rate of risk behaviour including the sharing of syringes and other types of equipment; accompanied by the high rates of HCV in this population it is critical to promote the use of this service.

Socialization was important to the study participants and drop-in centres have been found to be useful in other Canadian cities (Canadian AIDS Society & Canadian Harm Reduction Network, 2008). These centres are “welcome” spaces that allow homeless IDUs and NIDUs to be with peers, “relax, warm up, eat, socialize, watch TV, and get support” (Canadian AIDS Society & Canadian Harm Reduction Network, 2008, p. 43). They can also be a central site for services and as such may increase collaboration, coordination of services, decrease the need for transportation, and may employ staff specialized in the unique needs of the homeless IDUs and NIDUs. It is recommended that the region investigate the possibility of establishing a drop-in centre that hosts a variety of services tailored to the needs of the homeless, including the homeless IDUs. In such an environment, preventative health care such as BBVI/STI testing, foot care, dental care and complete physical examinations could be promoted. It could foster a safe environment and meet the socialization and support needs of these individuals. In addition, unique services for stress/anxiety management such as art, yoga, meditation, counselling, support groups and massage therapies may be incorporated as well as other services identified as beneficial by clients.

## Implications for Policy Development.

To assist in research related to homelessness and hidden homelessness and thus plan, implement and evaluate care it is critical that Canada adopt an official definition of “homelessness”. Although this is a challenge and has been a persistent issue, persistent lobbying to the government to enact an official definition would benefit this marginalized population.

Fundamental for providing appropriate services and educational opportunities is the availability of funds. Thus, continued efforts to lobby the government for increased funding are necessary to make possible the recommendations made in this study. In particular, the creation of a drop-in centre, improvements to shelters, future research opportunities and continued needle exchange services are recommended.

The current federal government stance on drug use is the “National Anti-Drug Strategy” which incorporates three action plans: prevention, treatment and enforcement (Government of Canada, 2011). This current strategy eliminated the harm reduction action plan that was incorporated into the “National Drug Strategy” in 1998 (Collin, 2006). This current strategy has serious consequences to the health of all IDUs as well as the general public in regards to the risk of BBVIs as well as the future of the safe injection facility in Vancouver, British Columbia. It is essential to advocate for drug users and lobby for the inclusion of harm reduction into the current drug strategy as well as the implementation of prison needle exchange programs. Continued research and presentation of findings of the issues of IDUs, NIDUs and the homeless is essential in lobbying efforts.

### Strengths and Limitations.

This study makes important contributions to the body of knowledge on both homeless and IDU literature. To the best of my knowledge, this is the first study to examine the needs of hidden homeless IDUs and assess why they utilize current services. From the findings, areas for further research have been identified and recommendations regarding practice and policy development have been made.

The small sample size and non-random sampling techniques limits the generalizability to other IDUs and NIDUs populations. However, with respect to the sampling technique, the demographics of the study population are consistent with other Canadian IDUs demographics as noted earlier. Although confidentiality was assured, as reported in the literature with marginalized populations, there is the possible issue of socially desirable responding or bias (Des Jarlais et al., 1999). Thus, the participants may have answered certain questions in a manner they felt to be socially acceptable. Recall bias may have been associated with self-reported data; however previous studies have found greater than 75% agreement between self-reports of IDUs health service utilization and administrative documentation (Palepu et al., 1999; Solomon, Frank, Vlahov, & Astemborski, 1991).

### Summary.

In summary, the findings identify that although hidden homeless IDUs have protective shelter, they experience many of the same health issues as those IDUs experiencing absolute homelessness such as safety, food insecurity, hygiene/self care needs and a lack of social supports. The hidden homeless injection users in this study

also reported health issues experienced by other IDUs including: crime; violence; equipment sharing; stigmatization, increased use of health/social services; reasons for homelessness and frequent re-entry into drug treatment.

The need for socializing with others appears to be as necessary as medical care, food and shelter. Participants used services such as the harm reduction service and food/shelter services to meet this need. There is a tendency of individuals to move between absolute and hidden homelessness which indicates that they have a continued need for all forms of homeless services such as shelter, food and hygiene/basic care needs. High risk injecting behaviour appears to be a concern; however research is required to further examine these behaviours.

These exploratory findings offer some insight into the health issues of IDUs that may be important for further research, practice and policy development. In addition, the results contribute to a gap in the literature that pertains to the hidden homeless IDUs and identifies areas in which knowledge is lacking. Further research with a larger sample of hidden homeless IDUs that targets specific IDU issues is necessary.

## REFERENCES

- Abelson, J., Treloar, C., Crawford, J., Kippax, S., van Beek I., & Howard, J. (2006). Some characteristics of early-onset injection users prior to and at the time of their first injection. *Addiction*, *101*(4), 548-555. doi:10.1111/j.1360-0443.2006.01379.x
- Acorn, S. (1993). Mental and physical health of homeless persons who use emergency shelters in Vancouver. *Hospital & Community Psychiatry*, *44*(9), 854–857.
- Adlaf, E.M., Begin, P., & Sawka, E. (Eds.). (2005). *Canadian Addiction Survey (CAS): A national survey of Canadians' use of alcohol and other drugs: Prevalence of use and related harms: Detailed report*. Ottawa: Canadian Centre on Substance Abuse. Retrieved from <http://www.ccsa.ca/2005%20CCSA%20Documents/ccsa-004028-2005.pdf>.
- Advisory Council on the Misuse of Drugs. (2009). *The Primary prevention of hepatitis C among injecting drug users*. London: Advisory Council on the Misuse of Drugs. Retrieved from: <http://www.homeoffice.gov.uk/publications/drugs/acmd1/acmdhepreport2?view=Binary>
- AIDS Committee of Windsor (n.d.). *Harm Reduction Services*. Retrieved from: <http://www.aidswindsor.org/harm-reduction-services/>
- AIDS Committee of Windsor. (n.d.). *Harm Reduction Position Statement*. Retrieved from: <http://www.aidswindsor.org/policy-and-position-statements/>
- American Thoracic Society & Centres for Disease Control and Prevention. (2000). Targeted tuberculin testing and treatment of latent tuberculosis infection.

*American Journal of Respiratory and Critical Care Medicine*, 161(4), S221-S247.

Retrieved from: <http://www.atsjournals.org>

Anonymous. (2004). A health care needs assessment of federal inmates. *Canadian Journal of Public Health*, 95 (Supplement 1), S1-S63. Retrieved from <http://journal.cpha.ca>

Artaman, A. (August, 2009). *Windsor-Essex County population report 2009*. Windsor, Ontario: Windsor-Essex County Health Unit

Atkinson, L., Hamilton, M., Crawley, J., Kane, D., Dobson, K., & Watson, J. (2011). *Hidden no more: Needs assessment of service use by the hidden homeless*. Unpublished report, Homeless Coalition of Windsor-Essex County, Windsor, Ontario.

Barnaby, L., Penn, R., & Erickson, P. (2010). *Drugs, homelessness & health: Homeless youth speak out about harm reduction*. Toronto: Shout Clinic and Wellesley Institute. Retrieved from: <http://www.wellesleyinstitute.com>

Baron, S. (1999). Street youths and substance use: The role of background, street lifestyle, and economic factors. *Youth & Society*, 31(1), 3-26. doi: 10.1177/0044118X99031001001

Bines, W. (1994). *The health of single homeless people: Discussion Paper 9*. York: Centre for Housing Policy, University of York. Retrieved from: <http://www.york.ac.uk/inst/chp/bines.pdf>

Bowdler, J., & Barrell, L. (1987). Health needs of homeless persons. *Public Health Nursing, 4*(3), 135-140. doi: 10.1111/j.1525-1446.1987.tb00529.x

Briggs, D., Rhodes, T., Marks, D., Kimber, J., Holloway, G., & Jones, S. (2009).

Injecting drug use and unstable housing: Scope for structural interventions in harm reduction. *Drugs: Education, Prevention and Policy, 16*(5), 436-450. doi: 10.1080/09687630802697685

Brogly, S., Mercier, C., Bruneau, J., Palepu, A., & Franco, E. (2003). Towards more effective public health programming for injection drug users: Development and evaluation of the Injection Drug User Quality of Life Scale. *Substance Use & Misuse, 38*(7), 965-992. doi: 10.1081/JA-120017619

Canadian AIDS Society & Canadian Harm Reduction Network. (2008). *Learning from each other: Enhancing community-based harm reduction programs and practices in Canada*. Ottawa: Canadian AIDS Society, Canadian Harm Reduction Network. Retrieved from: [http://www.cdn aids.ca/learning\\_from\\_each\\_other](http://www.cdn aids.ca/learning_from_each_other)

Canadian Population Health Initiative. (2007). *Improving the health of Canadians:*

*Mental health and homelessness*. Ottawa: Canadian Institute for Health Information. Retrieved from:

[http://secure.cihi.ca/cihiweb/products/mental\\_health\\_report\\_aug22\\_2007\\_e.pdf](http://secure.cihi.ca/cihiweb/products/mental_health_report_aug22_2007_e.pdf)

Chassler, D., Lundgren, L., & Lonsdale, J. (2006). What factors are associated with high-frequency drug treatment use among a racially and ethnically diverse population of injection drug users? *American Journal of Addictions, 15*(6), 440-449. doi: 10.1080/10550490600998500

Cheng, W.S., Garfein, R.S., Semple, S., Strathdee, S.A., Zians, J.K., & Patterson, T.L.

(2010). Increased drug use and STI risk with injection drug use among HIV-seronegative heterosexual methamphetamine users. *Journal of Psychoactive Drugs*, 42(1), 11-18. Retrieved from:

<http://www.journalofpsychoactivedrugs.com/>

Chermack, S.T., & Blow, F.C. (2002). Violence among individuals in substance abuse

treatment: The role of alcohol and cocaine consumption. *Drug and Alcohol Dependence*, 66(1), 29–37. Retrieved from:

<http://www.drugandalcoholdependence.com/>

Chin, D., Deriemer, K., Small, P., Ponce de Leon, A., Steinhart, R., Schecter,

G.,...Hopewell, P. (1998). Differences in contributing factors to tuberculosis incidence in U.S.-born and foreign-born persons. *American Journal of Respiratory and Critical Care Medicine*, 158(6), 1797–1803. Retrieved from:

<http://www.atsjournals.org>

Chitwood, D., Sanchez, J., Comerford, M., & McCoy, C. (2001). Primary preventive

health care among injection drug users, other sustained drug users, and non-users. *Substance Use & Misuse*, 36(6&7), 807–824. doi:10.1081/JA-100104092

Cho, H., Lavretsky, H., Olmstead, R., Levin, M., Oxman, M., & Irwin, M. (2008). Sleep

disturbance and depression recurrence in community-dwelling older adults: A prospective study. *American Journal of Psychiatry* 165() 1543-1550. doi: 10.1176/appi.ajp.2008.07121882).

Christiani, A., Hudson, A., Nyamathi, A., Mutere, M., & Sweat, J. (2008). Attitudes of

homeless and drug-using youth regarding barriers and facilitators in delivery of



quality and culturally sensitive health care. *Journal of Child and Adolescent Psychiatric Nursing*, 21(3), 154-163. doi: 10.1111/j.1744-6171.2008.00139.x

City of Hamilton & Social Planning and Research Council of Hamilton. (2007).

*Measuring homelessness in Hamilton – On any given night*. Hamilton, Ontario:

City of Hamilton & Social Planning and Research Council of Hamilton.

Retrieved from <http://www.sprc.hamilton.on.ca/Reports/pdf/On-Any-Given-Night-II.pdf>

City of Toronto. (2007). *What Housing First Means for People: Results of Streets to*

*Homes 2007 Post-Occupancy Research*. Toronto: City of Toronto, Shelter &

Housing Administration. Retrieved from:

<http://www.toronto.ca/housing/pdf/results07postocc.pdf>

College of Nurses of Ontario. (2009). *Practice standard: Professional standards, revised*

2002. (Publication No. 41006). Toronto, Ontario: College of Nurses of Ontario.

Retrieved from: <http://www.cno.org>

Collin, C. (2006). *Substance abuse issues and public policy in Canada: I. Canada's*

*federal drug strategy* (PRB 06-15E). Ottawa: Political and Social Affairs

Division, Library of Parliament. Retrieved from

<http://www.parl.gc.ca/content/lop/researchpublications/prb0615-e.html#history>

Collins, S. (2010). *Sofas, shelter and strangers: A report on youth homelessness in*

*Niagara*. Niagara Region: Niagara Region Community Services. Retrieved from:

<http://www.homelesshub.ca/ResourceFiles/Final%20Report.August%202010.pdf>

- Collins, D., Lapsley, H., Brochu, S., Easton, B., Pérez-Gómez, A., Rehm, J., & Single, E. (2006). *International guidelines for the estimation of the avoidable costs of substance abuse*. Ottawa: Health Canada, Office of Research and Surveillance. Retrieved from: <http://www.hc-sc.gc.ca>
- Cooke, F., Howard, J., Hugh-Jones, C., & Brown, N. (2008). Methicillin-resistant staphylococcus aureus in the community: Homeless are also at risk, *Journal of Hospital Infections*, 68(2), 186–188. doi:10.1016/j.jhin.2007.11.002
- Corneil, T.A., Kuyper, L.M., Shoveller, J., Hogg, R.S., Li, K., Spittal, P.M.,... Wood, E. (2006). Unstable housing, associated risk behaviour, and increased risk for HIV infection among injection drug users. *Health & Place*, 12(1), 79-85. doi:10.1016/j.healthplace.2004.10.004
- Corsi, K., Kwiatkowski, C. & Booth, R. (2007). Treatment entry and predictors among opiate-using injection drug users. *American Journal of Drug & Alcohol Abuse*, 33(1), 121-127. doi:10.1080/00952990601091093.
- Craine, N., Hickman, M., Parry, J.V., Smith, J., McDonald, T., & Lyon, M. (2010). Characteristics of injecting drug users accessing different types of needle and syringe programme or using secondary distribution, *Journal of Public Health*, 32(3), 328-335. doi: 10.1093/pubmed/fdp131
- Craine, N., Hickman, M., Parry, J.V., Smith, J., Walker, A.M., Russell, D.,...Lyons, M. (2009). Incidence of hepatitis C in drug injectors: the role of homelessness, opiate substitution treatment, equipment sharing, and community size. *Epidemiology and Infection*, 137(9), 1255-1265. doi: 10.1017/S095026880900212X

Craine N., & Lyons M. (2006) *Incidence of blood borne viral hepatitis in injecting drug users in South Wales*. Cardiff, U.K.: National Public Health Service for Wales.

Retrieved from:

<http://www2.nphs.wales.nhs.uk:8080/BloodBorneVirusesDocs.nsf>

Crawley, M., & Daly, M. (2004). *Heroin – the mental roof over your head: Links between homelessness and drug use*. Dublin: Tallaght Homeless Advice Unit. Retrieved

from: <http://www.ndc.hrb.ie/attached/307-0249.pdf>

Crisis. (n.d.). *Research*. Retrieved from <http://www.crisis.org.uk/research.php>

Day, C., Conroy, E., Lowe, J., Page, J., & Dolan, K. (2006). Patterns of drug use and associated harms among rural injecting drug users: Comparisons with metropolitan injecting drug users. *Australian Journal of Rural Health, 14*(3), 120–125. doi: 10.1111/j.1440-1584.2006.00775.x

Day, C., Jayasuriya, R., & Stone, G. (2004). Hepatitis C-related discrimination in New South Wales. *Australian Health Review, 27*(2), 57-60. Retrieved from:

<http://www.publish.csiro.au>

Day, C., Ross, J., & Dolan, K. (2003). Hepatitis C-related discrimination among heroin users in Sydney: Drug user or hepatitis C discrimination? *Drug and Alcohol Review, 22*(3), 317-321. doi: 10.1080/0959523031000154463

DeBeck, K., Shannon, K., Wood, E., Li, K., Montaner, J., & Kerr, T. (2007). Income generating activities of people who inject drugs. *Drug and Alcohol Dependence, 91*(1), 50–56. doi:10.1016/j.drugalcdep.2007.05.003

Degenhardt, L., Day, C., Hall, W., Conroy, E., & Gilmour, S. (2005). Was an increase in cocaine use among injecting drug users in New South Wales, Australia,

accompanied by an increase in violent crime? *BMC Public Health*, 5(40),  
doi:10.1186/1471-2458-5-40

Dell, C.A., & Davis, C.G. (2008, January). Current and future drug surveillance in Canada. In Patricia Evans (Chair), *Epidemiologic trends in drug abuse: Proceedings of the Community Epidemiology Work Group Highlights and Executive Summary* (NIH Publication No. 09-6420). Bethesda, Maryland: National Institute on Drug Abuse. Retrieved from:  
<http://www.nida.nih.gov/PDF/CEWG/AdvReport108.pdf>

Dematteo, D., Major, C., Block, B., Coates, R., Fearon, M., Goldberg, E.,... Read, S.E. (1999). Toronto street youth and HIV/AIDS: Prevalence, demographics, and risks *Journal of Adolescent Health*, 25(5), 358-366. doi:10.1016/S1054-139X(99)00059-2

Department of Human Resources and Skills Development Canada. (2009). Call for Proposals - Data Development - Summer 2009. Retrieved from:  
[http://www.hrsdc.gc.ca/eng/homelessness/cfp/data\\_development/index.shtml](http://www.hrsdc.gc.ca/eng/homelessness/cfp/data_development/index.shtml)

Deren, S., Kang, S-Y., Mino, M., & Guarino, H. (2010). Migrant drug users: Predictors of HIV-related sexual and injection risk behaviours. *Journal of Immigrant and Minority Health*, 12(2), 179-186. doi: 10.1007/s10903-008-9218-3

Des Jarlais, D., Paone, D., Milliken, J., Turner, C., Miller, H., Gribble, J.,...Friedman, S. (1999). Audio-computer interviewing to measure risk behaviour for HIV among injecting drug users: a quasi-randomised trial. *The Lancet*, 353(9165), 1657-1661. doi: 10.1016/S0140-6736(98)07026-3

- Diaski, I. (2007). Perspectives of homeless people on their health and health needs priorities. *Journal of Advanced Nursing*, 58(3), 273-281. doi: 10.1111/j.1365-2648.2007.04234.x
- Dickson-Gomez, J., Hilario, H., Convey, M., Corbett, M., Weeks, M., & Martinez, M. (2009). The relationship between housing status and HIV risk among active drug users: A qualitative analysis, *Substance Use & Misuse*, 44(2), 139-162. doi: 10.1080/10826080802344823\
- Distasio, J., Sylvestre, G., & Mulligan, S. (2005). *Home is where the heart is and right now that is nowhere: An examination of hidden homelessness among Aboriginal peoples in prairie cities*. Winnipeg, MB: Institute of Urban Studies, University of Winnipeg. Retrieved from: [http://ius.uwinnipeg.ca/pdf/hidden\\_homlessness.pdf](http://ius.uwinnipeg.ca/pdf/hidden_homlessness.pdf)
- Echenberg, H., & Jensen, H. (2008). Defining and enumerating homelessness in Canada (PRB 08-30E). Ottawa, Ontario: Parliamentary Information and Research Service Branch of the Library of Parliament. Retrieved from: <http://www2.parl.gc.ca/Content/LOP/ResearchPublications/prb0830-e.pdf>
- Emmanuel, F., & Attarad, A. (2006). Correlates of injection use of synthetic drugs among drug users in Pakistan: a case controlled study. *Journal of the Pakistan Medical Association*, 56(3), 119-124. Retrieved from:<http://jpma.org.pk/PdfDownload/627.pdf>
- Epele, M.E. (2002). Gender, violence and HIV: Women's survival in the streets. *Culture Medicine and Psychiatry*, 26(1), 33-54. Retrieved from: <http://www.springeronline.com>

- Erie St. Clair Local Health Integration Network (2006, April). *Health care matters: A proposed strategy to engage our community*. Retrieved from:  
[http://www.eriestclairhin.on.ca/communityengagement.aspx?ekmense1=e2f22c9a\\_72\\_206\\_130\\_2](http://www.eriestclairhin.on.ca/communityengagement.aspx?ekmense1=e2f22c9a_72_206_130_2)
- Falvo, N. (2008). The “Housing First” model: Immediate access to permanent housing. *Canadian Housing*, Special Issue, 32-35. Retrieved from:  
[http://www.onpha.on.ca/Content/Conference/2008/handouts/303\\_Falvo\\_streets\\_to\\_home\\_Eng.pdf](http://www.onpha.on.ca/Content/Conference/2008/handouts/303_Falvo_streets_to_home_Eng.pdf)
- Federal/Provincial/Territorial (F/P/T) Advisory Committee on Population Health, F/P/T Committee on Alcohol and Other Drug Issues F/P/T Advisory Committee on AIDS, & F/P/T Heads of Corrections Working Group on HIV/AIDS. (2001). *Reducing the Harm Associated with Injection Drug Use in Canada*. (Cat. No. H39-589/2001E). Ottawa: Health Canada: Minister of Public Works and Government Services Canada. Retrieved from: <http://www.hc-sc.gc.ca/hc-pps/pubs/adp-apd/injection/index-eng.php>
- Federation of Canadian Municipalities. (2004). *Theme report #1: Incomes, shelters and necessities*. Ottawa: The Federation of Canadian Municipalities Quality of Life Reporting System. Retrieved from:  
<http://fcm.ca/English/View.asp?mp=1115&x=767>
- Fischer, B., Brissette, S., Brochu, S., Bruneau, J., el-Guebaly, N., Noel, L.,...Baliunas, D. (2004). Determinants of overdose incidents among illicit opioid users in 5 Canadian cities. *Canadian Medical Association Journal*, 171(3), 235-239.  
doi:10.1503/cmaj.1031416

- Fischer, B., Rehm, J., & Blitz-Miller, T. (2000). Injection drug use and preventative measures: a comparison of Canadian and Western European jurisdictions over time. *Canadian Medical Association Journal*, 162(12), 1709-13. Retrieved from <http://www.cmaj.ca/>
- Fitzgerald, J. L., McDonald, K., & Klugman, M. (2004). *Unspoken but everpresent. Hepatitis C in a regional setting*. Melbourne: University of Melbourne. Retrieved from: [http://www.bodydrugsworld.unimelb.edu.au/final\\_report.pdf](http://www.bodydrugsworld.unimelb.edu.au/final_report.pdf)
- Fountain, J., & Howes, S. (2002). *Home and dry? Homelessness and substance use in London*. London: Crisis; National Addiction Centre. Retrieved from: <http://www.drugsandhousing.co.uk/homeanddrycrisis.pdf>
- Frankish, C.J., Green, L.W., Ratner, P.A., Chomik, T., & Larsen, C. (1996). *Health impact assessment as a tool for population health promotion and public policy*. Vancouver: Institute of Health Promotion Research, University of British Columbia. Retrieved from: <http://www.phac-aspc.gc.ca/ph-sp/impact-repercussions/index-eng.php>.
- Frankish, C. J., Hwang, S. W., & Quantz, D. (2005). Homelessness and health in Canada: Research lessons and priorities. *Canadian Journal of Public Health*, 96(Suppl. 2), S23-S29. Retrieved from: <http://journal.cpha.ca>
- Galea, S., Nandi, A., & Vlahov, D. (2004). The Social Epidemiology of Substance Use. *Epidemiologic Reviews*, 26(1), 36-52. doi:10.1093/epirev/mxh007

- Galea, S., & Vlahov, D. (2002). Social determinants and the health of drug users: Socioeconomic status, Homelessness, and incarceration. *Public Health Reports, 117*(Suppl. 1), S135-S145. Retrieved from: <http://www.publichealthreports.org/>
- Garten, R., Zhang, J., Lai, S., Liu, W., Chen, J., & Yu, X-F. (2005). Coinfection with HIV and hepatitis C virus among injection drug users in Southern China. *Clinical Infectious Diseases, 41*(suppl. 1), S18-S24. doi: 10.1086/429491
- Goldstein, P. (1985). The drugs/violence nexus: A tripartite conceptual framework. *Journal of Drug Issues, 15*(4), 493-506. Retrieved from: <http://www.drugpolicy.org/docUploads/nexus.pdf>
- Gorwood, P. (2010). Restoring circadian rhythms: A new way to successfully manage depression. *Journal of Psychopharmacology, 24*(8) Supplement 2, 15-19. doi: 10.1177/1359786810372981
- Government of Canada. (2011, March 25). *National Anti-Drug Strategy Action Plans*. Retrieved from: <http://www.nationalantidrugstrategy.gc.ca/>
- Grella, C., Hser, Y-I., & Hsieh, S-C. (2003). Predictors of drug treatment re-entry following relapse to cocaine use in DATOS. *Journal of Substance Abuse Treatment, 25*(3), 145-154. doi: 10.1016/S0740-5472(03)00128-4
- Griffiths S. (2002). *Addressing the health needs of rough sleepers: A paper to the Homelessness Directorate*. London: Queen's Printer. Retrieved from: <http://www.communities.gov.uk/archived/publications/housing/addressinghealth>
- Gyarmathy, V.A., Neaigus, A., & Ujhelyi, E. (2009). Vulnerability to drug-related infections and co-infections among injecting drug users in Budapest, Hungary. *European Journal of Public Health, 19*(3), 260–265. doi: 10.1093/eurpub/ckp009



- Hahn, J.A., Page-Shafer, K., Ford, J., Paciorek, A., & Luma, P.J. (2008). Traveling young injection drug users at high risk for acquisition and transmission of viral infections. *Drug and Alcohol Dependence*, 93(1-2), 43-50.  
doi:10.1016/j.drugalcdep.2007.08.016
- Hagan, H. (1998). Hepatitis C virus transmission dynamics in injection drug users. *Substance Use & Misuse*, 35(5), 1197-1212. Retrieved from:  
<http://informahealthcare.com/sum>
- Haldenby, A.M., Berman, H., & Forchuk, C. (2007). Homelessness and health in adolescents. *Qualitative Health Research*, 17(9), 1232-1244.  
doi:10.1177/1049732307307550
- Hankins, C. A. (1998). Syringe exchange in Canada: good but not enough to stem the HIV tide. *Substance Use and Misuse*, 33(5), 1129–1146. Retrieved from:  
<http://informahealthcare.com/sum>
- Hathazi, D., Lankenau, S., Sanders, B., & Bloom, J. (2009). Pregnancy and sexual health among homeless young injection drug users. *Journal of Adolescence*, 32(2), 339-355. doi:10.1016/j.adolescence.2008.02.001
- Haydon, E., Fischer, B., & Kraiden, M. (2005). *Hepatitis C Virus (HCV) infection and illicit drug use*, Ottawa, ON: Canadian Centre on Substance Abuse. Retrieved from [http://www.ccsa.ca/2005\\_CCSA\\_Documents/ccsa-004030-2005.pdf](http://www.ccsa.ca/2005_CCSA_Documents/ccsa-004030-2005.pdf)
- Heale, P., Dietze, P., & Fry, C. (2003). Intentional overdose among heroin overdose survivors. *Journal of Urban Health*, 80(2), 230-237. doi: 10.1093/jurban/jtg026

Health Canada. (1998). *Taking action on population health: A position paper for Health Promotion and Programs Branch staff*. (Cat. No. H39-445/1998E). Ottawa, Ontario: Population Health Development Division, Population Health Directorate, Health Promotion and Programs Branch, Health Canada. Retrieved from: <http://www.phac-aspc.gc.ca/ph-sp/pdf/tad-eng.pdf>.

Health Canada. (2001). *Injection drug use and HIV/AIDS: Canada's response to the report of the Canadian HIV/AIDS Legal Network*. (Cat. No. H39-581/2001). Ottawa: Minister of Public Works and Government Services Canada. Retrieved from: <http://www.aidslaw.ca/publications/publicationsdocEN.php?ref=57>

Health Protection Agency, Health Protection Scotland, National Public Health Service for Wales, Centre for Research on Drugs and Health Behaviour (2005). *Shooting Up: Infections Among Injecting Drug Users in the United Kingdom 2004: An Update*. London: Health Protection Agency. Retrieved from: <http://www.dhsspsni.gov.uk/shooting-up-oct05.pdf>

Homeless Link. (2010). *The health and wellbeing of people who are homeless. Evidence from a national audit-Interim report*. London: Homeless Link. Retrieved from: <http://www.homeless.org.uk/health-needs-audit>.

Hser, Y-I., Grella, C., Hsieh, S-C., Anglin, M.D., & Brown, B. (1999). Prior treatment experience related to process and outcomes in DATOS. *Drug and Alcohol Dependence*, 57(2), 137-150. Retrieved from: <http://www.drugandalcoholdependence.com/>

Hudson, A., Nyamathi, A., Greengold, B., Slagle, A., Koniak-Griffin, D., Khalilifard, F., & Getzoff, D. (2010). Health-seeking challenges among homeless youth. *Nursing Research, 59*(3), 212-218. doi: 10.1097/NNR.0b013e3181d1a8a9

Hulchanski, J.D. (2009, February). Homelessness in Canada: Past, present, future. Conference Keynote Address *Growing Home: Housing and Homelessness in Canada*, 18, February, 2009. Calgary: University of Calgary. Retrieved from: <http://www.scribd.com/doc/14126679/Homelessness-Past-Present-Future-Hulchanski-2009>

Hwang, S. W. (2001). Homelessness and health. *Canadian Medical Association Journal, 164*(2), 229-233. Retrieved from: <http://www.cmaj.ca/>

International Bill of Human Rights, General Assembly Res. 217 A (III) (1948, December 10). United Nations General Assembly. Retrieved from: <http://www.un.org/en/documents/udhr/index.shtml>

Joint United Nations Programme on HIV/AIDS. (2000). *National AIDS programmes: A guide to monitoring and evaluation*. (UNAIDS/00.17e). Geneva: Switzerland. Retrieved from [http://data.unaids.org/Publications/IRC-pub05/jc427-mon\\_ev-full\\_en.pdf](http://data.unaids.org/Publications/IRC-pub05/jc427-mon_ev-full_en.pdf)

Jurgens, R., Ball, A., & Verster, A. (2009). Interventions to reduce HIV transmission related to injecting drug use in prison. *The Lancet Infectious Diseases, 9*(1), 57-66. Retrieved from: <http://www.who.int/hiv/topics/idu/InterventionsReduceHIVIDUinPrisons.pdf>

- Kaplan, R., Slywka, J., Slagle, S., & Ries, K. (2000). A titrated morphine analgesic regimen comparing substance users and non-users with AIDS-related pain. *Journal of Pain & Symptom Management*, 19(4), 265-73. Retrieved from: <http://jpsmjournal.com/>
- Kemp, P., Neale, J., & Robertson, M. (2006). Homelessness among problem drug users: prevalence, risk factors and trigger events. *Health & Social Care in the Community*, 14(4), 319-328. doi: 10.1111/j.1365-2524.2006.00624.x
- Kerr, T., Fairbairn, N., Tyndall, M., Marsh, D., Li, K., Montaner, J., & Wood, E. (2007). Predictors of non-fatal overdose among a cohort of polysubstance-using injection drug users. *Drug and Alcohol Dependence*, 87(1), 39–45. doi: 10.1016/j.drugalcdep.2006.07.009
- Kerr, T., Marshall, B., Miller, C., Shannon, K., Zhang, R., Montaner, J. & Wood, E. (2009). Injection drug use among street-involved youth in a Canadian setting. *BMC Public Health*, 9(Suppl. 1), 171. doi:10.1186/1471-2458-9-171
- Kerr, T., Wood, E., Grafstein, E., Ishida, T., Shannon, K., Lai, C.,...Tyndall, M. (2004). High rates of primary care and emergency department use among injection drug users in Vancouver. *Journal of Public Health*, 27(1), 62-66. doi: 10.1093/pubmed/fdh189
- Khandor, E., & Mason, K. (2007). *The street health report 2007*. Toronto: Street Health – Creative Commons.ca. Retrieved from: <http://www.homelesshub.ca/ResourceFiles/SHReport2007.pdf>

- Kim, C., Kerr, T., Li, K., Zhang, R., Tyndall, M., Montaner, J., & Wood, E. (2009). Unstable housing and hepatitis C incidence among injection drug users in a Canadian setting. *BMC Public Health*, 9, 270-275. doi:10.1186/1471-2458-9-270.
- Kipke, M., O'Connor, S., Palmer, R., & MacKenzie, R. (1995). Street youth in Los Angeles: Profile of a group at high risk for human immunodeficiency virus infection. *Archives of Pediatrics and Adolescent Medicine*, 149(5), 513–519. Retrieved from: <http://www.archpedi.ama-assn.org/>
- Krahn, M.D., John-Baptiste, A., Yi, Q., Doria, A., Remis, R.S., Ritvo, P., & Friedman, S. (2005). Potential cost-effectiveness of a preventative hepatitis C vaccine in high risk and average risk populations in Canada. *Vaccine*, 23(13), 1549-1558. doi:10.1016/j.vaccine.2004.09.023
- Krusi, A., Fast, D., Small, W., Wood, E., & Kerr, T. (2010). Social and structural barriers to housing among street-involved youth who use illicit drugs. *Health and Social Care in the Community*, 18(3), 282-288. doi: 10.1111/j.1365-2524.2009.00901.x
- Lafuente, C.R. (2003). Powerlessness and social disaffiliation in homeless men. *Journal of Multicultural Nursing and Health*, 9(1), 46–54.
- Laird, G. (2007). *Shelter – Homelessness in a growth economy: Canada's 21<sup>st</sup> century paradox*. Calgary: Sheldon Chumir Foundation for Ethics in Leadership & Gordon Laird. Retrieved from: [www.chumirethicsfoundation.ca/files/pdf/SHELTER.pdf](http://www.chumirethicsfoundation.ca/files/pdf/SHELTER.pdf)
- Lankenau, S., Clatts, M., Welle, D., Goldsamt, L., & Gwadz, M. (2005). Street careers: homelessness, drug use, and sex work among young men who have sex with men

(YMSM). *International Journal of Drug Policy*, 16(1), 10–18. doi:  
10.1016/j.drugpo.2004.07.006

Lawless, M., & Corr, C. (2005). *Drug use among the homeless population in Ireland*.  
Dublin: National Advisory Committee on Drugs. Retrieved from:  
<http://www.nacd.ie/publications/Homelessness%20Report.pdf>

Linton, A.B., Singh, M.D., Turbow, D., & Legg, T.J. (2009). Street youth in Toronto,  
Canada: An investigation of demographic predictors of HIV status among street  
youth who access preventive health and social services, *Journal of HIV/AIDS &  
Social Services*, 8(4), 375-396. doi:10.1080/15381500903417562

Lloyd-Smith, E., Wood, E., Zhang, R., Tyndall, M., Montaner, J., & Kerr, T. (2008). Risk  
factors for developing a cutaneous injection-related infection among injection  
drug users: a cohort study. *BMC Public Health*, 8: 405. doi: 10.1186/1471-2458-  
8-405

Lopez, L., de Saxe Zerden, L., Fitzgerald, T., & Lundgren, L. (2008). Puerto Rican  
injection drug users: Prevention implications in Massachusetts and Puerto Rico.  
*Evaluation and Program Planning*, 31(1), 63-73.  
doi:10.1016/j.evalprogplan.2007.05.013

Lum, P.J., Sears, C., & Guydish, J. (2005). Injection risk behavior among women syringe  
exchangers in San Francisco. *Substance Use & Misuse*, 40(11), 1681-1696. doi:  
10.1080/108280500222834

- MacPherson, D. (2000). *A Framework for action: A four-pillar approach to drug problems in Vancouver. Draft Discussion Paper*. Vancouver: City of Vancouver.  
Retrieved from: <http://vancouver.ca/fourpillars/pdf/framework.pdf>
- March, J., Oviedo-Joekes, E., & Romero, M. (2005). Injection and non-injection drug use related to social exclusion indicators in two Andalusian cities. *Drugs: Education, Prevention, And Policy*, 12(6), 437-447. doi: 10.1080/09687630500281998
- Marshall, B., Fairbairn, N., Li, K., Wood, E., & Kerr, T. (2008). Physical violence among a prospective cohort of injection drug users: a gender-focused approach. *Drug and Alcohol Dependence*, 97(3), 237-246. doi:10.1016/j.drugalcdep.2008.03.028
- Marshall, B.D., Kerr, T., Qi, J., Montaner, J.S., & Wood, E. (2010). Public injecting and HIV risk behaviour among street-involved youth. *Drug and Alcohol Dependence*, 110(3), 254-258. doi:10.1016/j.drugalcdep.2010.01.022
- Mateu-Gelabert, P., Maslow, C., Flom, P.L., Sandoval, M., Bolyard, M., & Friedman, S.R. (2005). Keeping it together: stigma, response, and perception of risk in relationships between drug injectors and crack smokers, and other community residents. *AIDS Care*, 17(7), 802-813. doi: 10.1080/09540120500100486
- McCarthy, G., Koval, J., & MacDonald, J. (1999). Factors associated with refusal to treat HIV infected patients: The result of a national survey of dentists in Canada. *American Journal of Public Health*, 89(4), 541-545. Retrieved from:  
<http://ajph.aphapublications.org/>
- McKnight, I., Maas, B., Wood, E., Tyndall, M., Small, W., Lai, C.,...Kerr, T. (2007). Factors Associated with Public Injecting Among Users of Vancouver's Supervised

Injection Facility. *American Journal of Drug & Alcohol Abuse*, 33(2), 319-325.

doi:10.1080/00952990601175102

Medcalf, M., & Mitchell, C. (September, 2006). *Personal perspectives of people who are homeless or at-risk of homelessness: A community project to understand the perspectives of service users in Windsor-Essex County*. Windsor: Homeless Coalition of Windsor-Essex County & the University of Windsor.

Mertz, D., Viktorin, N., Wolbers, M., Laifer, G., Leimenstoll, B., Fluckiger, U., & Battegay, M. (2008). Appropriateness of antibiotic treatment in intravenous drug users, a retrospective analysis. *BMC Infectious Disease*, 8(42), 1-10.

doi:10.1186/1471-2334-8-42

Meyer, M., & Estable, A. (2002). *Homelessness and Substance Abuse: Exploring Cross Sectoral Service Needs from the Clients' Perspective*. Ottawa: Gentium Consulting. Retrieved from

<http://www.socialsciences.uottawa.ca/crecs/pdf/Homelessness%20-%20Gentium%20Report%202003.pdf>

Mikkonen, J., & Raphael, D. (2010). *Social Determinants of Health: The Canadian Facts*. Toronto: York University School of Health Policy and Management. Retrieved from: <http://www.thecanadianfacts.org/>

Millar, J., Dr. (1998). *HIV, Hepatitis, and injection drug use in British Columbia – Pay now or pay later?* Victoria, B.C.: Office of the Provincial Health Officer, B.C. Ministry of Health. Retrieved from:

<http://www.health.gov.bc.ca/library/publications/year/1998/paynow.pdf>.



- Millson, P., Challacombe, L., Villeneuve, P.J., Fischer, B., Strike, C.J., Myers, T.,...Pearson, M. (2004). Self-perceived health among Canadian opiate users: A comparison to the general population and to other chronic disease populations. *Canadian Journal of Public Health, 95*(2), 99-103. Retrieved from: <http://journal.cpha.ca>
- Muirhead, L., Roberson, A.J., & Secrest, J. (2011). Utilization of foot care services among homeless adults: Implications for advanced practice nurses. *Journal of the American Academy of Nurse Practitioners, 23*(4), 209–215. doi: 10.1111/j.1745-7599.2011.00598.x
- Naeem, F., Bhatti, F., Pickering, R., & Kingdon, D. (2007). A controlled trial of the effectiveness of drug treatment & testing orders (DTTO) with standard care. *Journal of Substance Use, 12*(4), 253-65. doi: 10.1080/14659890601152258
- Navarro, C., & Leonard, L. (2004). Prevalence and factors related to public injecting in Ottawa, Canada: implications for the development of a trial safer injecting facility. *International Journal of Drug Policy 15*(4), 275–284. Retrieved from: <http://www.ijdp.org/home>
- Neaigus, A., Gyarmathy, A., Miller, M., Frajzyngier, V., Friedman, S., & Des Jarlais, D. (2006). Transitions to injecting drug use among noninjecting heroin users: social network influence and individual susceptibility. *Journal of Acquired Immune Deficiency Syndromes, 41*(4), 493 – 503. doi: 10.1097/01.qai.0000186391.49205.3b

- Neale, J. (2001). Homelessness amongst drug users: a double jeopardy explored. *International Journal of Drug Policy*, *12*(4), 353-369. doi:10.1016/S0955-3959(01)00097-4
- Neale, J. (2004). Measuring the health of Scottish drug users. *Health & Social Care in the Community*, *12*(3), 202-11. doi: 10.1111/j.1365-2524.2004.00489.x
- Neale, J., & Kennedy, C. (2002). Good practice towards homeless drug users: research evidence from Scotland. *Health and Social Care in the Community*, *10*(3), 196-205. doi: 10.1046/j.1365-2524.2002.00357.x
- Noddings, N. (2002). Caring, social policy and homelessness. *Theoretical Medicine and Bioethics*, *23*(6), 441–454. doi: 10.1023/A:1021385717732
- Novac, S. (2006). *Family violence and homelessness: A review of the literature*. Ottawa, Ontario: National Clearinghouse on Family Violence; Public Health Agency of Canada. Retrieved from: [http://www.phac-aspc.gc.ca/nfcv-cnivf/pdfs/fv-2007-homelessness\\_e.pdf](http://www.phac-aspc.gc.ca/nfcv-cnivf/pdfs/fv-2007-homelessness_e.pdf)
- Novak, S., & Kral, A. (2011). Comparing injection and non-injection routes of administration for heroin, methamphetamine and cocaine users in the United States. *Journal of Addictive Diseases*, *30*(3), 248-257. doi: 10.1080/10550887.2011.581989
- Nyamathi, A., Sands, H., Pattatucci-Aragón, A., Berg, J., & Leake, B. (2004). Tuberculosis knowledge, perceived risk and risk behaviors among homeless

adults: effect of ethnicity and injection drug use. *Journal of Community Health*, 29(6), 483-497. doi: 10.1007/s10900-004-3396-2

O'Driscoll, P.T., McGough, J., Hagan, H., Thiede, H., Critchlow, C. & Alexander, E.R. (2001). Predictors of accidental fatal drug overdose among a cohort of injection drug users. *American Journal of Public Health*, 91(6), 984–987. doi: 10.2105/AJPH.91.6.984

Open Society Institute & Equitas (2009). *Harm reduction and human rights: A resource guide*. Montreal: Open Society Institute and Equitas – International Centre for Human Rights Education. Retrieved from <http://www.equalpartners.info/PDFDocuments/EngPartialGuideHarmReduction.pdf>

Otter, J.A., & French, G.L. (2008). Letter to the Editor: Community-associated methicillin-resistant *Staphylococcus aureus* in injecting drug users and the homeless in south London. *Journal of Hospital Infection*, 69(2), 198-200. doi:10.1016/j.jhin.2008.02.014

Pach, A. III, Cerbone, F.G., & Gerstein, D.R. (2003). A qualitative investigation of antiretroviral therapy among injection drug users. *AIDS & Behavior*, 7(1), 87-100. doi: 10.1023/A:1022517608578

Palepu, A., Marshall, B., Lai, C., Wood, E., & Kerr, T. (2010). Addiction Treatment and Stable Housing among a Cohort of Injection Drug Users. *PLoS ONE*, 5(7), 1-6. doi: 10.1371/journal.pone.0011697

Palepu, A., Strathdee, S.A., Hogg, R.S., Anis, A.H., Rae, S., Cornelisse, P.G.,...

Schechter, M.T. (1999). The social determinants of emergency department and hospital use by injecting drug users in Canada. *Journal of Urban Health*, 76(4), 409-418. doi: 10.1007/BF02351499

Palfreyman, S.J., Tod, A.M., King, B., Tomlinson, D., Brazier, J.E., & Michaels, J.A.

(2007). Impact of intravenous drug use on quality of life for patients with venous ulcers. *Journal of Advanced Nursing*, 58(5), 458-67. doi: 10.1111/j.1365-2648.2007.04251.x

Parriott, A., & Auerswald, C. (2009). Incidence and predictors of onset of injection drug

use in a San Francisco cohort of homeless youth. *Substance Use & Misuse*, 44(13), 1958-1970. doi: 10.3109/10826080902865271

Patton, S. (2006). *Environmental scan of injection drug use, related infectious diseases, high-risk behaviours, and relevant programming in Atlantic Canada*. Halifax, Nova Scotia: Public Health Agency of Canada, Atlantic Regional Office.

Retrieved from: <http://www.phac-aspc.gc.ca/canada/regions/atlantic/documents/index-eng.php>

Philbin, M., Pollini, R., Ramos, R., Lozada, R., Brouwer, K., Ramos, M. E.,...Strathdee,

S.A. (2008). Shooting gallery attendance among IDUs in Tijuana and Ciudad Juarez, Mexico: Correlates, prevention opportunities, and the role of the environment. *AIDS and Behavior*, 12(4), 552-560. doi: 10.1007/s10461-008-9372-

- Pieper, B., Kirsner, R., Thomas N., & Birk, T. (2007). Injection drug use: An understudied cause of venous disease. *Archives of Dermatology*. 143(10), 1305-1309. Retrieved from: <http://archderm.ama-assn.org/>
- Pollini, R., Alvelais, J., Gallardo, M., Vera, A., Lozada, R., Magis-Rodriquez, C. & Strathdee, S. (2009). The harm inside: Injection during incarceration among male injection drug users in Tijuana, Mexico. *Drug and Alcohol Dependence*. 103(1-2), 52-58. doi:10.1016/j.drugalcdep.2009.03.005
- Public Health Agency of Canada. (2003, June 16). What makes Canadians healthy or unhealthy?: Underlying premise and evidence table. Retrieved from: <http://www.phac-aspc.gc.ca/ph-sp/determinants/determinants-eng.php#socenviron>
- Public Health Agency of Canada. (2006a). *I-Track: Enhanced surveillance of risk behaviours among people who inject drugs Phase I Report*. Ottawa: Surveillance & Risk Assessment Division, Centre for Infectious Disease Prevention and Control. Retrieved from: [http://www.phac-aspc.gc.ca/i-track/sr-re-1/pdf/itrack06\\_e.pdf](http://www.phac-aspc.gc.ca/i-track/sr-re-1/pdf/itrack06_e.pdf)
- Public Health Agency of Canada. (2006b). *Street youth in Canada: Findings from enhanced surveillance of Canadian street youth, 1999–2003*. (Cat. No. HP5-15/2006E-PDF). Ottawa: Her Majesty the Queen in Right of Canada represented by the Minister of Health. Retrieved from: <http://www.phac-aspc.gc.ca/sti-its-surv-epi/populations-eng.php>
- Public Health Agency of Canada. (2007). *HIV/AIDS Epi updates*. Ottawa: Surveillance & Risk Assessment Division, Centre for Infectious Disease Prevention and Control.

Retrieved from:[http://www.phac-aspc.gc.ca/aids-sida/publication/epi/pdf/epi2007\\_e.pdf](http://www.phac-aspc.gc.ca/aids-sida/publication/epi/pdf/epi2007_e.pdf)

Public Health Agency of Canada. (2010, May 18). What determines health?: Key determinants. Retrieved from: <http://www.phac-aspc.gc.ca/ph-sp/determinants/index-eng.php>

Rachlis, B., Brouwer, K.C., Mills, E.J., Hayes, M., Kerr, T., & Hogg, R.S. (2007).

Migration and transmission of blood-borne infections among injection drug users: understanding the epidemiologic bridge. *Drug Alcohol Dependence*, 90(2-3), 107-119. doi:10.1016/j.drugalcdep.2007.03.014

Raphael, D. (2003). Addressing the social determinants of health in Canada: Bridging the gap between research findings and public policy. *Policy Options*, 24(3), 35-40.

Retrieved from: <http://www.irpp.org/po/>

Registered Nurses' Association of Ontario. (2006). *Nursing best practice guideline:*

*Client centred care*. (Revised Suppl.). Toronto, Ontario: Registered Nurses'

Association of Ontario. Retrieved from [www.rnao.org](http://www.rnao.org)

Registered Nurses Association of Ontario. (n.d.). *Policy statement on homelessness*.

Retrieved, from

[http://www.rnao.org/Storage/28/2283\\_RNAO\\_Policy\\_Statement\\_Homelessness.pdf](http://www.rnao.org/Storage/28/2283_RNAO_Policy_Statement_Homelessness.pdf)

Rehm, J., Baliunas, D., Brochu, S., Fischer, B., Gnam, W., Patra, J.,... Taylor, B. (2006).

*The costs of Substance abuse in Canada 2002*. Ottawa: Canadian Centre on

Substance Abuse. Retrieved from:

<http://www.ccsa.ca/2006%20CCSA%20Documents/ccsa-011332-2006.pdf>

- Reintjes R., & Wiessing L. (2007). 2nd-generation HIV surveillance and injecting drug use: uncovering the epidemiological iceberg. *International Journal of Public Health*, *52*(3), 166–172. doi:10.1007/s00038-007-5123-0
- Reynolds, G., Fisher, D., Jaffe, A., & Edwards, J. (2006). Follow-up for medical care among drug users with hepatitis C. *Evaluation & the Health Professions*, *29*(4), 355-366. doi: 10.1177/0163278706296003
- Rhodes, T., Kimber, J., Small, W., Fitzgerald, J., Kerr, T., Hickman, M., & Holloway, G. (2006). Public injecting and the need for ‘safer environment interventions’ in the reduction of drug related harm. *Addiction*, *101*(10), 1384–1393. doi: 10.1111/j.1360-0443.2006.01556.x
- Rhodes, T., Stoneman, A., Hope, V., Hunt, N., Martin, A., & Judd, A. (2006). Groin injecting in the context of crack cocaine and homelessness: from ‘risk boundary’ to ‘acceptable risk’? *International Journal of Drug Policy*, *17*(3), 164–170. doi:10.1016/j.drugpo.2006.02.011
- Rhodes, T., & Treloar, C. (2008). The social production of hepatitis C risk among injecting users: A qualitative synthesis. *Addiction*, *103*(10), 1593-1603. doi:10.1111/j.1360-0443.2008.02306.x
- Robinson, R. (2006). Health perceptions and health-related quality of life of substance abusers: A review of the literature. *Journal of Addictions Nursing*, *17*(3), 159-168. doi: 10.1080/10884600600862137

- Roy, E., Boudreau, J-F., Leclerc, P., Boivin, J-F., & Godin, G. (2007). Trends in injection drug use behaviours over 10 years among street youth. *Drug and Alcohol Dependence*, 89(2-3), 170-175. doi:10.1016/j.drugalcdep.2006.12.025
- Roy, E., Haley, N., Leclerc, P., Boivin, J-F., Cedras, L., & Vincelette, J. (2001). Risk factors for hepatitis C virus infection among street youths. *CMAJ*, 165(5), 557-560. Retrieved from: <http://www.cmaj.ca/>
- Roy, E., Haley, N., Leclerc, P., Boudreau, J-F., & Boivin, J-F. (2007). Risk factors for initiation into drug injection among adolescent street youth. *Drugs: Education, Prevention and Policy*, 14(5), 389-399. doi: 10.1080/09687630701228947
- Roy, E., Haley, N., Leclerc, P., Cedras., L., Blais, L., & Boivin, J-F. (2003). Drug injection among street youths in Montreal: Predictors of initiation. *J Urban Health*, 80(1), 92–105. doi: 10.1093/jurban/jtg092
- Roy, E., Haley, N., Leclerc, P., Cedras, L., & Boivin, J-F. (2002). Drug injection among street youth: the first time. *Addiction*, 97(8), 1003-1009. doi: 10.1046/j.1360-0443.2002.00161.x
- Roy, E., Nonn, E., Haley, N., & Cox, J. (2007). Hepatitis C meanings and preventive strategies among street-involved young injection users in Montreal. *International Journal of Drug Policy*, 18(5), 397-405. doi:10.1016/j.drugpo.2007.02.005
- Rusch, M., Lozada, R., Pollini, R., Vera, A., Patterson, T., Case, P., & Strathdee, S.A. (2009). Polydrug use among IDUs in Tijuana, Mexico: Correlates of



methamphetamine use and route of administration by gender. *Journal of Urban Health*, 86(5), 760-775. doi:10.1007/s11524-009-9377-0

Sanders, B., Lankenau, S., Bloom, J., & Hathaz, D. (2009). A typology of drug-related offending among young homeless injection drug users. *Journal of Drug Issues*, 39(4), 777-802. Retrieved from: <http://www2.criminology.fsu.edu/~jdi/>

Schluger, N., Huberman, R., Wolinsky, N., Dooley, R., Rom, W., & Holzman, R. (1997). Tuberculosis infection and disease among persons seeking social services in New York City. *International Journal of Tuberculosis and Lung Disease*, 1(1), 31-37. Retrieved from: <http://www.theunion.org/>

Scott, C., Foss, M., & Dennis, M. (2005). Pathways in the relapse-treatment-recovery cycle over 3 years. *Journal of Substance Abuse Treatment*, 28(Suppl. 2), S63-S72. doi:10.1016/j.jsat.2004.09.006

Seal, K.H., Kral, A.H., Gee, L., Moore, L.D., Bluthenthal, R.N., Lorvick, J., & Edlin, B. (2001). Predictors and prevention of nonfatal overdose among street-recruited injection heroin users in the San Francisco Bay Area, 1998-1999. *American Journal of Public Health*, 91(11), 1842-1846. Retrieved from: <http://www.apha.org/>

Shah, N.G., Galai, N., Celentano, D.D., Vlahov, D., & Strathdee, S.A. (2006). Longitudinal predictors of injection cessation and subsequent relapse among a cohort of injection drug users in Baltimore, MD, 1988-2000. *Drug & Alcohol Dependence*, 83(2), 147-156. doi:10.1016/j.drugalcdep.2005.11.007

Sharp, R., Davis, M., Dowsett, G., Kippax, S., Hewitt, K., Morgan, S., & Robertson, W.

(1991). *Ways of using: Functional injecting drug users*. Macquarie University

Centre for Applied Social Research. Retrieved from:

<http://www.drugtext.org/library/books/waysofuse.pdf>

SHS Consulting. (2009). *St. Thomas and Elgin County: Study on homelessness*. St.

Thomas, Ontario: City of St. Thomas. Retrieved from:

<http://www.elginconnects.ca/portal/uploads/n/NancySpeirs/6972.pdf>

Simmonds, L., & Coomber, R. (2009). Injecting drug users: A stigmatized and  
stigmatizing population. *International Journal of Drug Policy*, 20(2), 121-130.

doi:10.1016/j.drugpo.2007.09.002

Small, W., Kain, S., Laliberte, N., Schechter, M., O'Shaughnessy, M., & V, Spittal, P.

(2005). Incarceration, addiction and harm reduction: inmates experience injecting  
drugs in prison. *Substance Use and Misuse*, 40(6), 831-843. doi: 10.1081/JA-

200030795

Small, W., Rhodes, T., Wood, E., & Kerr, T. (2007). Public injection settings in

Vancouver: Physical environment, social context and risk. *International Journal  
of Drug Policy* 18(1), 27-36. doi:10.1016/j.drugpo.2006.11.019

Solomon, L., Frank, R., Vlahov, D. & Astemborski, J. (1991). Utilization of health  
services in a cohort of intravenous drug users with known HIV-1 serostatus.

*American Journal of Public Health*, 81(10), 1285-1290.

doi:10.2105/AJPH.81.10.1285

Start Me Up Niagara (2006). *Homeless employment access: Niagara region*. St Catharine's, Ontario: Start Me Up Niagara. Retrieved from: [www.startmeupniagara.ca](http://www.startmeupniagara.ca)

Statistics Canada (2002). *Collective dwellings*. (Cat. no. 96F0030XIE2001004). Ottawa: Statistics Canada Analysis Series, 2001 Census. Retrieved from: <http://www12.statcan.gc.ca/english/census01/Products/Analytic/Index.cfm>

Statistics Canada. (2006). *General Social Survey on Time Use: Overview of the Time Use of Canadians, 2005* (Catalogue no. 12F0080XIE). Canada: Statistics Canada, Social and Aboriginal Statistics Division, Minister of Industry. Retrieved from: <http://www.statcan.gc.ca/pub/12f0080x/12f0080x2006001-eng.pdf>

Statistics Canada. (2007). *Windsor, Ontario (Code3537039). 2006 Community Profiles. 2006 Census* (Catalogue no. 92-591-XWE) [Table]. Ottawa: Statistics Canada. Retrieved from: <http://www12.statcan.ca/census-recensement/2006/dp-pd/prof/92-591/index.cfm?Lang=E>

Steensma, C., Boivin, J-F., Blais, L., & Roy, E. (2005). Cessation of injecting drug use among street-based youth. *Journal of Urban Health: Bulletin of the New York Academy of Medicine*, 82(4), 622-637. doi:10.1093/jurban/jti121

Stoové, M.A., Gifford, S.M., & Dorec G.J. (2005). The impact of injecting drug use status on hepatitis C-related referral and treatment. *Drug and Alcohol Dependence*, 77(1), 81–86. doi:10.1016/j.drugalcdep.2004.07.002

Strike, C., Sarnocinska-Hart, A., Anstice, S., Lester, B., Scrivo, N., Luce, J.,...Millson, M. (2009). Is there an association between food security and injection-related HIV

risk? (Abstract P312). *Canadian Journal of Infectious Disease & Medical Microbiology*, 20(Suppl. SB), 96B. Retrieved from:  
<http://www.pulsus.com/journals/>

The Homeless Hub. (2008). *Population: Hidden homeless*. Retrieved from:  
<http://www.homelesshub.ca/Topics/Hidden-Homeless-260.aspx>

Tobin, K.E., & Latkin, C.A. (2003). The relationship between depressive symptoms and nonfatal overdose among a sample of drug users in Baltimore, Maryland. *Journal of Urban Health*, 80, 220–229. doi: 10.1093/jurban/jtg025

Tompkins, C., Wright, N., & Jones, L. (2005). Impact of a positive hepatitis C diagnosis on homeless injecting drug users: A qualitative study. *British Journal of General Practice*, 55(513), 263-268. Retrieved from: <http://www.rcgp.org.uk/>

Topp, L., Hudson, S., & Maher, L. (2010). Mental health symptoms among street-based psychostimulant injectors in Sydney's Kings Cross. *Substance Use & Misuse*, 45(7-8), 1180-1200. doi: 10.3109/10826080903443586

Toronto Shelter, Support & Housing Administration. (2009). *Street needs assessment results 2009*. Toronto: City of Toronto - Toronto Shelter, Support & Housing Administration. Retrieved from: <http://www.healthyhousing.ca/2010/01/2009-street-needs-assessment-toronto/>

Tutty, L., Ogden, C., Giurgiu, B., Weaver-Dunlop, G., Damant, D., Thurston, W.,..., Solerno, J. (2009). *"I built my house of hope": Best practices to safely house abused and homeless women* [Unpublished report]. Retrieved from:

<http://www.crvawc.ca/documents/Safely%20Housing%20Abused%20Women%20Final.pdf>

United Nations. (2007, November 1). *United Nations expert on adequate housing calls for immediate attention to tackle national housing crisis in Canada* [Press release]. Retrieved from:

<http://www.unhchr.ch/hurricane/hurricane.nsf/0/90995D69CE8153C3C1257387004F40B5?opendocument>

United Nations Committee on Economic, Social and Cultural Rights, Thirty-Sixth Session (2006, May 22). *Concluding observations of the Committee on Economic, Social and Cultural Rights* (E/C.12/CAN/CO/4, E/C.12/CAN/CO/5. para. 62):

Retrieved from:

[http://www.unhchr.ch/tbs/doc.nsf/0/87793634eae60c00c12571ca00371262/\\$FILE/G0642783.pdf](http://www.unhchr.ch/tbs/doc.nsf/0/87793634eae60c00c12571ca00371262/$FILE/G0642783.pdf)

Urban Health Research Initiative. (October 2009). *Drug situation in Vancouver*.

Vancouver: British Columbia Centre for Excellence in HIV/AIDS. Retrieved from: <http://uhri.cfenet.ubc.ca/images/Documents/dsiv2009.pdf>

Vickerman, P., Hickman, M., May, M., Kretzschmar, M., & Wiessing, L. (2010). Can HCV prevalence be used as a measure of injection-related HIV-risk in populations of injecting drug users? An ecological analysis. *Addiction*, *105*(2), 311-318.

doi:10.1111/j.1360-0443.2009.02759.x

Wadd, S., Hutchinson, S.J., Taylor, A., Ahmed, S., & Goldberg, D.J. (2006). High-risk injecting behaviour in hostel accommodation for the homeless in Glasgow 2001-

2002; A study combining quantitative and qualitative methodology. *Journal of Substance Use*, 11(5), 333-341. doi: 10.1080/14659890500520704

Waldrop-Valverde, D., & Valverde E. (2005). Homelessness and psychological distress as contributors to antiretroviral nonadherence in HIV-positive injecting drug users. *AIDS Patient Care and STDs*, 19(5), 326-334. doi:10.1089/apc.2005.19.326.

Weekes, J., Percy, L. & Cumberland, K. (2005). *Supervised injection facilities*. Ottawa, Ontario: Canadian Centre on Substance Abuse. Retrieved from:  
<http://www.ccsa.ca/2004CCSADocuments/ccsa-010657-2004.pdf>

Weekes, J., Thomas, G., & Graves, G. (2004). *Substance Abuse in Corrections FAQs*. Ottawa Ontario: Canadian Centre on Substance Abuse. Retrieved from  
<http://www.ccsa.ca/2004%...s/ccsa-011058-2004.pdf>

Wellesley Institute. (2010). *Precarious housing in Canada*. Toronto: Wellesley Institute. Retrieved from: <http://www.wellesleyinstitute.com/news/affordable-housing-news/new-report-precarious-housing-in-canada-2010/>

Wiebe, J. (2000a). *Mediums to reach injection drug using populations in Canada: A discussion paper*. Ottawa, Ontario: Centre for Infectious Disease Prevention and Control, Hepatitis C Division. Retrieved from <http://www.phac-aspc.gc.ca/hepc/pubs/medidu-moyudi00/pdf/careDiscMediums.pdf>

Wiebe, J. (2000b). *Profile of Hepatitis C & injection drug use in Canada: A discussion paper*. Ottawa, Ontario: Centre for Infectious Disease Prevention and Control, Hepatitis C Division. Retrieved from <http://www.phac-aspc.gc.ca/hepc/pubs/prflhepciducan-prflhepcudican/pdf/careDiscCanada.pdf>

Wilkins, L., Bissell, P., & Meier, P. (2010). Risky injecting practices associated with snowballing: A qualitative study. *Drug and Alcohol Review, 29*(3), 256-262. doi: 10.1111/j.1465-3362.2009.00142.x

Wong, J., Marshall, B., Kerr, T., Lai, C., & Wood, E. (2009). Addiction Treatment Experience among a Cohort of Street-Involved Youths and Young Adults. *Journal of Child & Adolescent Substance Abuse, 18*(4), 398-409. doi:10.1080/10678280903185567

Wood, E., Li, K., Small, W., Montaner, J., Schechter, M., & Kerr T. (2005). Recent incarceration independently associated with syringe sharing by injection drug users. *Public Health Reports, 120*(2), 150–156

Wood, E., Stoltz, J., Zhang, R., Strathdee, S.A., Montaner, J., & Kerr, T. (2008). Circumstances of first crystal methamphetamine use and initiation of injection drug use among high-risk youth. *Drug and Alcohol Review, 27*(3), 270-276. doi: 10.1080/09595230801914750

World Health Organization, Canadian Public Health Association & Welfare Canada. (1986). *Ottawa charter for health promotion* (WHO/HPR/HEP/95.1). Ottawa: First International Conference on Health Promotion, 1986, November 17-21. Retrieved from: [http://www.who.int/hpr/NPH/docs/ottawa\\_charter\\_hp.pdf](http://www.who.int/hpr/NPH/docs/ottawa_charter_hp.pdf)

Wrenn, K. (1990). Foot problems in homeless persons. *Annals of Internal Medicine, 113*(8), 567-569. Retrieved from: <http://www.annals.org/>

Wright, N. (2003). Drug use and homelessness: what can be done in primary care? *The New Generalist*, 1(2), 59-60. Retrieved from <http://www.rcgp.org.uk/>



## APPENDICES

## APPENDIX A

## Survey Questionnaire.

Interviewer ID # \_\_\_\_\_ Participant ID # \_\_\_\_\_

- 1) Male  Female  Other \_\_\_\_\_
- 2) Do you consider yourself to be:  
Heterosexual Gay Lesbian Transgendered Bisexual Two-spirited
- 3) What is your date of birth? \_\_\_\_\_/\_\_\_\_ mm/yyyy
- 4) What is your nationality/ethnic identity? \_\_\_\_\_
- 5) What is your current citizenship and current citizenship status?  
\_\_\_\_\_
- 6) Were you born in Windsor? YES NO  
If NO, how long have you lived here? \_\_\_\_\_
- 7) How do you get around?  
Bus pass Bus tickets Walking Rides Other \_\_\_\_\_
- 8) What is the highest level of education you have completed? \_\_\_\_\_
- 9) Are you a war vet? YES NO
- 10) What is your marital status?  
Single Married Separated Divorced Common Law Partner
- 11) Do you have children? YES NO  
If yes, how many? \_\_\_\_\_
- 12) Do your children currently live with you? YES NO  
Ages of children? \_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_
- 13) Do you have a health card? YES NO

- 14) What other forms of ID do you have?  
 Passport                      Driver's License                      Social Security Card  
 Birth Certificate              Proof of Citizenship/Residency              Military ID  
 Proof of Aboriginal Status                      Other: \_\_\_\_\_
- 15) Do you feel safe and secure where you are currently staying?    YES              NO
- 16) Have you ever been **absolutely** homeless, sleeping on the streets or on park benches?    YES    NO
- 17) How old were you when you were first Homeless? \_\_\_\_\_
- 18) How long? Days              Months \_\_\_\_\_              Years \_\_\_\_\_
- 19) Where are you currently staying?  
 With family       On the streets               In a shelter  
 With friends       Other: \_\_\_\_\_
- 20) Where did you live before this location and for how long?  
 \_\_\_\_\_  
 \_\_\_\_\_
- 21) Where have you lived in the last 6 months? \_\_\_\_\_
- 22) What other supports do you have in your life?  
 Friends              Social Worker              Family              Other: \_\_\_\_\_
- 23) Why would you say you are without permanent housing?  
 \_\_\_\_\_  
 \_\_\_\_\_
- 24) Why would you go to the shelter?  
 \_\_\_\_\_  
 \_\_\_\_\_
- 25) Why wouldn't you go to a shelter?  
 \_\_\_\_\_  
 \_\_\_\_\_
- 26) What is your current source(s) of income? \_\_\_\_\_

- 27) If you could choose, what do you see yourself doing as a job or career?  
\_\_\_\_\_
- 28) When were you last employed?  
\_\_\_\_\_
- 29) What was your last job?  
\_\_\_\_\_
- 30) Do you have any additional skills?  
\_\_\_\_\_
- 31) How many meals per day do you eat? \_\_\_\_\_
- 32) Where do you get your food from?  
 Super market       Food bank       Soup kitchen       Other  
 \_\_\_\_\_
- 33) What kinds of food do you eat?  
\_\_\_\_\_
- 34) How often do you eat fresh fruit and vegetables?  
 a) Fresh fruit?  
 Once per day       2-3 times per week       Once per week  
 Other \_\_\_\_\_  
 b) Fresh vegetables?  
 Once per day       2-3 times per week       Once per week  
 Other \_\_\_\_\_
- 35) If fresh fruit and vegetables were provided to you, would you eat it?  
\_\_\_\_\_
- 36) How would you rate your general health?  
 Excellent       Good       Fair       Poor

- 37) Have you ever been diagnosed with any of the following problems?
- |                            |                 |  |                |
|----------------------------|-----------------|--|----------------|
| Arthritis                  | Ulcers          | Gum Disease                            | HIV/AIDS       |
| Anemia                     | Dental problems | GERD – Reflux                          | Liver Disease  |
| Cancer                     | Diabetes        | High Blood Pressure                    | Epilepsy       |
| Foot Problems/Conditions   |                 | Low Blood Pressure                     | STI            |
| Eye Problems/Conditions    |                 | Heart Condition                        | Sleep Disorder |
| Respiratory/Lung Condition |                 | Thyroid or Endocrine Problem/Condition |                |
| Menopausal Problems        |                 | Menstrual Problems                     | HCV            |
| Emotional/ Mental Issues   |                 | Skin Problems                          |                |
- Other: \_\_\_\_\_
- 38) Do you take medication(s) for any of these problems?    YES    NO
- 39) If no, are you supposed to?    YES    NO
- What are the main side effects (if any) from these medications?
- \_\_\_\_\_
- 40) Why don't you take your prescribed medication?
- Don't like them     Can't afford them     Don't remember to take them
- Other: \_\_\_\_\_
- 41) How many hours of sleep do you get in a 24-hour period? \_\_\_\_\_
- 42) Have you ever been assaulted in the last 6 months? \_\_\_\_\_
- If so, was it by a: Stranger    Person you know    Police    Other \_\_\_\_\_
- 43) Do you have any allergies?    YES    NO
- 44) Have you had any major medical procedures (ie. surgeries, etc.) (if yes, please list)?    YES    NO    \_\_\_\_\_
- 45) Have you had any significant accidents or injuries (if yes, please list)? YES    NO
- \_\_\_\_\_
- 46) Do you have a Family Doctor?    YES    NO

- 47) Where do you go for your medical care?  
 Doctor       Hospital (emergency)       Urgent Care       Clinic  
 Other: \_\_\_\_\_
- 48) When is the last time you saw a Doctor or Nurse practitioner? \_\_\_\_\_
- 49) When is the last time you had a physical? \_\_\_\_\_
- 50) When is the last time you had an STI Test (blood or urine test)? \_\_\_\_\_
- 51) Do you practice safe sex? \_\_\_\_\_  
 Can you tell me more about what you do to practice safe sex? \_\_\_\_\_
- 52) Do you use a condom? \_\_\_\_\_  
 If so, where do you get your condoms? \_\_\_\_\_
- 53) What health services have you used in the last 12 months?  
 \_\_\_\_\_
- 54) Why did you use these health service(s)?  
 \_\_\_\_\_
- 55) Have you used any other health services?  
 Screening      Immunizations      Rehabilitation      Physiotherapy  
 Eye Care      Foot Care
- 56) When is the last time you had an eye exam? \_\_\_\_\_
- 57) What other services have you accessed?  
 Employment Services      Disability Services      Career Help      Housing Services  
 When did you access them? \_\_\_\_\_
- 58) What has stopped you from using medical or other social services?  
 \_\_\_\_\_

What organizations have you used?	Do you still use their services? Y/N	Why do you still use the service?	Why do you not still use the service?	How to improve the service? Do you have any recommendations?

60) Are there any other barriers to accessing services, besides those given previously?

---

Medication

61) What types of prescription medication are you taking? (description if unsure of name of drug or dosage)

<b>Prescription Drug</b>	<b>Dose</b>	<b>Usage</b>	<b>Prescription Drug</b>	<b>Dose</b>	<b>Usage</b>

62) If you are not taking prescription medication, are you supposed to? Yes NO

63) Were all these medications obtained from a Doctor? YES NO  
 If yes, is it the same Doctor? YES NO

64) Do you take medication without a Doctor's order? YES NO  
 If yes, do you consider this to be 'self-medicating?' Or so you do not feel hungry?

---

65) Do you have prescription coverage YES NO

66) Please list any over the counter medication taken in the last 6 months?

<b>Over the counter medication</b>	<b>Dose</b>	<b>Usage</b>	<b>Over the counter medication</b>	<b>Dose</b>	<b>Usage</b>

67) Do you feel your drug use could cause you harm? YES NO  
 If yes, why? \_\_\_\_\_

68) Do you feel you are at risk of serious illness? YES NO  
 If yes, why? \_\_\_\_\_

69) Have you used in the past 6 months any of the following?

Alcohol	Powder Cocaine	Marijuana	Heroin
Inhalants	Benzos	LSD	Amphetamines
Opium	Crack	Phenobarbital	Codeine
Sedatives	Methamphetamine	Tranquilizers	Tobacco
Barbiturates	PCP	Oxys	Perks
Valium			
Other: _____			

70) Have you ever been addicted to any of the below? YES NO  
 If yes, which ones?

Alcohol	Powder Cocaine	Marijuana	Heroin
Inhalants	Benzos	LSD	Amphetamines
Opium	Crack	Phenobarbital	Codeine
Sedatives	Methamphetamine	Tranquilizers	Tobacco
Barbiturates	PCP	Oxys	Perks
Valium			
Other: _____			

71) When is the last time you used drugs? \_\_\_\_\_

72) Do you share drug paraphernalia/items with others (e.g. straws, pipes, etc...)?  
 \_\_\_\_\_

73) Do you inject drugs? \_\_\_\_\_

74) Have you ever needed help injecting drugs? \_\_\_\_\_

75) Have you ever shared a needle? YES NO

If yes, when was the last time? \_\_\_\_\_

76) How do you dispose of your needle? \_\_\_\_\_

77) At what age did you start using drugs? \_\_\_\_\_



- 78) Who first introduced you to drugs?
- Family member      Medical professional      Sexual Partner  
 Friend              Other: \_\_\_\_\_
- 79) Why did you try drugs for the first time?
- Experimentation      Peer Pressure      Pain control  
 Nerves              Low self-esteem      To be accepted  
 Sense of belonging      Medical Condition      Other: \_\_\_\_\_
- 80) How do you pay for your drugs? \_\_\_\_\_
- 81) How much do you spend in a typical week on drugs? \$ \_\_\_\_\_
- 82) When did you last use alcohol? \_\_\_\_\_
- 83) Do you feel that using alcohol or drugs has affected your ability to live a normal life? YES NO
- 84) Do you feel your drug or alcohol use affect your overall health? YES NO
- 85) Have you ever used any support groups (if yes, please list)? YES NO  
 \_\_\_\_\_
- 86) Have you ever been in a treatment program for addiction? YES NO
- If yes, how many times? \_\_\_\_\_
- If yes, when was the last time? \_\_\_\_\_
- 87) Have you ever been in prison or jail in the previous:
- 3 Months      6 Months      Year
- If yes, what were you incarcerated for? \_\_\_\_\_
- 88) Have you ever experienced chronic pain lasting longer than 3 months?  
 YES NO If yes, how long have you had chronic pain? \_\_\_\_\_

- 89) How do you treat your chronic pain? (What do you do or take to reduce the pain?)  
\_\_\_\_\_
- 90) Would you be interested in classes on how to manage chronic pain? YES NO
- 91) Have you experienced any dental pain in the last month? YES NO
- 92) When did you last have your teeth cleaned? \_\_\_\_\_
- 93) When you have tooth pain where do you go?  
Hospital Dentist Walk in Clinic Other: \_\_\_\_\_
- 94) Are you happy with the appearance of your teeth? YES NO
- 95) Do you have dental coverage? YES NO  
If yes, what type of dental coverage do you have? \_\_\_\_\_
- 96) What prevents you from visiting a dentist? Fear Money Other: \_\_\_\_\_
- 97) Have you ever been in treatment for emotional, mental or psychiatric problems other than for an addiction? YES NO  
If yes, was your treatment:  Inpatient  Outpatient  Both
- 98) What were your diagnoses if any?  
 Schizophrenia  Bipolar  Personality disorder  
 Depression  OCD  Anxiety  
Other: \_\_\_\_\_
- 99) Are you taking medication for this? YES NO  
What are you taking? \_\_\_\_\_
- 100) If no, are you supposed to be taking medication? YES NO  
If yes, what are you supposed to be taking? \_\_\_\_\_
- 101) Why don't you take your prescribed medication?  
 Don't like them  Can't afford them  Don't remember to take them  
Other: \_\_\_\_\_
- 102) If you could afford your meds, would you take you meds? YES NO

- 103) Do you need any other medication you can't afford? YES NO  
What medications? \_\_\_\_\_
- 104) How do you spend a typical day? (i.e. what are some things you do with your time)?  
\_\_\_\_\_  
\_\_\_\_\_
- 105) Where do you see yourself in 3 years?  
\_\_\_\_\_
- 106) If you could wave a magic wand, what 3 things would you ask for or change?  
\_\_\_\_\_
- 107) Any additional comments:  
\_\_\_\_\_
- 108) Would you like information or to learn more about:  
Shelter Housing Food Transportation Other \_\_\_\_\_

Interviewers' evaluation:

- 109) Did a gap get bridged? YES NO  
If yes, what gaps? \_\_\_\_\_  
If no, why not? \_\_\_\_\_
- 110) Was a referral booklet given? YES NO

## APPENDIX B

## Operational Definitions:

INDEPENDENT VARIABLE(S)	DEPENDENT VARIABLE	OUTCOME MEASURE (question)
IV Drug Use	Physical Environment	7) How do you get around? 19) Where are you currently staying? 16) Have you ever been <b>absolutely</b> homeless, sleeping on the streets or on park benches? 23) Why would you say you are without permanent housing?
	Social Environment	15) Do you feel safe and secure where you are currently staying? 42) Have you ever been assaulted in the last 6 months? If so, was it by a: Stranger, Person you know, Police, Other? 87) Have you ever been in prison or jail? 22) What other supports do you have in your life? 85) Have you ever used any support groups?
	Personal Health Practices and Coping Skills	36) How would you rate your general health? 41) How many hours of sleep do you get in a 24-hour period? 48) When is the last time you saw a Doctor or Nurse practitioner? 49) When is the last time you had a physical?

INDEPENDENT VARIABLE(S)	DEPENDENT VARIABLE	OUTCOME MEASURE (question)
IV Drug Use	Personal Health Practices and Coping Skills	50) When is the last time you had an STI Test (blood or urine test)? <sup>51)</sup> Do you practice safe sex? Can you tell me more about what you do to practice safe sex? 52) Do you use a condom? 74) Have you ever needed help injecting drugs? 75) Have you ever shared a needle? If yes, when was the last time? 72) Do you share drug paraphernalia/items with others? 71) When is the last time you used drugs? 80) How do you pay for your drugs? 83) Do you feel that using alcohol or drugs has affected your ability to live a normal life? 84) Do you feel your drug or alcohol use affect your overall health? 37) Have you ever been diagnosed with any of the following problems? 98) What were your diagnoses if any?
	Health Services	13) Do you have a health card? 46) Do you have a Family Doctor? 86) Have you ever been in a treatment program for addiction? If yes, how many times?

INDEPENDENT VARIABLE(S)	DEPENDENT VARIABLE	OUTCOME MEASURE (question)
IV Drug Use	Health Services	<p>53) What health services have you used in the last 12 months?;</p> <p>55) Have you used any other health services?; 59) What organizations have you used? and 57) What other services have you accessed?</p> <p>54) Why did you use these health service(s)? and 59) Why do you still use the service?</p> <p>24) Why would you go to the shelter?</p> <p>25) Why wouldn't you go to a shelter?</p> <p>58) What has stopped you from using medical or other social services/ 60) Are there any other barriers to accessing services, besides those given previously?</p>

## VITA AUCTORIS

Kimberley Dobson was born in 1971 in Toronto, Ontario. She graduated from Wilfrid Laurier University in 1992 with a Bachelor of Arts in Philosophy. She obtained her Nursing Diploma from Conestoga College of Applied Arts and Technology in 1998 and worked in Liberal, Kansas; Toronto, Ontario; and Cambridge, Ontario primarily in the emergency department. She attained her Bachelor of Science in Nursing in 2008 from the University of Windsor and is currently a candidate for the Master's of Science in Nursing degree at the University of Windsor and plans to graduate in October, 2011.