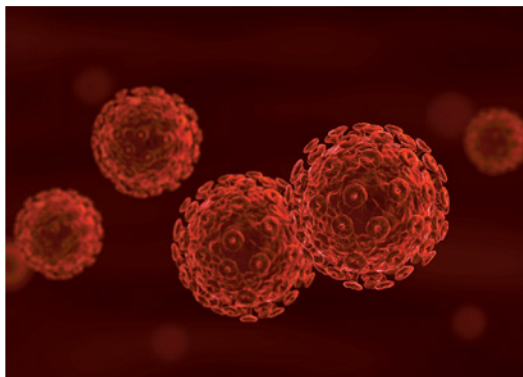


# POPULATION-SPECIFIC HIV/AIDS STATUS REPORT

PEOPLE LIVING WITH HIV/AIDS



PROTECTING CANADIANS FROM ILLNESS



Public Health  
Agency of Canada

Agence de la santé  
publique du Canada

Canada

**TO PROMOTE AND PROTECT THE HEALTH OF CANADIANS THROUGH LEADERSHIP, PARTNERSHIP,  
INNOVATION AND ACTION IN PUBLIC HEALTH.**

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# FOREWORD

The Public Health Agency of Canada, with the support of its many partners, is pleased to release this status report as part of a series of reports<sup>1</sup> intended to summarize current knowledge about the impact of HIV/AIDS among key populations in Canada. Communities, governments, public health practitioners, non-governmental organizations, researchers, and others are encouraged to use this report to inform the future direction of HIV/AIDS policy, programming, and research to positively affect the health and well-being of people living with HIV/AIDS (PHA).

This series of status reports was initiated to support the actions set out in *The Federal Initiative to Address HIV/AIDS in Canada*,<sup>2</sup> the Government of Canada's framework for federal investments in HIV/AIDS, and to provide a comprehensive evidence base for other partners and stakeholders involved in the Canadian response. Launched in 2005, the Federal Initiative identifies the need for more effective interventions and improved HIV/AIDS prevention, research, diagnosis, care, treatment and support initiatives for specific populations at risk of HIV and AIDS. These populations include gay men and other men who have sex with men, people who use injection drugs, people from countries where HIV is endemic, Aboriginal Peoples, people in prisons, youth at risk, women, and PHA.

These reports use a determinants of health approach to examine vulnerability to, and resilience against, HIV infection. Determinants of health are the range of social, economic, environmental, and personal factors that influence the health status of individuals and populations. They contribute to vulnerability for HIV infection and continue to affect the health and quality of life of PHA. This series of reports supports the Agency's efforts to identify and address health disparities and influence the determinants of health. (1)

This report is timely because issues that highlight the increasingly complex needs of PHA have emerged in the past decade. While treatment has had a positive impact on the life expectancy and quality of life of most

PHA, it has also created new challenges in managing their health over the course of their lives, including workplace issues, choices about reproduction, and aging with HIV. Stigma and discrimination remain key challenges for PHA, and, for many, are compounded by other forms of discrimination, such as homophobia, racism, and sexism.

A national working group with expertise in research, epidemiology, community development, policy and program development, and lived experience of PHAs guided the development of this status report. The involvement of PHA has been instrumental in preparing this report and reflects the Agency's commitment to the principle of Greater Involvement of People Living with HIV/AIDS (GIPA). The working group's input and advice have ensured that the report presents the most current, relevant, and innovative research and responses that exist in Canada today.

This report provides a detailed overview of key issues affecting PHA in Canada. As is the case in any work of this nature, limitations were encountered in the data gathering, analysis, and reporting phases. The Agency welcomes comments on the report to assist with the development of future population-specific HIV/AIDS status reports.

After more than 30 years of collective commitment and investment, HIV/AIDS continues to be a major public health challenge that requires a concerted, collaborative response. Examining the underlying factors and conditions that affect the vulnerability, resilience, inclusion, and the quality of life of PHA is key to understanding how best to structure an effective response to HIV and AIDS. It is with this objective in mind that this report was prepared.

<sup>1</sup> Published Population-specific Status Reports include *People from Countries where HIV is Endemic – Black people of African and Caribbean descent living in Canada, Aboriginal Peoples and Women*.

<sup>2</sup> More information on *The Federal Initiative to Address HIV/AIDS in Canada* is available at <http://www.phac-aspc.gc.ca/aids-sida/fi-if/index-eng.php>.



## EXECUTIVE SUMMARY

An estimated 71,300 people were living with HIV/AIDS in Canada at the end of 2011. Although anyone can contract HIV, certain populations are particularly vulnerable to HIV infection, or are disproportionately represented among people living with HIV/AIDS (PHA); these include gay and other men who have sex with men, people who use injection drugs, people from countries where HIV is endemic, Aboriginal Peoples, people in prisons, youth at risk and women.

The burden of HIV in Canada is shifting. When HIV reporting began in 1985, the men who have sex with men (MSM) exposure category accounted for over 80% of all cases. Between 2000 and 2011, the MSM exposure category accounted for 42.1% of new positive HIV test reports among adults, followed by the heterosexual contact (30.8%) and injection drug use (20.7%) exposure categories. Between 1985 and 1999, women accounted for only 13% of new positive HIV test reports; in 2011 they accounted for 26%. At the end of 2011, people who were born in a country where HIV is endemic made up approximately 2.2% of the overall population, but accounted for an estimated 14.9% of prevalent infections. Aboriginal people made up approximately 3.8% of the overall population, but accounted for an estimated 8.9% of prevalent infections.

The increasing diversity of those living with HIV in Canada means that PHA may have very different life experiences both prior to and following HIV infection. This report acknowledges the diverse experiences of PHA while also looking at commonalities related to the experience of living with HIV in Canada, including testing and diagnosis, prevention, medical issues, treatment issues including medication adherence and side effects, diet and exercise, HIV within the family, sexual health, aging with HIV, palliative care and bereavement.

Determinants of health play a strong role in influencing vulnerability to HIV infection, and continue to influence PHA quality of life, treatment adherence and outcomes, and mortality. Although treatment is widely available to PHA in Canada, a range of socioeconomic factors affect access and adherence to treatment, as well as the health of PHA. Guided by a determinants of health approach, this report examines the impact on PHA of factors such as income, employment status, social environments including stigma and discrimination, social support networks, physical environments, culture, gender, access to health services and personal health practices.

Key determinants that emerge from the research include stigma and discrimination and the role of social support as a source of resilience. Stigma and discrimination affect numerous aspects of PHA lives, from their relationships with intimate partners, family and friends, to their community, their workplace and society at large. For many, this stigma is compounded by other forms of discrimination including racism, sexism and homophobia. Social support and community engagement has been a central part of the response to HIV/AIDS in Canada since the beginning, and continues to be a key source of resilience for PHA.

The report also provides an overview of research projects funded by major Canadian research organizations. It identifies 148 time-limited research projects underway between 2008 and 2010 that focus on PHA in Canada. Of these, 79 addressed specific populations. Research on basic science, clinical medicine, microbiology and on vulnerability to HIV infection was excluded. General areas of research include the determinants of health, access to treatment, mental health and resilience.

The report also examines the current response to HIV/AIDS among PHA at the policy and programmatic levels. This includes an overview of national, provincial and territorial population-specific strategies; population-specific networks, coalitions and advisory bodies; and projects that address HIV/AIDS among PHA. 155 projects were identified, indicating that a broad range of organizations are involved in delivering prevention, care, treatment and support services to PHA. Organizations involved in the response include community-based HIV/AIDS service organizations, health or sexual health services, and governmental organizations.

Community organizations and governments across Canada are involved in providing treatment, care, support and services to PHA, and work on prevention, education and countering stigma and discrimination. Despite these important and significant efforts, much remains to be done. Effective and tailored efforts in preventing the acquisition and transmission of HIV and improving the quality of life of PHA are required to successfully address HIV and AIDS. The meaningful engagement of PHA in the programs, services and policies that affect them remains key to identifying challenges and developing effective responses to better serve their needs.





# ACKNOWLEDGEMENTS

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Thanks also to the staff of the Agency's Centre for Communicable Diseases and Infection Control and to Agency regional employees for their leadership and insightful contributions at all stages in the development of this report.

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## LIST OF TERMS

**Aboriginal Peoples:** Refers to First Nations, Inuit and Métis as recognized under the Constitution Act, 1982. These are distinct populations with unique cultural, linguistic, geographic and historic characteristics.

**APHA:** Aboriginal people living with HIV/AIDS

**Acquired Immunodeficiency Syndrome (AIDS):** A condition that describes an advanced stage of HIV infection. With AIDS, the virus has progressed, causing significant loss of white blood cells (CD4 cells) and cancers or infections that result from immune system damage. An AIDS diagnosis is made if a person living with HIV is diagnosed with one or more of the clinical conditions characterized as “AIDS-defining illnesses”. Antiretroviral therapy can suppress the HIV virus and slow the progression of the disease. Like HIV, there is no known cure for AIDS.

**Bisexual:** A person who is attracted sexually and emotionally to both males and females.

**Ethnocultural:** Refers to the ethnic or cultural origins of an individual or population group.

**First Nations:** A term which usually refers to both Status and Non-Status Indians. First Nations People are one of the three recognized Aboriginal Peoples in Canada, along with Métis and Inuit.

**Gay:** A person who is sexually and emotionally attracted to members of the same sex. The word gay can refer to both males and females, but is most commonly used to identify males.

**Gender:** Refers to the array of socially-determined roles, personality traits, attitudes, behaviours, values, relative power and influence that society ascribes to the two sexes on a differential basis. Distinct from sex.

**Hepatitis C virus (HCV):** A virus that infects the liver. Prolonged and acute hepatitis C infection can often result in liver disease and cirrhosis. The virus is transmitted largely by blood transfusion or percutaneous inoculation, such as needle sharing among people who inject drugs.

**Homophobia:** An irrational fear of, aversion to, or discrimination against gay or lesbian people or those perceived to be gay or lesbian. Internalized homophobia occurs when homophobic prejudices and biases are integrated into an individual's belief system. External homophobia occurs when internal homophobic feelings shape people's behaviour towards others that they perceive as different; for example, by prompting social avoidance, verbal abuse, discrimination and in some cases violence. Institutional homophobia refers to discriminatory practices and policies based on sexual orientation exercised by governments, businesses, religious organizations, educational institutions and other institutions.

**Human immunodeficiency virus (HIV):** The virus that causes AIDS. This virus is passed from one person to another through blood-to-blood, sexual contact, and from mother-to-child through pregnancy, delivery, or breast-feeding. HIV attacks the immune system, resulting in a chronic progressive illness that leaves people vulnerable to opportunistic infections and cancers. There is no known cure or vaccine for HIV but, for most, the virus can be managed through daily doses of antiretroviral medication. In the absence of treatment with antiretroviral medication, HIV infection will progress to AIDS.

**HIV-endemic country:** An HIV-endemic country is defined as having an adult prevalence (ages 15-49) of HIV that is 1.0% or greater and one of the following: (1) 50% or more of HIV cases attributed to heterosexual transmission; (2) a male to female ratio of 2:1 or less; or (3) HIV prevalence greater than or equal to 2% among women receiving prenatal care.

**Injection drug use (IDU):** An epidemiological classification for HIV transmission among people who use injection drugs.

**Inuit:** Canada's Aboriginal people of the Arctic. Inuit are one of the three recognized Aboriginal Peoples in Canada, along with the First Nations and Métis.

**Lesbian:** A woman who is attracted sexually and emotionally to other women.

**Men who have sex with men (MSM):** An epidemiological classification for HIV transmission.

**Men who have sex with men and inject drugs (MSM-IDU):** An epidemiological classification for HIV transmission.

**Métis:** One of the three recognized Aboriginal Peoples of Canada, along with First Nations and Inuit. Métis are people of mixed Aboriginal and European ancestry.

**Positive (or “poz”) prevention:** An approach that engages people living with HIV/AIDS in activities that can contribute to preventing onward transmission of HIV.

**Risk factor:** A factor associated with an increased chance of getting a disease or infection. It may be a causal determinant or simply a risk marker. Factors associated with decreased risk are known as protective factors.

**Sex:** Refers to the biological characteristics that generally distinguish males and females. Biological differences include such things as anatomy, genetics, hormones, metabolism and physiology. Distinct from gender.

**Sexual health:** A state of physical, mental and social well-being in relation to sexuality, requiring a positive and respectful approach to sexuality and sexual relationships as well as the possibility of having pleasurable and safe sexual experiences, free of coercion, discrimination and violence.

**Sexually transmitted infections (STIs):** A group of infections that spread from one person to another through sexual contact. This can be vaginal, oral or anal sex, and sometimes skin-to-skin contact.

**Sex work:** The exchange of sexual services for money or other goods or services.

**Transgender:** A person whose gender identity, outward appearance, expression and/or anatomy does not fit into conventional expectations of male or female.

**Two-Spirit:** A term that refers to sexual orientation and/or gender identity within some Aboriginal cultures. The organization 2-Spirited People of the 1st Nations defines the term as follows: “Native people who are gay, lesbian, bisexual, transgender, other gendered, third/fourth gendered individuals that walk carefully between the worlds and between the genders”. The term is primarily used by some First Nations communities.

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# CHAPTER 1 – INTRODUCTION

## 1.1 BACKGROUND

Anyone can be affected by HIV or AIDS, regardless of age, lifestyle or socio-economic status. However, certain populations are more affected than others. In Canada, these populations include gay men and other men who have sex with men, people who use injection drugs, people from countries where HIV is endemic, Aboriginal Peoples, people in prisons, youth at risk and women. Most people living with HIV/AIDS (PHA) in Canada are part of one or more of these populations. Although HIV is a preventable disease, new infections continue to occur. Canada had an estimated 71,300 PHA at the end of 2011, and an estimated national HIV prevalence of 0.2%. Canada is therefore considered a low prevalence country. (1)

This report is one in a series of eight status reports that synthesizes population-specific evidence on populations most affected by HIV in Canada, in order to inform the further development of policies, programs and research. The other reports in the series take a detailed look at population-specific vulnerabilities and resiliencies for HIV infection for the populations most at risk. This report focuses on PHA, and attempts to capture the diverse realities of this population in Canada through a determinants of health lens, which looks at the impact of factors such as income, employment, social environments, culture, gender, access to health services and personal health practices on PHA's quality of life and health status.

This status report includes chapters on surveillance and epidemiological information about PHA in Canada, the lived experience of PHA, the determinants of health that affect the quality of life of PHA, an overview of selected research, and an overview of programmatic responses that were funded at the time of publication.

The following key themes emerged in the production of this report: the diversity of PHA in Canada; the ongoing challenges of stigma and discrimination; the experience by some PHA of HIV as an episodic disability; HIV across the course of an individual's life, from considerations for preventing vertical transmission from mother to child during pregnancy, to specific HIV-related co-morbidities and issues associated with aging; the linguistic and cultural barriers faced by some in accessing health care and support services; treatment adherence; and the important role of community engagement and support.

## 1.2 METHODOLOGY

The report's key themes were identified in consultations with PHA at the Canadian AIDS Society's Annual General Meeting and PHA Forum and the Canadian Aboriginal AIDS Network's Aboriginal PHA Caucus in 2007. Following these meetings, the Public Health Agency of Canada established an expert advisory working group to help guide the development and dissemination of this status report. The working group was composed of PHA, community representatives, non-governmental organizations, researchers, epidemiologists, and policy and program experts. The working group acted as an advisory body, providing guidance and feedback on the report's progress, themes, and evolving drafts. Additional experts were consulted on an ad hoc basis to ensure the report's accuracy and comprehensiveness.

Throughout the development of this report, the Agency has endeavoured to follow the principle of Greater Involvement of People Living with HIV/AIDS (GIPA), which empowers PHA to take a leadership role in the work that most affects them, thereby acknowledging the crucial contribution they make in advancing the Canadian response to HIV/AIDS. The involvement of PHA has been integral to the development of this report—they have identified priorities and themes, commented on evolving drafts, and brought their lived experience and expertise to the process.

The report was developed between June 2007 and December 2011. The Agency developed an internal methodology that each of the population-specific status reports has followed to ensure a consistent approach. The methodology for each chapter was designed to ensure that the most current and relevant evidence was synthesized and presented.

The scope of the literature review includes predominantly Canadian publications; international research was excluded. Epidemiology and surveillance information addressing the national picture were gathered from published reports by the Agency and other sources. The literature identified for inclusion in the report met the following criteria: focused on HIV or AIDS; focused on PHA in Canada; addressed one or more of the 12 health determinants related to HIV or AIDS, or characterized HIV or AIDS in the context of prevention, care, treatment, support, or diagnosis for PHA. Information on living with HIV/AIDS and key determinants of health was taken from

research papers and grey literature<sup>3</sup> published from January 1, 2005, to March 1, 2011, using the search terms and databases cited in Appendix A.

A summary of selected research funded between 2008 and 2010 was developed by compiling information from national funding sources and selected provincial funding organizations. (See Appendix B for the complete list of research projects identified). Both quantitative and qualitative information was gathered and analyzed.

Members of the Federal/Provincial/Territorial Advisory Committee on AIDS, and national and regional program consultants from both the Agency and Health Canada's First Nations and Inuit Health Branch provided input about strategies, networks, committees, organizations, and time-limited projects involved in the response to HIV/AIDS in their jurisdictions. A detailed analysis of Agency, Health Canada and provincial funding programs was also conducted to obtain information about projects that address PHA across Canada. (See Appendix C for a complete list of networks, coalitions, advisory bodies, organizations and projects identified.)

## 1.3 REFERENCE

- (1) Public Health Agency of Canada. Summary: Estimates of HIV prevalence and incidence in Canada, 2011. Ottawa: Centre for Communicable Diseases and Infection Control, Public Health Agency of Canada; 2012.

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<sup>3</sup> Grey literature is a term commonly used to describe any information produced by an organization for which publishing is not the primary activity of that organization. Grey literature is not subject to the same scrutiny as peer-reviewed literature.

# CHAPTER 2 – EPIDEMIOLOGICAL PROFILE OF HIV AND AIDS IN CANADA

## 2.1 EVOLUTION OF HIV AND AIDS IN CANADA

In March of 1982, the first case of a death in Canada from what was soon to be known as AIDS was reported. (1) This followed a report from the United States on a cluster of cases of gay men presenting with *Pneumocystis Carinii* Pneumonia (PCP) and Kaposi's Sarcoma, both rare infections occurring only in people with severely compromised immune systems. As early identified cases were concentrated in the gay community, one of the proposed names for this emerging illness was Gay-Related Immune Deficiency (GRID). By late 1982, it became clear that other groups were also affected, leading the U.S. Centers for Disease Control and Prevention to name this pattern of symptoms Acquired Immune Deficiency Syndrome (AIDS). In 1983, it was established that a new retrovirus—subsequently named Human Immunodeficiency Virus (HIV)—was the cause of AIDS.

When it first emerged in Canada, HIV was overwhelmingly concentrated among gay men, although it also affected hemophiliacs, and people who use injection drugs. In the late 1980s and early 1990s, women emerged as an affected population. More recently, Aboriginal people and people from countries where HIV is endemic have become over-represented in Canada's HIV epidemic. The rate of HIV infection among people in prison is also higher than among Canada's general population. (2;3;4)

### 2.1.1 CURRENT STATUS

Canada has a relatively low HIV prevalence, with an estimated national prevalence of 0.2% in 2011. (5) Canada now has a growing population of people living with HIV/AIDS (PHA), as a result of the following two factors: new HIV infections continue to occur and AIDS-related deaths have declined after the introduction of antiretroviral medications. The rate of new HIV infections in Canada has remained relatively stable over the past decade.

Although anyone can be affected by HIV, it continues to be concentrated in specific populations in Canada. As discussed above, the populations affected by HIV have become more diverse, although gay men continue to be the most affected population. The Federal Initiative to

Address HIV/AIDS in Canada focuses on the following populations most affected by HIV in Canada: gay men and other men who have sex with men, people who use injection drugs, people from countries where HIV is endemic, Aboriginal Peoples, people in prisons, youth at risk, women, and people living with HIV/AIDS (PHA). (4)

It is important to note that many people living with or at-risk of HIV in Canada may be members of more than one of these groups. HIV surveillance tracks the main routes of exposure to the virus—men who have sex with men, heterosexual contact, and injection drug use—but the people affected also belong to distinct racial/ethnic, gender and age groups necessitating a nuanced policy and program response to prevention, care, treatment and support.

## 2.2 HIV AND AIDS DATA IN CANADA

The Public Health Agency of Canada uses multiple data sources to provide an overall picture of HIV among Canadians, including routine surveillance, enhanced surveillance of specific at-risk populations, research data, and modelling methods, which are used to provide national estimates. This chapter presents both routine and enhanced surveillance data, as well as estimates of the number of new HIV infections (i.e., incidence) and the total number of people living with HIV infection (i.e., prevalence) in order to characterize HIV and AIDS in Canada.

HIV is a reportable condition in every province and territory in Canada, meaning that every positive HIV test obtained by a laboratory or healthcare provider must be reported to provincial health authorities. AIDS is only a reportable condition in some jurisdictions, although physicians are required to report the occurrence of AIDS-defining illnesses<sup>4</sup> in patients already diagnosed with HIV. For surveillance purposes, these cases are included in the national AIDS data. For all AIDS cases, death data are also collected.

<sup>4</sup> A list of AIDS-defining illnesses can be found in Section 3.3.1 in Chapter 3.

Provinces and territories provide routine surveillance data to the Agency on a voluntary basis. These data consist of reported positive HIV test reports and reported AIDS cases, with no identifying information. While a minimum amount of information is provided for each case—usually age, sex, and diagnosis date—the amount of supplementary data provided from each province and territory varies, with only some jurisdictions reporting country of birth, ethnicity, and exposure category. Supplemental data on ethnicity are important because this information can identify infection patterns among different racial/ethnic groups. Supplementary data on exposure categories are also important because this information identifies the most likely route by which an individual became infected.

Monitoring HIV is difficult because routine surveillance can only tell us about persons who have been tested and diagnosed with HIV or AIDS. It is estimated that 25% of those living with HIV in Canada are unaware of their infection. (5) Routine surveillance also has limitations with regards to underreporting, reporting delays, potential duplicate reporting, and missing information. As a consequence, routine surveillance data alone do not fully reflect the extent of the HIV epidemic in Canada.

To develop a clearer picture of HIV in Canada, the Agency uses several approaches, including enhanced (i.e., behavioural and biological) surveillance and estimates of HIV prevalence and incidence. Enhanced surveillance entails gathering behavioural information, such as sexual behaviours, injecting and testing behaviours, as well as HIV infection status among a targeted group of people. The Agency conducts enhanced surveillance among gay, bisexual and other men who have sex with men (called the M-Track surveillance system) and people who inject drugs (called the I-Track surveillance system) to gain

more detailed knowledge about HIV testing patterns, risk behaviour, and HIV prevalence. Similar enhanced surveillance systems are under development for monitoring HIV and associated risk behaviours among people from countries where HIV is endemic (to be called the E-Track surveillance system) and among Aboriginal Peoples (to be called the A-Track surveillance system).

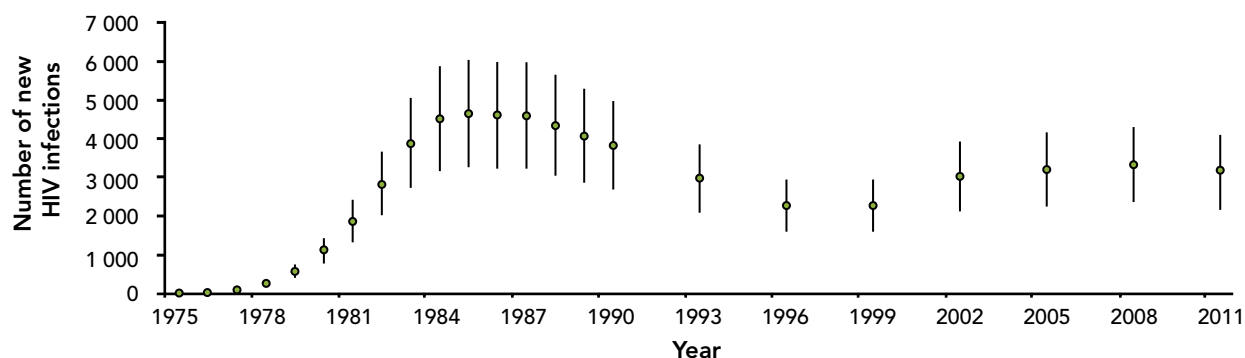
National data on the HIV status of infants exposed perinatally to HIV infection are collected through the Canadian Perinatal HIV Surveillance Program, an initiative of the Canadian Pediatric AIDS Research Group.

The Agency also develops national HIV prevalence and incidence estimates to assess the number of people living with HIV who are unaware of their status. These estimates rely on mathematical modelling, and are based on a combination of the findings from routine surveillance, enhanced surveillance, and research data. Methods to estimate prevalence and incidence at the national level are complex and, while they do contain a level of uncertainty, provide a more complete picture of the HIV epidemic, enabling governments and service providers to develop focussed programs and approaches.

### 2.2.1 ESTIMATED HIV INCIDENCE

New HIV infections in Canada continue to occur. The Agency estimates that the range of new HIV infections in 2011 was between 2,250 and 4,100 (Figure 1). This is a decrease from the peak in 1985, when there were an estimated 3,250 to 6,050 new infections. The number of incident infections decreased steadily after 1985 until the mid-1990s, levelled off from 1996 to 1999, followed by an increase from 1999 to 2002, and has levelled off again since 2002. (5)

**FIGURE 1:** Estimated number of incident HIV infections in Canada for selected years

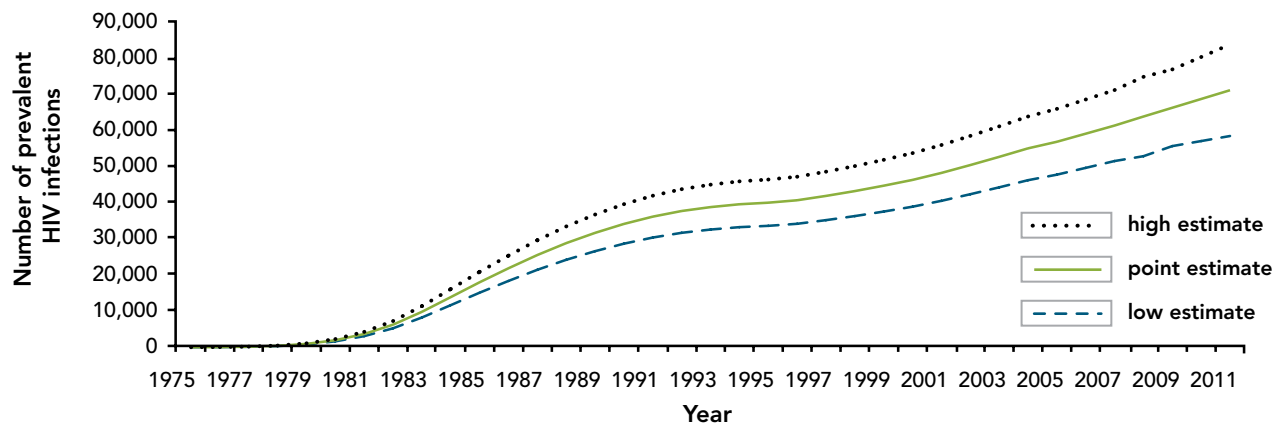


Note: Range of uncertainty represented by vertical bars.

Source: Public Health Agency of Canada. Summary: Estimates of HIV prevalence and incidence in Canada, 2011. Ottawa: Centre for Communicable Diseases and Infection Control, Public Health Agency of Canada; 2012.



FIGURE 2: Estimated number of people living with HIV infection in Canada (all ages)



Note: The curve includes the range of uncertainty by year.

Source: Public Health Agency of Canada. Summary: Estimates of HIV prevalence and incidence in Canada, 2011. Ottawa: Centre for Communicable Diseases and Infection Control, Public Health Agency of Canada; 2012.

## 2.2.2 ESTIMATED HIV PREVALENCE

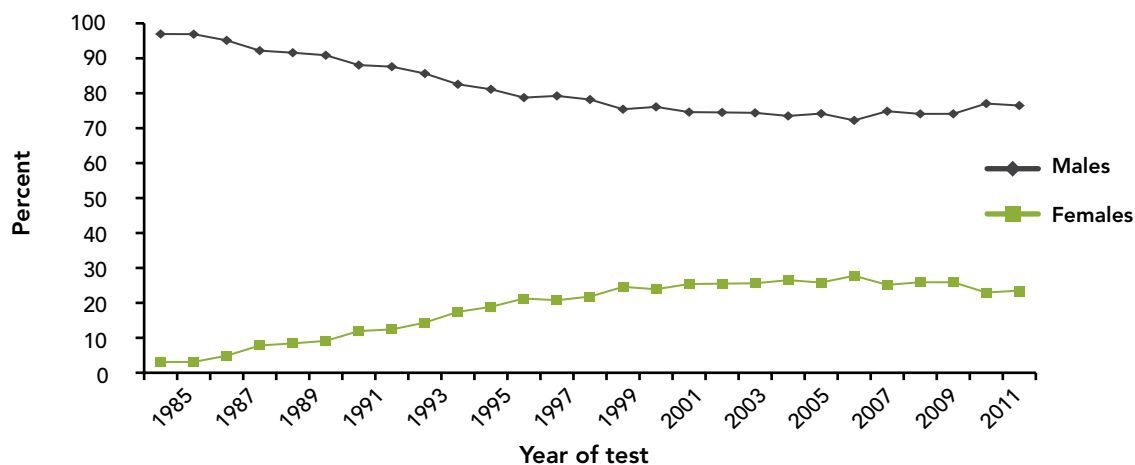
At the end of 2011, an estimated 71,300 (58,600 – 84,000) people were living with HIV infection (including AIDS). An estimated 25% of this number, or between 14,500 and 21,500 people, were unaware of their HIV infection. (5) Figure 2 presents the estimated number of prevalent HIV infections over time in Canada with associated ranges of uncertainty.

## 2.3 BIOLOGICAL SEX

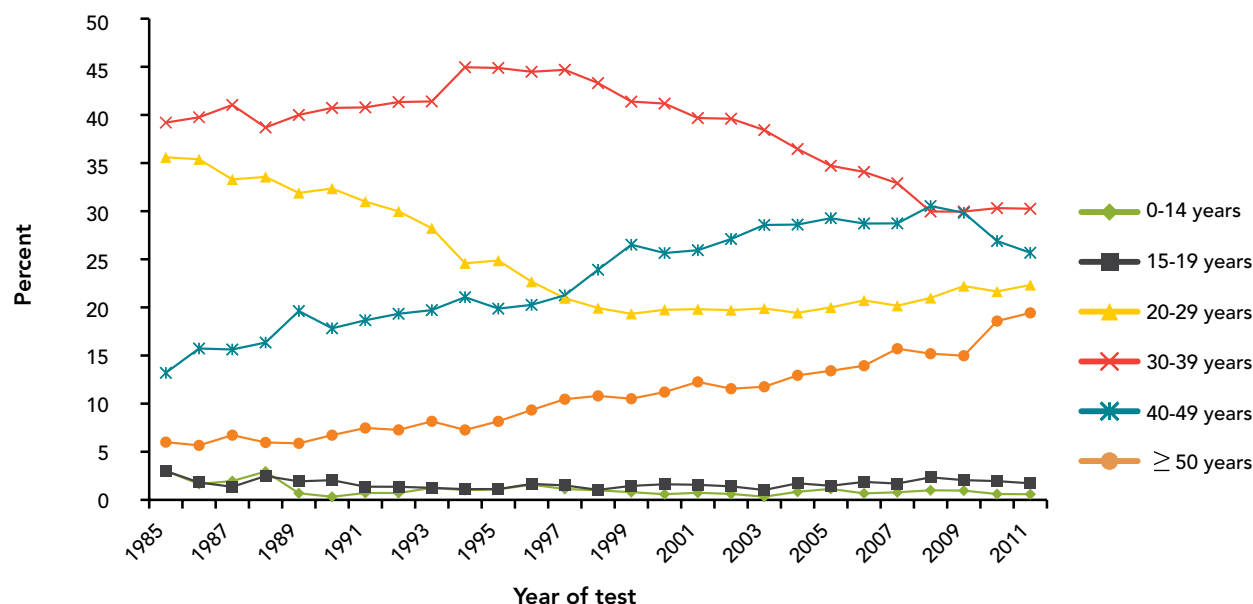
An estimated 54,700 males and 16,600 females were living with HIV (including AIDS) in Canada as of December 31, 2011. (5) Routine surveillance data show that the relative proportion of males and females diagnosed with HIV has shifted over time. In 1985, fewer than 5% of positive HIV test reports with reported sex information were attributed to adult females; by 2011, women accounted for 23.3% of new positive HIV test reports with reported sex information. (6)

For the past 10 years, however, the proportions of male and female cases have remained relatively stable (see Figure 3).

FIGURE 3: Proportion of positive HIV test reports, by sex (all ages), 1985 – 2011 (n=71,361)



Source: Public Health Agency of Canada, Internal data, 2012.

**FIGURE 4:** Proportion of positive HIV test reports in Canada, by age group\*, 1985 – 2011 (n=69,637)

\*Where age was reported.

Source: Public Health Agency of Canada, Internal data, 2012.

## 2.4 AGE AT DIAGNOSIS

Since 1985, among positive HIV test reports in which information on age was included, the largest proportion of cases has been attributed to the 30 to 39 year age group<sup>5</sup>. Although that proportion has been decreasing since 1994, it remains the highest overall and in 2011, this age group accounted for 30.3% of cases. In contrast, the proportion of positive HIV test reports among those aged 40 to 49 years has for the most part been increasing since the beginning of the epidemic, reaching a peak of 30.5% in 2008, though decreasing again slightly to 25.7% in 2011. The proportion of annual HIV test reports among those aged 50 years and older has also increased since the beginning of the epidemic, reaching a high of 19.4% in 2001. (6)

The proportion of positive HIV test reports among those aged 20-29 years has decreased significantly over time, from a high of 35.6% in 1985 to a low of 19.3% in 1999. Since 1999, the proportion of positive HIV test reports in this age group has remained stable, increasing only slightly to 22.7% in 2011. The proportion of positive HIV test reports in the youngest age groups have remained quite low since the beginning of the epidemic, both those aged 0-14 years and 15-19 years peaking at 3.0% in 1985. In 2011, the proportion among those aged 0-14 years was 0.6%, and 1.7% among those aged 15-19 years.

<sup>5</sup> It is important to note that although age information is provided with the positive HIV test reports, this represents age at diagnosis, not necessarily age at infection.

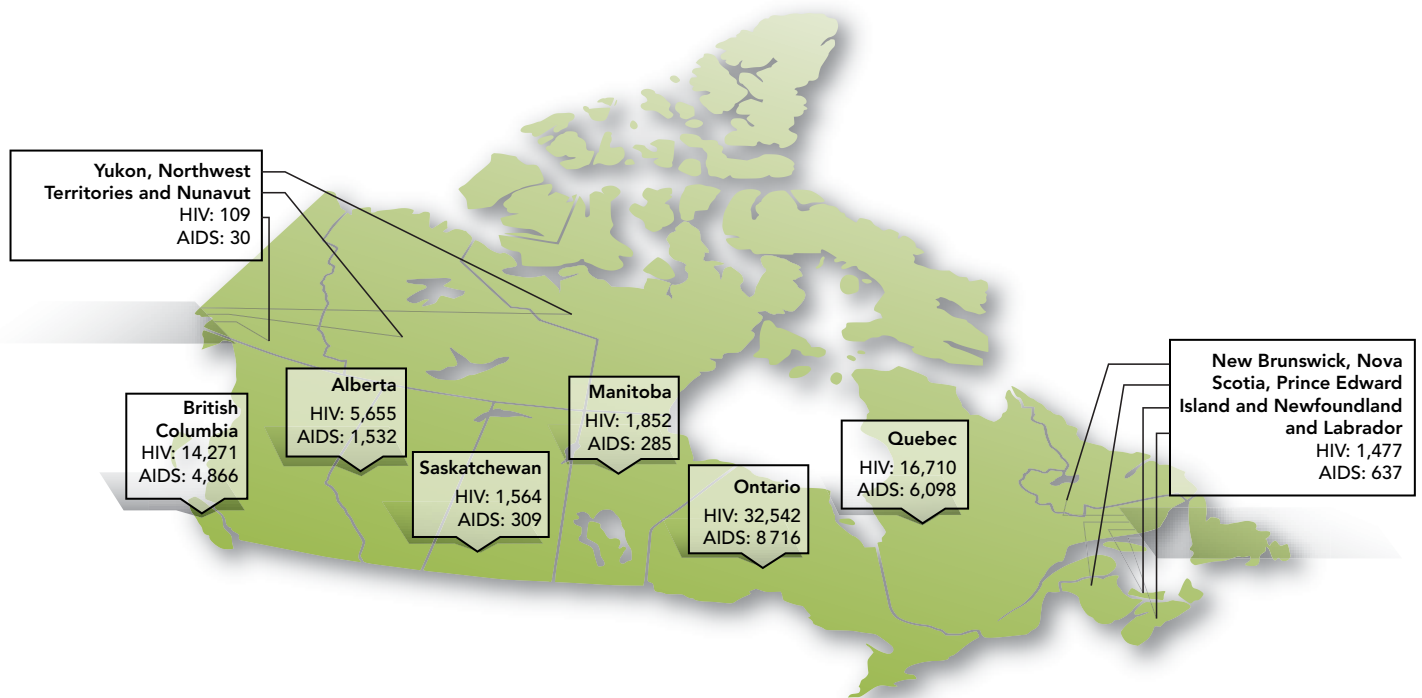


## 2.5 GEOGRAPHIC DISTRIBUTION

The majority of positive HIV test reports and reported AIDS cases in Canada have been concentrated in the four most populous provinces—Ontario, Quebec, British Columbia and Alberta,—which account for approximately

86% of the general Canadian population. (7) These four provinces together account for 93.3% of all positive HIV test reports since 1985, and 94.4% of all AIDS cases since 1979. (6) It is important to note that surveillance systems record the province where the positive HIV test or AIDS case is diagnosed, which is not necessarily the province in which the person was infected, or where they reside.

**FIGURE 5:** Number of positive HIV test reports (n=74,162) and reported AIDS cases (n=22,473) by province/territory, 1985 – 2011



Source: Public Health Agency of Canada, Internal data 2012.

## 2.6 NATIONAL HIV INFECTION EXPOSURE CATEGORIES

This section explains the classification of positive HIV test reports by exposure category, and provides a broad overview of the HIV epidemic in Canada.

### 2.6.1 EXPOSURE CATEGORY CLASSIFICATION

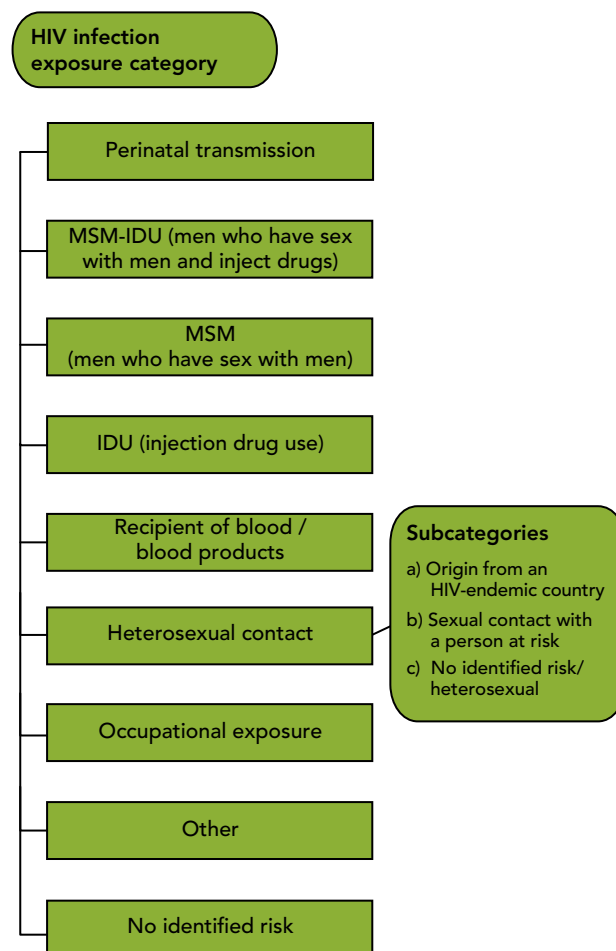
Most positive HIV test reports and AIDS cases reported to the Agency through routine surveillance include one or more reported risk factors, such as sex with a male, sex with a female, injection of non-prescription drugs, and received blood transfusion.

For the purpose of national reporting, positive HIV test reports and reported AIDS cases are assigned to a single exposure category (based on the reported risk factor[s]) within a risk exposure hierarchy (see Figure 6). The exposure category hierarchy was developed as a way of classifying positive HIV test reports and reported AIDS cases where the actual route of transmission for acquisition of HIV was unknown, or more than one risk factor is reported. If more than one risk factor is reported, the case is classified according to the exposure category listed first (or highest) in the hierarchy. For example, if a positive HIV test report or AIDS case cites the risk factors 'injection drug use' (IDU) and 'heterosexual contact', the report or case would be attributed to the IDU exposure category for the purpose of national data collection, as IDU is accepted as the higher risk activity. (8)

If a person who uses injection drugs is known to have contracted HIV through occupational exposure, they would be classified under 'occupational exposure', even though this is lower on the hierarchy, because the actual route of HIV infection is known.

The exposure category hierarchy was created in conjunction with national stakeholders when the HIV surveillance system was first established in Canada. It was based on the epidemic trends at the time and was meant to serve as an epidemiological tool for the surveillance and classification of cases.

FIGURE 6: National hierarchy of HIV infection exposure categories



Source: Public Health Agency of Canada, Internal data 2012.

### 2.6.2 OVERVIEW OF HIV IN CANADA, BY EXPOSURE CATEGORY

This section provides a broad overview of the HIV epidemic in Canada by exposure category, using data from national estimates and routine surveillance. It describes the difference in the distribution of these categories over time, and between adult males and females.

At the end of 2011 in Canada, the largest proportion of estimated prevalent infections were attributed to the men who have sex with men (MSM) exposure category with an estimated 46.7% of cases. This was followed by

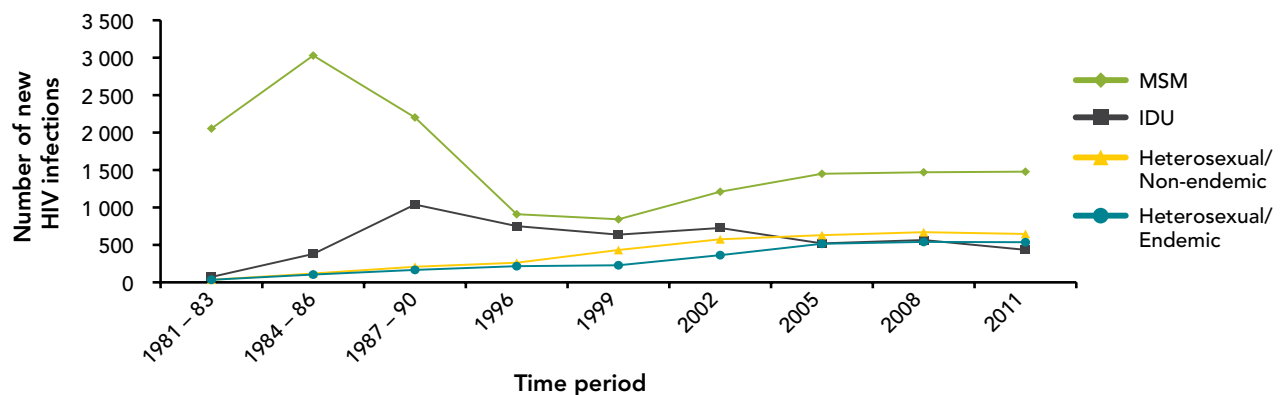
the heterosexual non-endemic<sup>6</sup> and heterosexual endemic<sup>7</sup> exposure categories with an estimated 17.6% and 14.9% of HIV prevalent cases respectively, and the injection drug use (IDU) exposure category with 16.9%. The combined category of men who have sex with men and who inject drugs (MSM-IDU) made up an estimated 3% of the total proportion of prevalent HIV cases, and 'other' exposure categories—such as recipients of blood or clotting factor, perinatal transmission, and occupational transmission—made up an estimated 0.8% cumulatively. (5)

The estimated number of new HIV infections in 2011 attributed to the MSM exposure category was 1,480 (or 46.6%). The estimated number of new HIV infections attributed to the heterosexual endemic and non-endemic exposure categories was 645 (20.3%) and 535 (16.9%) respectively, an estimated 435 cases (13.7%) were attributed to the IDU exposure category, and 80 cases (2.5%) to MSM-IDU. (5) Figure 7 illustrates trends for estimated incident HIV infections by exposure category over time.

The burden of HIV in Canada has changed over the past 30 years. When HIV reporting began in 1985, the MSM exposure category accounted for over 80% of all cases, and continued to account for the majority of cases for the next ten years (see Figure 8a). Although it is still the predominant exposure category, the proportion has diminished significantly over the years. Between 2002 and 2011, the MSM exposure category accounted for 42.0% of new positive HIV test reports among adults, followed by the heterosexual contact (30.8%) and IDU (20.7%) exposure categories (see Figure 8b). (6)

The relative proportion of positive HIV case reports attributed to adult ( $\geq 15$  years) males and females has also shifted over time. In 1985, over 95% of positive HIV test reports with known age and exposure category were among adult males, and 85% of those reports were attributed to the MSM exposure category. By 2011, adult females with known age and exposure category accounted for 20.5% of new test reports, down from a peak of 25.9% in 2006, with heterosexual contact and injection drug use identified as the two main exposure categories. Figure 9 shows the breakdown of exposure categories for adult males and females.

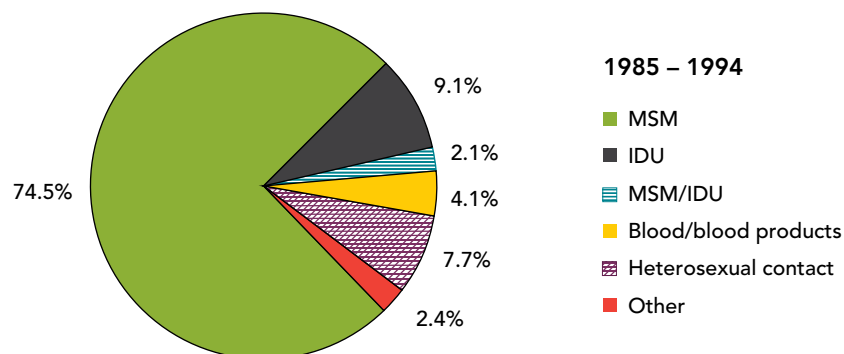
**FIGURE 7:** Estimated number of incident HIV infections per year by exposure category (range of uncertainty omitted)



Source: Public Health Agency of Canada. Summary: Estimates of HIV prevalence and incidence in Canada, 2011. Ottawa: Centre for Communicable Diseases and Infection Control, Public Health Agency of Canada; 2012.

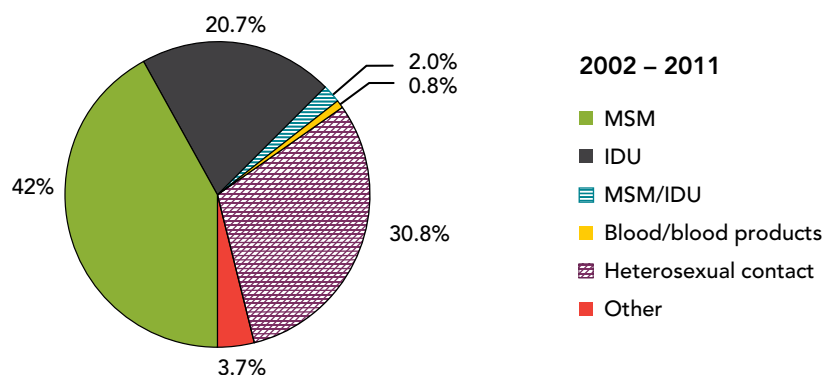
<sup>6</sup> The heterosexual non-endemic category identifies heterosexual sexual contact between two people from a non-endemic country or region as the only risk factor for HIV transmission.

<sup>7</sup> The heterosexual endemic category identifies heterosexual contact with a person from an HIV endemic country or region as the risk factor for HIV transmission. HIV-endemic countries are defined by the World Health Organization in accordance with two following criteria: 1. Estimated HIV prevalence is 1.0% or more for the general adult population (ages 15-49); and 2. One of the following: (a) 50% or more of the AIDS cases or HIV diagnoses are attributed to heterosexual transmission; (b) male to female ratio is 2:1 or less; (c) HIV prevalence greater than or equal to 2.0% among women receiving prenatal care. Most of these countries are located in sub-Saharan Africa and the Caribbean.

**FIGURE 8A:** Proportion of positive HIV test reports among adults ( $\geq 15$  years), by exposure category, 1985 – 1994 (n=15,372)

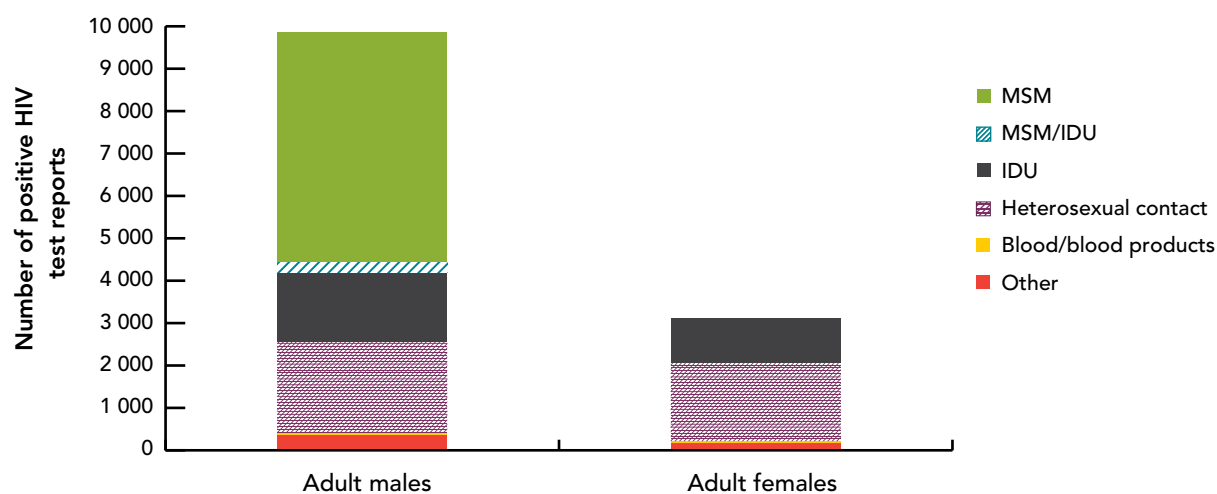
Note: Excludes cases where exposure category was not indicated or unknown.

Source: Public Health Agency of Canada, Internal data, 2012.

**FIGURE 8B:** Proportion of positive HIV test reports among adults ( $\geq 15$  years), by exposure category, 2002 – 2011 (n=12,966)

Note: Excludes cases where exposure category was not indicated or unknown.

Source: Public Health Agency of Canada, Internal data, 2012.

**FIGURE 9:** Number of positive HIV test reports among adults ( $\geq 15$  years), by sex and exposure category, 2002 – 2011 (n=12,950)

Note: Excludes cases where exposure category or sex is unknown.

Source: Public Health Agency of Canada, Internal data, 2012.

## 2.7 TRENDS WITHIN EACH EXPOSURE CATEGORY

The following sections provide an overview of trends within each exposure category using estimates and routine and enhanced surveillance data (where available). The order of presentation follows the national HIV infection exposure category hierarchy, not the relative number of people infected in each exposure category.

### 2.7.1 PERINATAL TRANSMISSION

The data presented in this section represent infants born to women who were known to be HIV-positive during pregnancy. It should be noted that although all provinces and territories offer HIV testing for pregnant women, not all HIV-positive pregnant women are aware of their HIV status or diagnosed during pregnancy, and thus are not able to benefit from antiretroviral medication during pregnancy. (9)

Between 1984 and 2011, a reported 3,567 infants were perinatally exposed to HIV. Of these 584 (16.4%) were confirmed to be infected, 2,908 (81.5%) were confirmed to be uninfected, and the status of the remaining 75 was unconfirmed, i.e., lost to follow-up. (6)

The number of reported infants who are perinatally exposed to HIV each year in Canada has fluctuated in recent years, from 181 in 2004 to a high of 243 in both 2008 and 2010. However the number of infants confirmed to be HIV-positive

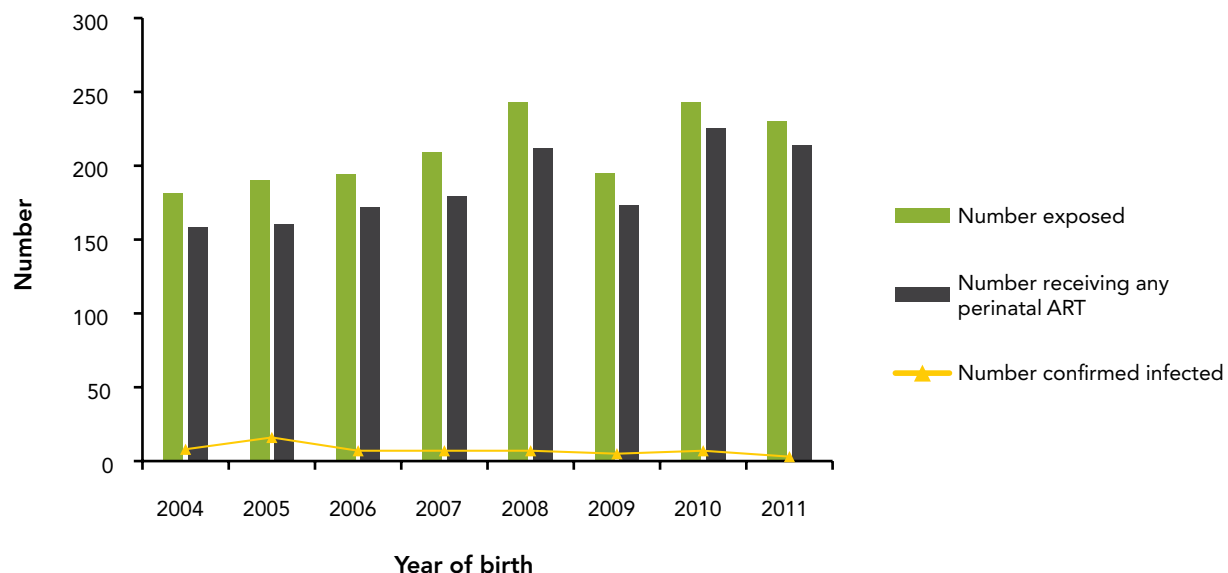
following perinatal exposure decreased from 16 (8.8% of perinatally exposed infants) in 2005 to 3 (1.3%) in 2011. This reduction is largely the result of widespread voluntary HIV testing of pregnant women and the subsequent administration of antiretroviral medication; for example, in 2011, a reported 93.0% of known HIV-positive pregnant women received antiretroviral therapies during pregnancy. (6)

Black and Aboriginal infants are disproportionately represented in confirmed HIV infections among infants in Canada. Black infants accounted for 48.3% (1,723 of 3,567) of all reported infants perinatally exposed to HIV between 1984 and 2011, although Black people make up only 2.5% of the Canadian population. (10) Over the same time period, Aboriginal infants accounted for 16.8% of all reported infants perinatally exposed to HIV, although Aboriginal people make up only 3.8% of the Canadian population. (5;6;11)

### 2.7.2 MEN WHO HAVE SEX WITH MEN – INJECTION DRUG USE (MSM-IDU)

The MSM-IDU exposure category made up an estimated 3%, or 2,160 cases (ranging from 1,520 to 2,800), of prevalent infections in Canada in 2011. (5) The MSM-IDU exposure category has historically accounted for a relatively small number of the positive HIV tests reported annually through routine surveillance. Among adults, the MSM-IDU exposure category accounted for 876 (2.4%) positive HIV test reports between 1985 and 2011. In 2011 alone, 23 positive test

**FIGURE 10:** Number of reported infants exposed to HIV perinatally, maternal use of antiretroviral therapy, and number of infants with confirmed HIV infection, Canada, 2004 – 2011 (n=1,685)



Source: Public Health Agency of Canada, Internal data, 2012.



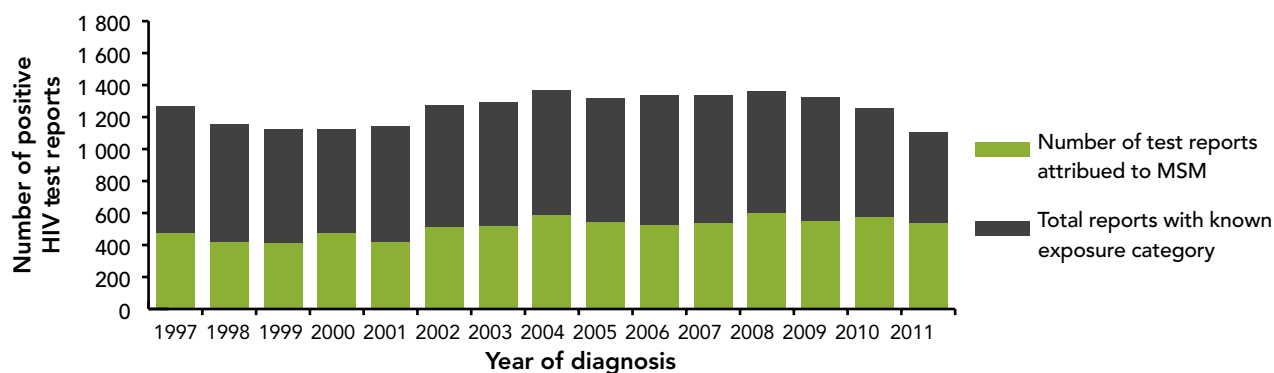
reports were attributed to this exposure category, representing 2.1% of reported cases among all adults, and 2.6% of cases among adult males that year. (6)

### 2.7.3 MEN WHO HAVE SEX WITH MEN (MSM)

MSM has been and continues to be the single largest reported exposure category in Canada. The MSM exposure category accounted for an estimated 46.7%, or 33,330 cases (28,160 to 38,500), of prevalent infections in Canada in 2011. (5) According to routine surveillance data, the MSM exposure category accounted for 48.1% of all positive tests among adults ( $\geq 15$  years old) in 2011, a proportion that has been relatively stable over the past 10 years (Figure 11). Cumulatively from 1985 to 2011, 54.7% of adult positive test reports have been attributed to the MSM exposure category. (6)

In addition to routine surveillance data, data from a national enhanced surveillance system called M-Track are also available. M-Track monitors HIV and other sexually transmitted and blood-borne infections and associated risk behaviours among men who have sex with men across sentinel sites in Canada. Phase 1 of M-Track, conducted in five sites (Montréal, Ottawa, Toronto, Winnipeg and Victoria) between 2005 and 2007, surveyed over 4,800 men. Phase 2, conducted in two sites between 2008 and 2010, surveyed over 3,000 men. Of those surveyed in M-Track Phase 1, 86% had been previously tested for HIV at least once. Among M-Track participants who provided a biological sample of sufficient quantity for laboratory testing, the overall prevalence of HIV was 15.1%, ranging from a low of 11.1% in Ottawa, to a high of 23.1% in Toronto (Figure 12). Just over 80% of HIV-positive men were aware of their serostatus, ranging from a low of 76.8%

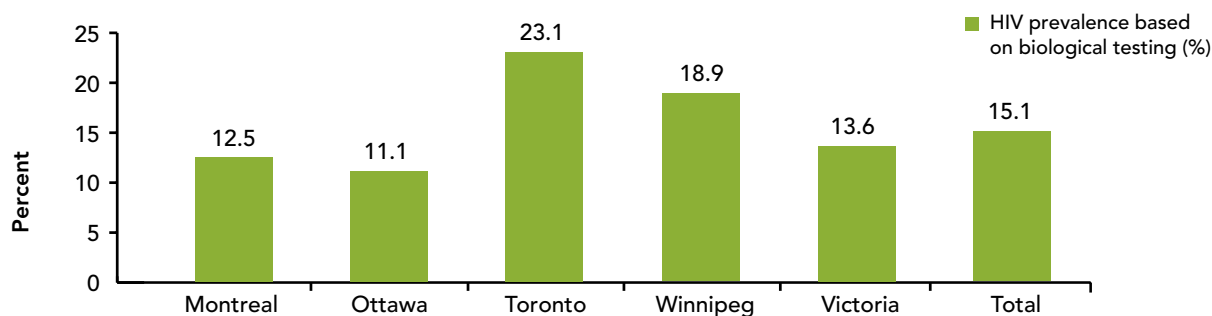
**FIGURE 11:** Total number of positive HIV test reports among adults ( $\geq 15$  years) overall and attributed to the MSM exposure category, 1997 – 2011 (n=18,768)



Note: Excludes cases where exposure category was unknown.

Source: Public Health Agency of Canada, Centre for Communicable Diseases and Infection Control. Internal data, 2012.

**FIGURE 12:** Prevalence (%) of HIV among MSM who participated in Phase 1 of M-Track, 2005 – 2007 (n=3,309\*)



\*Of 4,793 men who completed a questionnaire in Phase 1 of M-Track, 3,309 provided a dried blood sample of sufficient quantity for HIV testing

Source: Public Health Agency of Canada. M-Track: Enhanced surveillance of HIV, sexually transmitted and blood-borne infections, and associated risk behaviours among men who have sex with men in Canada. Phase 1 Report. Ottawa: Centre for Communicable Diseases and Infection Control, Public Health Agency of Canada; 2011.

in Montréal to a high of 87.5% in Victoria. Conversely, 19% were unaware of their HIV-positive status. (12)

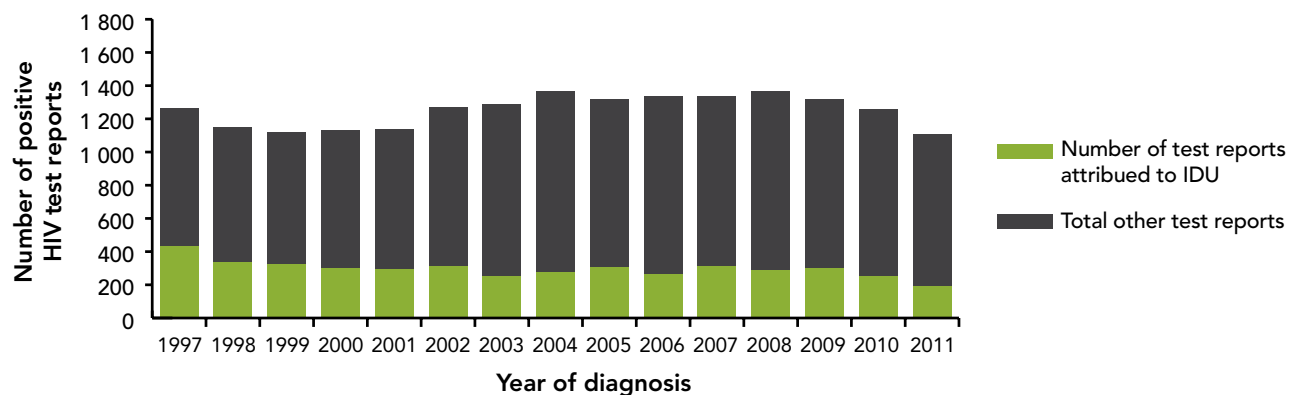
### 2.7.4 INJECTION DRUG USE (IDU)

People who use injection drugs made up an estimated 16.9%, or 12,040 cases (estimated range of 9,580 to 14,500) of prevalent HIV infections in Canada in 2011. (5) For the past decade, IDU has been the third most commonly reported exposure category among adults (after MSM and heterosexual contact). Routine surveillance data demonstrate that the IDU exposure category accounts for 18.1% of cumulative adult positive HIV test reports for the period 1985 to 2011 (Figure 13). (6)

Among adults in the IDU exposure category, the majority (64.2%) of positive HIV tests in 2011 were attributed to individuals 30 to 49 years of age (where age and exposure category data were available). (6)

Over the last decade, surveillance data reveal a decreasing trend in the proportion of positive HIV tests attributed to the injection drug use exposure category among adult males, whereas the proportion among adults females has been higher overall and much less stable (see Figure 14). Surveillance data indicate that IDU plays a relatively greater role in positive HIV test reports among adult females compared to adult males. As illustrated in Figure 14, the proportion of HIV test reports attributed to IDU among adult males has dropped fairly steadily, from

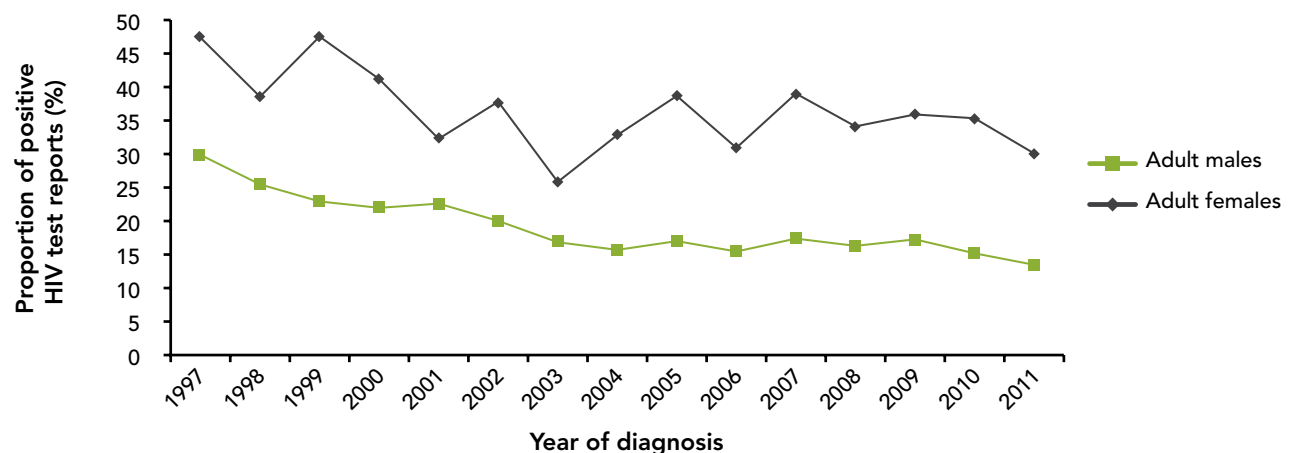
**FIGURE 13:** Total number of positive HIV test reports among adults ( $\geq 15$  years) overall and attributed to the IDU exposure category, 1997 – 2011 (n=18,768)



Note: Excludes reports where exposure category or age was unknown.

Source: Public Health Agency of Canada, Internal data, 2012.

**FIGURE 14:** Proportion of positive HIV test reports among adults ( $\geq 15$  years) males and females attributed to the IDU exposure category, 1997 – 2011 (n=4,328)



Note: Excludes cases where exposure category and sex were unknown.

Source: Public Health Agency of Canada, Internal data, 2012.



29.9% in 1997 to 13.5% in 2011. In contrast, this exposure category has fluctuated over time among adult females, from a high of 47.5% in 1999 to a low of 25.8% in 2003.

Results from I-Track, a national enhanced surveillance system that monitors HIV and hepatitis C risk behaviours among people who use injection drugs, show that HIV prevalence varies across Canada. Among I-Track Phase 2 (2005-2008) participants who provided a biological sample of sufficient quantity for testing, the overall proportion who tested positive for HIV was 13.2%: 11.4% among female participants and 14.1% among male participants. HIV prevalence ranged across sentinel sites from 2.5% in Kingston and 3.2% in Toronto to 17.3% in Prince George and 19.9% in the SurvUDI network, which includes Ottawa and various cities in the province of Quebec (Figure 15). Among those who tested HIV-positive according to laboratory results, 20.9% were unaware of their HIV-positive status. (14)

### 2.7.5 RECIPIENT OF BLOOD AND/OR BLOOD PRODUCTS

From 1985 to 1995, a cumulative total of 815 positive HIV test reports were attributed to the recipient of blood or blood products (e.g. clotting factor) exposure category. Many of those affected were haemophiliacs. When it became clear that HIV could be passed through blood donations and transfusions, HIV screening of blood products was instituted in 1985. From 1995 onwards, the annual number of positive HIV test reports attributed to the blood or blood products category has decreased substantially. Since 2000, there have been between 6 and 16 HIV cases

reported each year attributed to this category. (6) Given the procedures in place for the screening of blood and blood products, it is hypothesized that these are either people who received blood products in Canada before 1985, or people who received blood products in other countries where screening practices may differ.

### 2.7.6 HETEROSEXUAL CONTACT

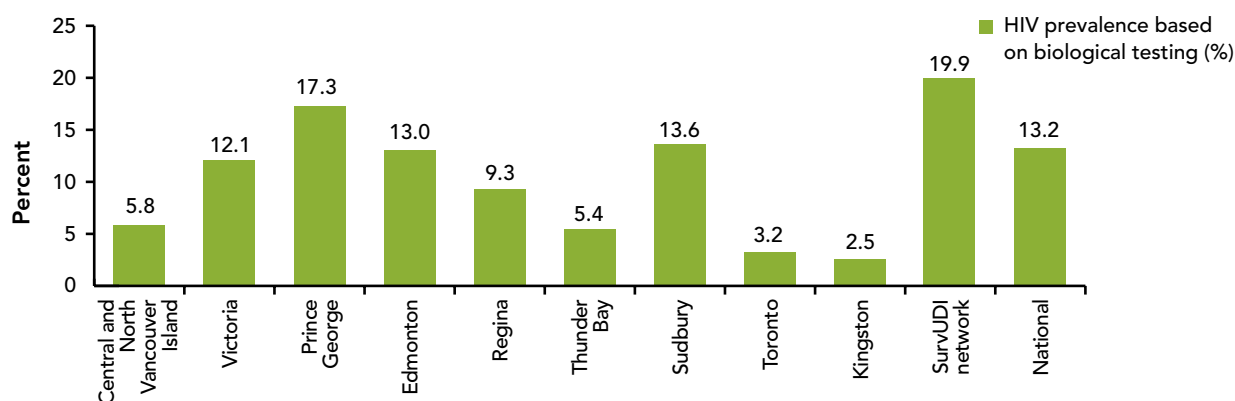
Surveillance data identify the following three sub-categories of exposure through heterosexual contact: origin from an HIV-endemic country (Het-Endemic),<sup>8</sup> sexual contact with a person at risk (Het-Risk) and heterosexual contact with no identified risk (NIR-Het).

The heterosexual contact exposure category accounted for an estimated 32.5%, or 23,170 cases (19,040 to 27,300) of prevalent infections in Canada at the end of 2011. An estimated 17.6% of total prevalent infections were attributed to heterosexual non-endemic (including both Het-Risk and NIR-Het) and 14.9% of total prevalent infections were attributed to heterosexual contact among persons born in an HIV-endemic country. (5)

Routine surveillance data show that in 2001 the heterosexual contact exposure category surpassed IDU as the second-most reported exposure category among adults (after MSM), and has subsequently accounted for approximately one-third of positive HIV test reports each year. (6)

Positive HIV test reports among adults show that from 1997 to 2011, 29.5%, (5,543) of cases were attributed to the combined heterosexual contact exposure category. Of these, 3.8% (2,597) of reports were attributed to NIR-Het, 9.5%

FIGURE 15: Prevalence (%) of HIV among people who use injection drugs participating in Phase 2 of I-Track, 2005 – 2008 (n=2,970)



Source: Public Health Agency of Canada. Unpublished data from I-Track: Enhanced surveillance of risk behaviours among people who inject drugs. Phase 2 (2005-2008). Ottawa: Centre for Communicable Diseases and Infection Control, Public Health Agency of Canada; 2012.

<sup>8</sup> As previously noted, most of these countries are located in sub-Saharan Africa and the Caribbean.

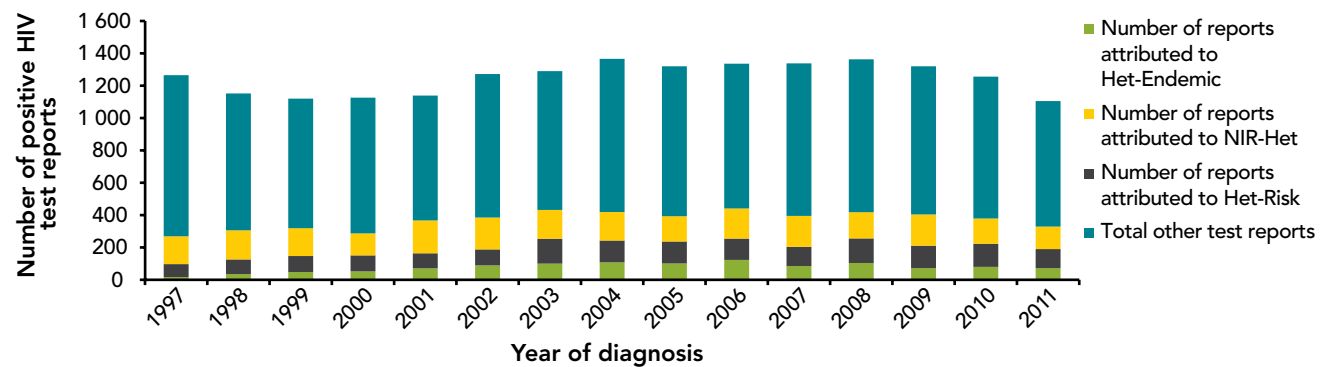
(1,789) to Het-Risk, and 6.2% (1,157) to Het-Endemic (see Figure 16). (6) These sub-categories are explored in further detail in the following sections.

**a) Heterosexual contact – analysis by biological sex**

While the proportions of positive HIV test reports among adults attributed to the Het-Risk sub-category

are similar for females and males (34.3% and 30.6% respectively), a higher proportion of cases among females has been attributed to the Het-Endemic sub-category, accounting for 24.5% of all female cases between 1997 and 2011, compared with 17.7% of all male cases (see Figure 18).

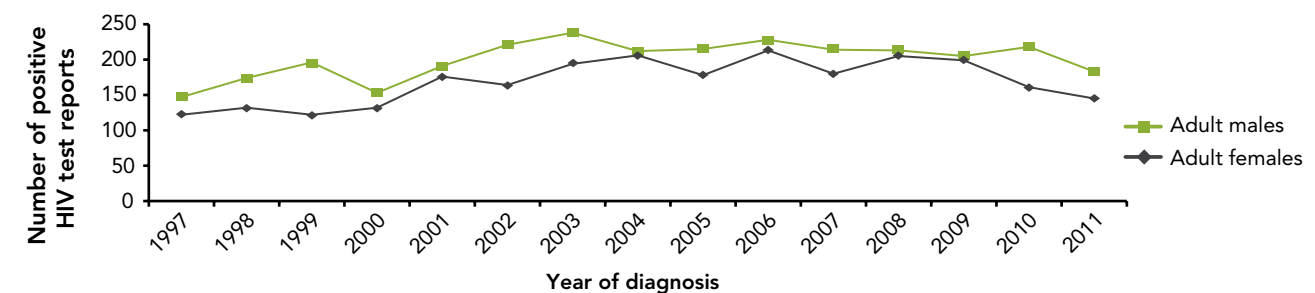
**FIGURE 16:** Total number of positive HIV test reports among adults ( $\geq 15$  years) overall and attributed to the heterosexual exposure category, 1997 – 2011 (n=18,768)



Note: Excludes cases where exposure category was unknown.

Source: Public Health Agency of Canada, Internal data, 2012.

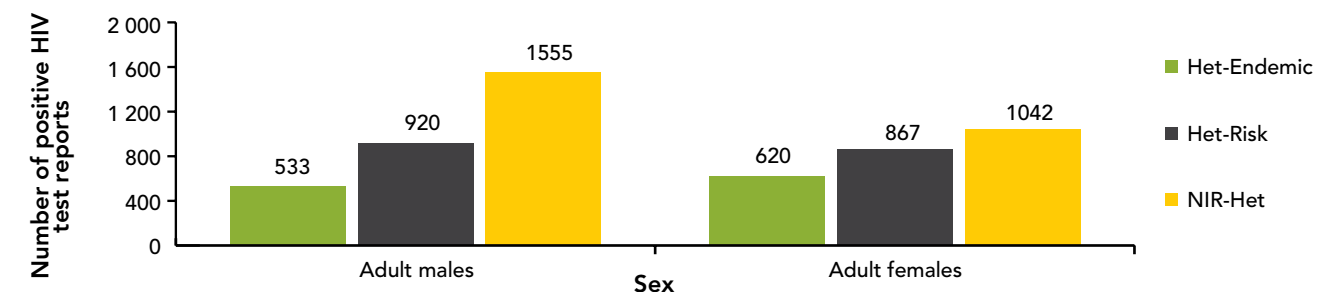
**FIGURE 17:** Number of positive HIV test reports attributed to the heterosexual contact exposure category among adults ( $\geq 15$  years), by sex, 1997 – 2011 (n=5,537)



Note: Excludes cases where exposure category, sex and age were unknown.

Source: Public Health Agency of Canada, Internal data, 2012.

**FIGURE 18:** Total number of positive HIV test reports attributed to the heterosexual contact exposure subcategories among adults ( $\geq 15$  years), by sex, 1997 – 2011 (n=5,537)



Note: Excludes cases where sex is unknown

Source: Public Health Agency of Canada, Internal data, 2012.

**b) Heterosexual contact – analysis by age group**

Examination of HIV case reports by age distribution reveals a different pattern in the Het-Endemic exposure subcategory relative to the other heterosexual contact subcategories. From 1997 to 2011, 74.7% of positive HIV test reports (adults only) attributed to the Het-Endemic category were among people between the ages of 15 and 39 years. This is significantly higher than the Het-Risk and NIR-Het subcategories, at 63.4% and 59.1% respectively, for this same age range. These data suggest that HIV cases attributed to the Het-Endemic exposure subcategory tend to be diagnosed at younger ages. (6)

**c) Heterosexual contact – origin from an HIV-endemic country**

Disproportionate rates of infection have been noted among people living in Canada who were born in a country where HIV is endemic. This group makes up approximately 2.2% of the Canadian population; (15) but according to the 2011 HIV estimates, it accounted for an estimated 16.9% of new infections and 14.9% of prevalent infections to the end of 2011. Thus, the 2011 estimated new infection rate among people from HIV-endemic countries was about 9.0 times higher than among other Canadians. (5) While Canada tests for HIV during the Immigrant Medical Examination (IME), an HIV-positive diagnosis does not automatically preclude entry into Canada. Positive HIV tests from IMEs performed in Canada are reported to the provinces and territories and are forwarded to the national level, as are all other positive HIV test reports. Thus, the data presented as 'heterosexual contact – origin from an HIV-endemic country' in surveillance reports include a combination of test reports from routine medical testing (i.e., prenatal), IMEs and other sources. Due to the reporting system, it is not always possible to determine whether infections attributed to the Het-Endemic subcategory actually occurred in another country before the newcomer arrived to Canada, or whether the infection occurred after arrival.

Overall, females represented 23.4% of all positive HIV test reports in Canada among adults which included data on sex, for the period of 1997 to 2011. Within the Het-Endemic exposure subcategory, however, the proportion is quite different, with adult females accounting for 53.8% of positive HIV test reports during this period. (6) This is the only exposure category or sub-category with a higher proportion of cases attributed to adult females than adult males.

**d) Heterosexual contact – sexual contact with a person at risk**

Adult males and females may identify a sexual partner who is HIV-positive or who engages in behaviours associated with a high risk of HIV transmission, such as using injection drugs, as their most likely route of transmission. Such a risk factor would be classified as Heterosexual Contact, under the sub-category of sexual contact with a person at risk (Het-Risk). Cumulatively from 1985-2011, 6.9% of all adult HIV cases have been attributed to the Het-Risk exposure category. (6) Over this same time period, the absolute number of HIV cases in the Het-Risk category reported among males are very similar to those attributed to females (1,270 and 1,285 respectively); however, proportionately, this category plays a relatively larger role in case reports among females. For example, where sex and exposure category are known, the Het-Risk exposure category accounts for 21% of all positive HIV test reports among adult females, compared to 4.1% among adult males.

**e) Heterosexual contact – sexual contact with a person with no identified risk**

This category (NIR-Het) captures individuals for whom heterosexual sexual contact is the only risk factor reported and nothing is known about the HIV-related risk factors associated with any sexual partner(s), a country of origin, injection drug use, etc. Within the heterosexual exposure category, the NIR-Het and Het-Risk exposure subcategories have accounted for the highest number of HIV case reports among adult females. Cumulatively from 1985 to 2011, 9.0% of adult HIV cases were attributed to the NIR-Het exposure subcategory. Within the Heterosexual Contact exposure category, NIR-Het accounted for 45.8% of cumulative HIV cases among adults. (6)

## 2.8 RACE/ETHNICITY AND HIV

There are a number of challenges in collecting data on race/ethnicity in Canada—the categories are limited, they differ from province to province, some provinces do not submit these data to the Agency, and, even when they do, the information is not always complete. Nonetheless, the available surveillance data and targeted studies of at-risk populations suggest that the exposure category distribution varies between different racial/ethnic groups. The highest

proportion of positive HIV test reports among adults attributed to heterosexual contact (89.7%) is among those who self-identify as Black, while the highest proportion of positive HIV test reports attributed to injection drug use (60.1%) are reported among Aboriginal people. (6)

### 2.8.1 ABORIGINAL PEOPLE

Aboriginal people are disproportionately affected by HIV. Given the challenges in collecting data on race/ethnicity, the estimates of HIV incidence and prevalence provide a more accurate picture of the burden of HIV infection on the Aboriginal population than surveillance of positive HIV test reports. Although Aboriginal people made up only 3.8% of the overall Canadian population in 2006, (11) this population accounted for an estimated 12.2% of new infections in 2011 and 8.9% of all prevalent infections at the end of that year. Thus, the 2011 estimated new infection rate among the Canadian Aboriginal population was about 3.5 times higher than among the non-Aboriginal population. (5) Routine surveillance data indicate that 89.6% of positive HIV test reports among Aboriginal adults are attributed to injection drug use or heterosexual contact (see Figure 19). (6)

### 2.8.2 BLACK PEOPLE

The exposure subcategory of 'Heterosexual contact – origin from an HIV-endemic country' (Het-Endemic) does not capture a specific race or ethnicity; however, Black people of African and Caribbean descent make up a large proportion of positive HIV test reports in this exposure

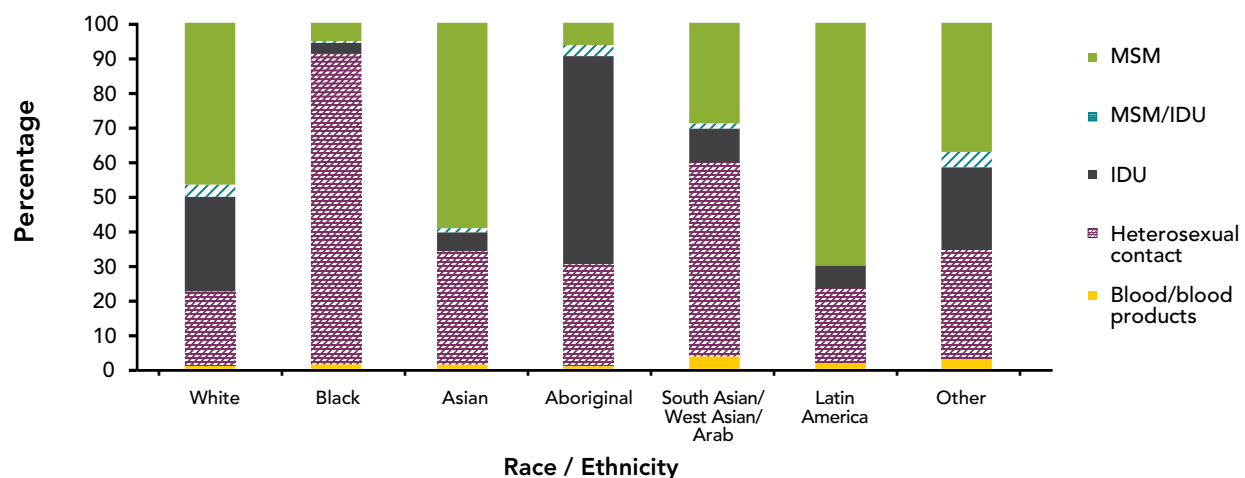
category. Sixty-five of the 71 countries identified as being HIV-endemic are in Africa and the Caribbean. Routine surveillance data indicate that Black adults account for 93.8% of positive HIV test reports in the Het-Endemic exposure subcategory. (6)

## 2.9 PEOPLE IN PRISON

Surveillance data provided by the Correctional Service of Canada (CSC) indicate that in 2006, 52.1% of all new admissions to federal correctional facilities had a blood test for HIV. Based on the sample of those who tested, the year-end prevalence of HIV was 1.6% in the federal prison population. The year-end prevalence differed between females (4.5%) and males (1.5%). In 2006, an estimated total of 375 people in prison were living with HIV. (16)

CSC reports that the majority of people who test positive upon admission to federal prison are already aware of their HIV status. Of the 162 persons identified as HIV-positive on admission in 2006, only seven persons were newly diagnosed, while the remaining 155 had been previously diagnosed as HIV-positive. People in prison come from, and return to, the general population. In 2006, 193 known HIV-positive persons were released from federal correctional facilities across Canada back into the community. (16)

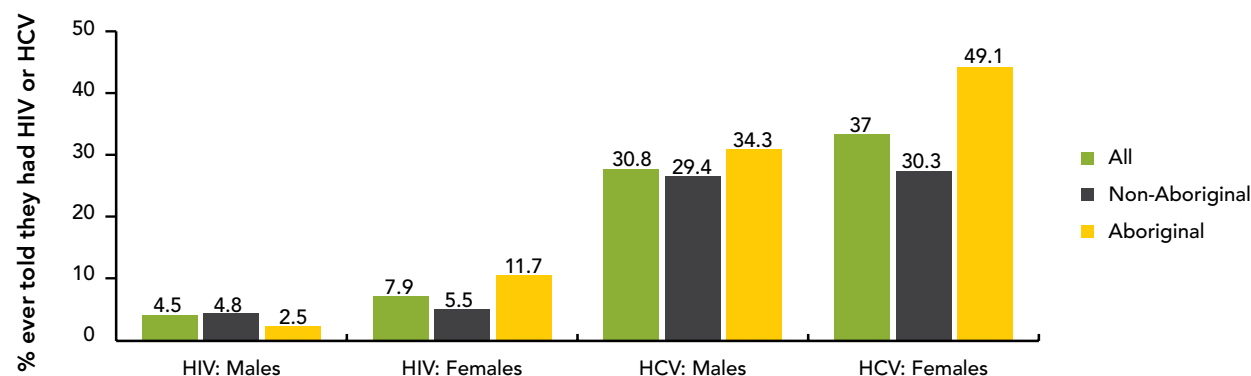
**FIGURE 19:** Proportion of positive HIV test reports among adults ( $\geq 15$  years) by race/ethnicity and exposure category, 1998 – 2011 (n=9,964)



Note: Excludes cases where race/ethnicity is unknown.

Source: Public Health Agency of Canada, Internal data, 2012.

**FIGURE 20:** Percentage of persons in prison ever reporting a positive HIV or HCV test; result by sex and Aboriginal self-identification



Source: Zakaria D, Thompson JM, Jarvis A, Borgatta F. Summary of emerging findings from the 2007 National Inmate Infectious Diseases and Risk-Behaviours Survey. Ottawa: Correctional Service of Canada; 2010.

In 2007, CSC conducted a survey among people in prison, the *National Inmate Infectious Diseases and Risk Behaviours Survey* (NIIDRBS). Respondents were asked to self-report their HIV and hepatitis C (HCV) status. Among those who had ever been tested for HIV infection (including those who were tested prior to admission, at admission, and/or since admission), 4.6% reported being HIV-positive. Proportions differed between females and males: 7.9% of females and 4.5% of males reported being HIV-positive. Among female Aboriginal survey respondents, the self-reported prevalence of HIV (11.7%) was more than twice that of other females (5.5%). (17) Methodological differences between the surveillance and research data preclude direct comparisons between the results of the NIIDRBS and CSC surveillance data.

In addition to the data gathered from CSC, studies exploring HIV and HCV prevalence and associated risk factors among people in provincial and territorial prisons are ongoing. The short duration of prison sentences create ever-changing populations that make surveillance within these institutions difficult. Below is a summary of available data and literature results for the period 2002-2011.

- A study was conducted in 2003 to determine the prevalence of HIV and HCV, and to examine associated risk factors among people in provincial prisons in Quebec. Poulin et al. surveyed seven prisons using a self-administered questionnaire and collected saliva samples from survey respondents. Among the 1,607 participants, the overall prevalence of HIV was 3.4%. The prevalence of HIV was 8.8% among females, which was significantly higher than the prevalence of HIV

among males (2.4%). Among all respondents, 20% of those who tested positive for HIV were unaware of their status. Injection drug use was the strongest risk factor associated with HIV infection in the sample population. (18)

- The *Ontario Remand Study* was conducted in 2003-2004 across 13 Ontario remand facilities and consisted of a voluntary, anonymous, cross-sectional survey and provision of a saliva test. This study had 1,528 respondents and reported a weighted HIV prevalence of 2.0% among adults in Ontario prisons. This study found that the prevalence of HIV in males was higher than among females (2.1% versus 1.8% respectively); and the prevalence of HIV infection was lower among Aboriginal people (0.0%) than among other survey respondents (2.2%). The *Ontario Remand Study* identified a history of injection drug use as the risk behaviour most strongly associated with HIV infection. (19)
- A recent study of the prevalence of sexually transmitted and blood-borne infections conducted among a random sample of 374 people in Manitoba provincial prisons found that 0.8% tested positive for HIV. HIV prevalence among females was more than three times that among males, with 1.9% of females testing positive for HIV and 0.6% of males testing positive. (20)
- A self-administered survey of 104 women in the Burnaby Correctional Centre for Women in British Columbia found that 8% of respondents self-reported living with HIV. (21)



Reported infections may underestimate the true burden of disease within correctional facilities, as not all of those who are HIV-positive undergo testing or self-identify, in part due to fears of discrimination. In the NIIDRBS study, 67% of PHA in federal prisons reported concerns about discrimination. (17)

## 2.10 CO-INFECTION WITH SEXUALLY TRANSMITTED AND BLOOD-BORNE INFECTIONS

For PHA, living with another infection, such as HCV or a sexually transmitted infection, can have complex implications for care. Little national data are available on co-infections with other sexually transmitted and bloodborne infections. There is some information from enhanced surveillance systems about co-seropositivity with HCV and syphilis among specific populations at risk. The term co-seropositivity is used here instead of co-infection because the laboratory test used in enhanced surveillance only detects lifetime prevalence and cannot distinguish between past and current infection (i.e., it detects only antibodies). Among M-Track Phase 1 participants (2005-2007) who provided a biological sample of sufficient quantity for testing for both HIV and syphilis, and for both HIV and HCV, 2.9% were seropositive for both HIV and syphilis and 2.2% were seropositive for both HIV and HCV. (12) Among people who use injection drugs who participated in I-Track Phase 2 (2005-2008), laboratory-confirmed HIV-HCV co-seropositivity was 11.6%. (14)

## 2.11 DRUG RESISTANCE

Advances in antiretroviral therapy have improved HIV management and reduced morbidity and mortality rates for many PHA in Canada. Despite simplified and highly effective treatment regimens, there are concerns that widespread use of antiretroviral medications may increase transmission of drug-resistant HIV strains. The Canadian HIV Strain and Drug Resistance (SDR) Surveillance Program monitors transmitted HIV drug resistance among treatment-naïve persons newly diagnosed with HIV infection in Canada.

Of 4,521 HIV diagnostic samples collected by the SDR Program from 1999 to 2008, the overall prevalence of resistance to at least one antiretroviral drug among newly diagnosed PHA who never received antiretroviral treatment was 9.8%. The proportion with resistance to two or more classes of antiretroviral drugs was 1.0%. Available data suggest that these estimates are similar to those observed in other developed countries where highly active antiretroviral treatment is used. Infection with drug-resistant HIV strains likely reflects HIV transmission from persons already diagnosed and under care. People infected with drug-resistant HIV strains may have limited treatment options and are at increased risk of drug failure. From a public health perspective, transmission of HIV drug resistance complicates prevention and control of HIV and may result in increased healthcare costs. (22)

## 2.12 AIDS REPORTING

In Canada, physicians are required to report the occurrence of AIDS-defining illnesses in patients already diagnosed with HIV. A total of 22,473 AIDS cases have been reported to the Agency up to December 31, 2011, with the first case being retrospectively identified as having occurred in 1979. The greatest number of reported cases occurred in 1993, when 1,833 AIDS cases were reported. In 2011, 189 AIDS cases were reported. (6)

In the period before the widespread use of antiretroviral medications, the occurrence of an AIDS-defining illness was significant and usually an indicator of severe disease progression, often approaching death. In 1996 however, the profile of the disease changed dramatically with the introduction of antiretroviral medications. For many, HIV was no longer a death sentence. The onset of an AIDS-defining illness has become less likely except in particular circumstances; for example, where the medications are not working or a person living with HIV/AIDS is not getting regular medical care or is not adhering to treatment. HIV has become, for many, a complex chronic disease that can be managed over time.

Given the changes described above, not all doctors continue to report AIDS-defining illnesses in patients already living with HIV. Furthermore, while AIDS is still a nationally notifiable disease, not all provinces and territories collect and submit data on AIDS cases to the Agency. It is understood, therefore, that AIDS cases are under-reported at the national level, making it difficult to form a national picture of the AIDS epidemic in Canada. (6)

### 2.13 AIDS DEATHS

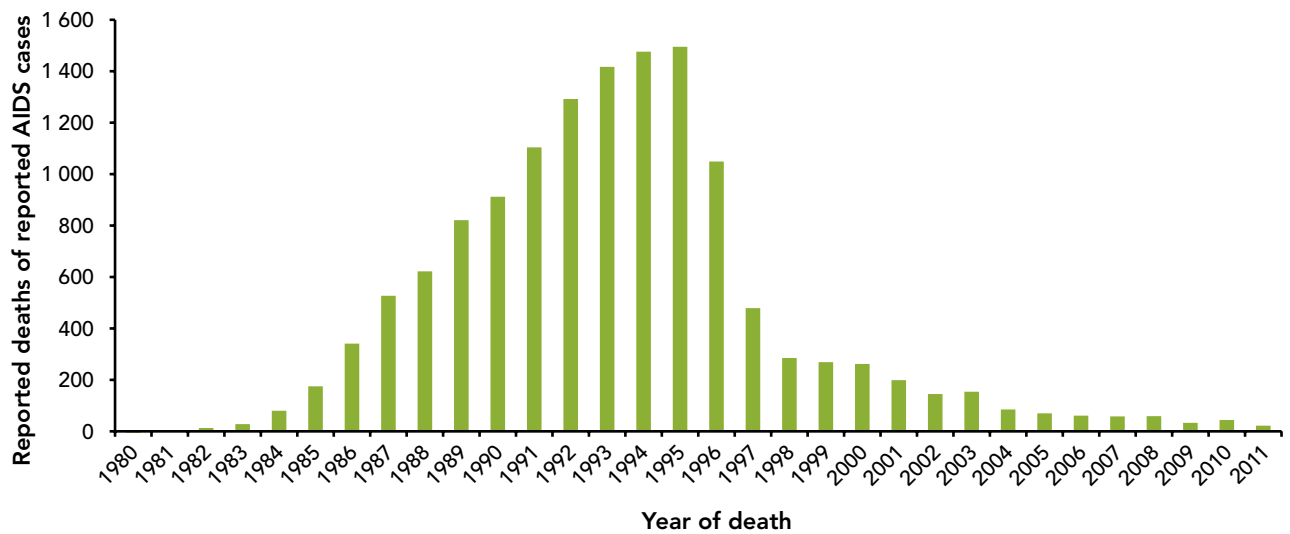
There have been a total of 13,584 reported AIDS deaths in Canada between 1980 and 2011. (6) Figure 21 shows the dramatic decline in AIDS mortality after 1996.

It should be noted that the number of reported deaths among reported AIDS cases does not accurately capture the actual number of deaths among people with AIDS. There are several reasons for this: reporting delays; related causes of death, such as pneumonia, may be listed instead of AIDS; AIDS cases themselves are underreported and therefore deaths in unreported cases are not recorded; death is not a mandatory reportable variable in the HIV and AIDS surveillance system; and not all provinces and territories submit AIDS data.

### 2.14 CONCLUSION

Notwithstanding certain limitations regarding the collection and reporting of data, a number of helpful inferences and conclusions can be based on the information presented in this chapter. Surveillance and epidemiological data paint the picture of an increasingly diverse population of PHA in Canada, supporting the move to targeted population-specific research and programming. The fact that new infections continue to occur points to the need for a sustained and renewed approach to prevention, care, treatment and support that addresses the specific needs of the diverse populations that are at risk of and living with HIV.

FIGURE 21: Number of reported deaths of reported AIDS cases, 1980 – 2011, (n=13,584)



Source: Public Health Agency of Canada, Internal data, 2012.



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## CHAPTER 3 – LIVING WITH HIV AND AIDS

Living with HIV and AIDS has major implications for the health and well-being of those infected. Many characteristics of life with HIV can be understood by examining the determinants of health and their impact on people living with HIV/AIDS (PHA), which are discussed in detail in Chapter 4 of this report. The experience of living with HIV, from testing and diagnosis onward, is the focus of this chapter. While the experience of living with HIV is complex and can differ greatly between individuals, PHA in Canada share common issues.

This chapter reviews literature pertaining to testing and diagnosis, disclosure, prevention of onward transmission, the medical challenges of living with HIV, treatment issues, HIV within the family, healthy lifestyle and sexual health. Lastly, the chapter will discuss research concerning HIV and aging, palliative care, and bereavement.

### 3.1 HIV TESTING AND DIAGNOSIS

Although HIV testing is widely available in Canada, an estimated one in four of those living with HIV in Canada are not diagnosed and thus not aware of their HIV-positive status. HIV testing is critical so that those infected can access care, treatment and support services and practice prevention behaviours to reduce transmission. Once diagnosed, most PHA want to avoid transmitting HIV to their partners.

Voluntary HIV testing is offered in all Canadian provinces and territories through primary care physicians, public health units, sexual health clinics and other healthcare settings. (1) Positive test results are reported to public health officials nominally or non-nominally,<sup>9</sup> depending on the jurisdiction. Anonymous testing and point-of-care (rapid) testing are available in some provinces.

Prior to the advent of effective and accessible HIV treatment, many people were reluctant to test for HIV. There was a perception that there was no point in knowing one's status when there was no treatment. With the treatment options now available, being aware of one's HIV status provides a

number of benefits. For example, emerging evidence is demonstrating that antiretroviral therapies can reduce viral replication and slow disease progression to the degree that HIV infection has become a chronic manageable condition. Additionally, evidence shows that in some populations, individuals who are adherent to antiretroviral therapy can suppress their viral load to undetectable levels making them less likely to transmit HIV to their sexual partners.

Canada has had success in substantially reducing the vertical transmission of HIV from pregnant mother to child. Targeted testing approaches for pregnant women allow for the provision of therapies that can prevent the transmission of HIV to the baby. (2) Evaluation of prenatal HIV screening in Alberta showed that women who chose not to test may be at increased risk of infection over those who chose to do so. (3;4)

Many people are still not accessing HIV testing, despite these advances in treatment and testing technologies, as well as successes in expanding the voluntary testing offered in many Canadian jurisdictions. (4-6) As noted in Chapter 2, 25% of the estimated 71,300 (58,600 – 84,000) Canadians living with HIV/AIDS in 2011 were believed to be unaware of their HIV infection. The estimated percentage of people living with HIV who are unaware of their infection varies by exposure category. It is estimated that 34% of infected persons in the heterosexual exposure category do not know their status, while 20% of those infected in the men who have sex with men exposure category are unaware of their status. (6)

Late HIV testing and diagnosis is associated with higher rates of morbidity and mortality and contributes to longer periods of time where HIV may be unknowingly transmitted; undiagnosed HIV infections represent a substantial public health challenge to reduce the transmission of HIV. During the early stages of infection, there is a higher risk of HIV transmission, as the newly infected person has a higher viral load during this period. Recently infected PHA are more likely to be undiagnosed and may continue to engage in risk behaviours, while PHA who have knowledge of their infection are more likely to take active measures to prevent transmission to others. Conversely, early detection of HIV can contribute to improved health outcomes for the individual.

<sup>9</sup> In nominal testing, the person ordering the test uses the name of the client when ordering the test. In non-nominal testing, the HIV test is ordered using a code or the initials of the person being tested.

### 3.1.1 COMING TO TERMS WITH HIV DIAGNOSIS

Being diagnosed with HIV infection is a life-changing experience. The implications of an HIV diagnosis have changed over time as a result of advances in treatment and reductions in stigma and discrimination towards PHA. Diagnosis with HIV is no longer the “death sentence” it once was.

The nature of counselling and support offered to the testing patient, determines in part the experience of HIV testing and diagnosis. Pre- and post-test counselling models developed to assist people in coping with HIV diagnosis and follow-up care, treatment and support are critically important to the HIV testing process. (7;8) Despite these well-developed models, the experience of learning that one is HIV-positive varies from person to person.

*So he [a family physician] was really trusting, and he did a lot of post-test counselling. He never pushed me to be tested for HIV, but always encouraged me that, when the time came around, he would be there. When I came in he spent a good deal of time with me. He told me as soon as I came into his office that I was HIV positive. He grabbed me and gave me a hug and had a cry with me at the same time.*

—Aboriginal PHA (APHA)<sup>10</sup> (9)

*They put me down in the psych ward and locked me in there. They didn't tell me right away about my results... so the doctor just came down and he said 'there's no easy way to tell you this so I'm going to tell you straight out, you're HIV positive. Do you have any questions?' And that was it.*

—APHA (9)

The experience of testing and diagnosis is different among people depending on their circumstances. PHA may undergo a range of emotions and reactions when coming to terms with the impact of HIV status on their health, as well as their personal, physical and social lives. (7;10;11)

*There was no hope at all, my life was over, that was it. I'm dead. I was a walking dead man [after diagnosis]... After about a year or so, you know, I started wanting to learn more about it and talk to other people, but right off when you find out [are diagnosed] you don't know anything about it, it's just I'm sick and that's it...I have a terminal illness and I'm going to die from it.*

—PHA (10)

*I remember distinctly walking out of there, and all I could feel was the top of my body. I don't know how I was moving, but honest to god, I couldn't feel my legs, I felt like everybody was going slow...I couldn't hear things; I couldn't see their mouth moving like they were talking to each other. But just the top of my body was moving, and I couldn't feel my legs.*

—APHA (9)

Coming to terms with an HIV diagnosis may take a long time for PHA; most undergo a gradual process of acceptance and a (re-)emergence of hope and planning for the future. (9;10;12-15) In a study of 12 gay men living with HIV, various “continuums for empowerment”—the process by which PHA move to take more active control of their life and participation in treatment—are described. These include a shift in perception from being controlled by HIV to the PHA taking control, discovering meaning and purpose in life, self-acceptance, acceptance of death, and a shift in perspective from being a victim to being a survivor of HIV. (13)

*HIV really ran my life and controlled me at first; it took years, but I began to control my own life after a while.*

—Gay man living with HIV/AIDS (13)

<sup>10</sup> Throughout this report, quotations from PHA cited in various Canadian studies have been used to reflect the diversity of PHA lived experience. In some, but not all, of these studies, more detail—such as sex, ethnicity or sexual orientation—about the person quoted is given and we have included this information where available.

PHA diagnosed before the advent of effective treatment have had to adapt to a continually altering future—from the expectation of an early death, to false hopes created by early medications, to the greater certainty of a normal lifespan.

*It's hard to go from expecting to die and then all of a sudden realizing, well, maybe that's not going to be the case...it's a hard transition to make... to do that turnaround was like you'd been reborn...and it was really scary.*

—PHA (15)

While some PHA may turn to coping practices such as substance use and self-isolation, others utilize their diagnosis as a catalyst for positive change. For many, particularly those who were involved in challenging lifestyles such as drug use, a diagnosis of HIV leads to better self-care and a healthier lifestyle. (9-11;13;16-18)

*Life is anteed up and you want to get to what's really important and what's meaningful.*

—Gay man living with HIV/AIDS (13)

*I'm a lot stronger than I was before I was HIV positive. I've empowered myself. I've informed myself; I've educated myself. I no longer feel alone because I know I'm not alone living with this disease. So I'm actually a better person, believe it or not.*

—Woman living with HIV/AIDS (17)

*For the first month it was like oh my god my life is over, might as well give up on everything... I finally walked out, you know, this is a brand new day, let's just start my life again and this time I'm going to make something of myself. So yeah, it changed in the sense that it made me stronger to do what I wanted and made me go forward more. It took me a step back for a month and then put me four steps forward.*

—Youth living with HIV/AIDS (11)

Chapter 4 of this report provides more detail on coping strategies used by PHA in Section 4.10 on personal health practices.

### 3.1.2 PARTNER NOTIFICATION

Partner notification is an important component of HIV-testing services in all Canadian provinces and territories. Newly diagnosed PHA are advised by their physicians and/or local public health officials to inform their past and current sexual and drug-sharing partners that they may have been exposed to the virus. Partner notification usually involves the assistance of one's physician and/or public health services and is carried out without revealing the identity of the person who was the source of the exposure. It is considered a secondary prevention measure because it facilitates access to HIV testing for those who may be at risk.

### 3.1.3 HIV DISCLOSURE

Disclosure of HIV status to others, such as family, friends, colleagues, health and other service providers, is a highly personal decision, and PHA make different decisions about whom to tell and whom not to tell. Disclosure may have a number of potential benefits for PHA including increased opportunities for social support, increased opportunities to discuss and implement treatment options and HIV risk reduction, and increased opportunities to plan for the future. In choosing to disclose their status, PHA have to negotiate fears of potential stigma and discrimination, the fear of being rejected, and for some, the fear of violence. Some people choose to keep their status a secret.

*And it's hard from my perspective because I didn't tell my family, or I didn't tell anyone close to me. Why go to somebody that knows nothing about what I'm experiencing or what I'm going through? What help could they possibly be to me?*

—APHA (9)

*My heart is impassioned by this, and by my desire to help people understand, and yet I am at a dilemma at how do I disclose to my family. I want so much to be there and to be open but I have so many fears about it. And that is my biggest obstacle that I face right now.*

—Woman living with HIV/AIDS (19)



PHA have a legal obligation to disclose their HIV status before engaging in sexual activities that pose a significant risk of transmitting HIV. However, they are not legally obliged to disclose their HIV status to their employers, family, friends or acquaintances. However, PHA may not understand the circumstances in which they are legally obliged to disclose, and thus, may feel pressure to tell others in circumstances in which they are not obliged to do so. This may result in stigma and discrimination, stress, rejection and abandonment.

In Canada, PHA who choose to disclose their status to an employer or colleagues are protected by law against discrimination and breach of confidentiality; nonetheless, studies show there remain instances in which employers discriminate against PHA despite these legal protections. (15;17;20-23)

HIV disclosure to current and future sexual and drug-equipment sharing partners may motivate them to also seek testing and change behaviour which may ultimately protect them from infection and decrease the transmission of HIV. A number of PHA in Canada have been convicted of criminal offences, such as assault, sexual assault and murder, in situations where an individual was found not to have disclosed their positive status. In such circumstances, this may render their partner's consent to sexual activity invalid, since the partner may not have consented had the disclosure been made.

The issue of criminal prosecution for HIV non-disclosure was addressed in a study of 34 men, almost all of whom have unprotected sex with men most or all of the time. Of the 34 men, 24 were HIV-positive. These PHA had varied reactions to these convictions, ranging from support for the obligation to disclose to an emphasis on individual shared responsibility to protect oneself from infection. (24;25)

*I don't think that it's a privacy issue when you're going around sleeping with people—right?—and possibly putting them at risk—right? I think if you're going around sleeping with people and you don't tell them and they end up finding out, they have the right to have you charged.*

—Gay man living with HIV/AIDS (24)

*If we're going to be having sex then I tell them and it's legal. I have to disclose my status.*

—Gay man living with HIV/AIDS (25)

*Increasingly there are court cases that uphold decisions that say that if you don't disclose your status you are liable. Do I agree with that? No, because I think everyone really should be in charge of their own health, but that said, if we all were, then probably there wouldn't really be that many positive people.*

—Gay man living with HIV/AIDS (24)

These convictions have created challenges for PHA. High profile criminal cases receive significant media coverage, and PHA report increased feelings of stigma and fear—fear of disclosure based on fear of rejection, emotional or physical abuse. For some people at risk of HIV, this may lead to reluctance to seek testing and treatment. (It should be noted that at the time of this writing, there is not any empirical Canadian evidence to show that fear of criminal prosecution deters people from accessing testing.) Some PHA report feeling increased isolation and discrimination. Qualitative reports given by PHA suggest that HIV disclosure can be used coercively against PHA.

*...a friend of mine, she had, ah, her and another lady had had a gentleman charged that was, ah, infected them and that was in the paper. And my partner at the time, I didn't, I didn't tell him who, who this lady was, I didn't want him to know but when he seen that article in the newspaper one day he comes up to me and shows me this paper and then he's telling me, you know, he says, "If you ever leave me," he says, "This is what I'll do to you. I will take you to court. And I will tell, tell them that you infected me."*

—Aboriginal woman living with HIV/AIDS (12)

*What I'm afraid of is hearing that if you do it with someone, and he has it and you didn't tell him, he could take you to court.*

—Young woman living with HIV/AIDS (26)

PHA may experience severe emotional stress and guilt related to fear of infecting their intimate partners. Fear of rejection, abandonment and the potential for violence makes HIV disclosure a difficult task for PHA in intimate relationships. (12;26-28) The need to disclose HIV status was found to deter some HIV-positive women from seeking intimate relationships due to fear of rejection and violence. (27)



*Everything changed after that [disclosure]. He told me I don't want a woman like you. He was really mean to me, and I was really scared. I cried because I really love him, and I was scared that he would tell somebody.*

—Young woman living with HIV/AIDS (26)

## 3.2 PREVENTION

Preventing the spread of HIV is a major national and international public health goal. This section discusses the meanings and implications of prevention for PHA.

### 3.2.1 POSITIVE PREVENTION

Preventing the spread of infectious diseases, such as HIV, is a shared responsibility of all members of society. HIV prevention strategies have been criticized in the past for focusing too much on HIV-negative people and failing to utilize the ways in which PHA could contribute to HIV prevention. The concept of positive prevention emerged out of an effort by PHA to engage in activities that could contribute to preventing HIV transmission. "Positive prevention is a way of reducing HIV transmission specifically designed by and for people living with HIV."<sup>11</sup> (29) Positive prevention includes the recognition of a shared responsibility between HIV-positive and HIV-negative partners.

Positive prevention is not just about stopping the forward transmission of HIV; it involves behaviour change, and developing the communication skills and confidence to make decisions to take care of one's own health and reduce possible harm to sexual partners. Positive prevention involves active HIV disclosure by PHA and includes the development of strategies to deal with the consequences of HIV disclosure, including possible rejection. (29) The impact of positive prevention approaches on reduction in HIV transmission has not received significant research attention thus far.

### 3.2.2 SEROSORTING

PHA may engage in the practice of serosorting, or specifically seeking sexual partners that are also HIV-positive. The practice is done partly for the purposes of reducing the risk of HIV transmission and partly in an effort to have what may be believed to be safer sex. (30) Disclosure may be done explicitly; however, serosorting often relies on assumptions of a partner's HIV status, rather than the explicit disclosure of the partner's status. (31) For instance, the literature indicates that some gay men and other men who have sex with men make assumptions regarding their partner's serostatus based on their willingness to use a condom. (25;32) However, the assumptions are often based on perceptions related to high risk, which can be inaccurate. For example, one sexual partner's reluctance to use a condom could be interpreted as either a sign that he is positive (and hence not concerned about HIV infection, as this has already occurred), or that he is negative (and hence not concerned about passing on HIV to his partner).

Serosorting is based on the premise that sex between HIV-positive partners does not include a risk of onward HIV transmission. While the intended purpose of serosorting may be to reduce risk, the practice can lead to delayed or no condom use, resulting in exposure to sexually transmitted infections and other strains of HIV including those that are drug resistant. (25;30;33;34)

### 3.2.3 TREATMENT AND HIV TRANSMISSION

An emerging international body of evidence is examining the benefit of 'treatment as prevention'—that is, that PHA who adhere to antiretroviral medications, and thus have an undetectable viral load, have a significantly reduced likelihood of transmitting HIV. This evidence, while encouraging, creates new challenges for prevention. (35)

An assumption by PHA that certain risk behaviours are less risky while they are on treatment, combined with potentially inaccurate assumptions regarding their viral load and transmissibility, may result in a misconception of risk, and thus contribute to onward transmission. Further research is needed to assess the effectiveness of 'treatment as prevention' in real life settings. An issue warranting further investigation is PHA's understanding of the effect of treatment on HIV transmission risk and the conditions required for a 'treatment as prevention' strategy to be effective. 'Treatment as prevention' does not replace risk reduction strategies, but rather is demonstrated to be effective in combination with existing prevention techniques.

<sup>11</sup> *Managing your health: A guide for people living with HIV* (CATIE, 2009) is a comprehensive guide to emotional, sexual and physical health, treatment, financial and legal issues that may affect PHA. Please consult this book for a more detailed discussion of this issue and many others that affect the lives of PHA.

The impact of risk compensation, whereby people may be less likely to use HIV prevention measures because they feel that the risk of HIV transmission is lower, is another key issue that will need to be followed.

### 3.3 MEDICAL CONDITIONS RELATED TO HIV/AIDS

PHA can be affected by a range of medical conditions related to their HIV infection, including illnesses related to AIDS, treatment side effects, and HIV-associated non-AIDS conditions. They may also live with illnesses and/or co-infections that are not associated with their HIV disease, but the treatment for these conditions may be complicated by HIV infection. Some PHA experience HIV as an episodic disability, where periods of good health can be interrupted by unpredictable periods of ill health and disability. (36)

Despite the advances made in HIV treatment, there is still a significant impact of HIV infection on life expectancy. A study analyzing the life expectancy of individuals on combination antiretroviral therapy in high income countries, including Canada, found that the average number of years remaining to be lived at age 20 was only about two thirds of that in the general population in those countries. There was considerable variability between sub-groups, with women having higher life expectancy than men, and those with presumed transmission through injection drug use having lower life expectancy than those from other groups. Those who started treatment with a lower baseline CD4 count also had lower life expectancy.<sup>12</sup> (37)

Another major study looking at over 44,000 PHA enrolled in Canadian and US cohort studies found that although CD4 counts at first presentation for HIV care had increased between 1997 and 2007, the median CD4 count at presentation was still below the standard threshold for initiating antiretroviral treatment (CD4 count below 350), suggesting that there is still an urgent need for earlier diagnosis and treatment. (38)

#### 3.3.1 ACQUIRED IMMUNODEFICIENCY SYNDROME (AIDS)

In the absence of treatment with antiretroviral medications, HIV infection will progress to Acquired Immunodeficiency Syndrome (AIDS). PHA are said to have AIDS if they have one or more of the 28 clinical conditions characterized as AIDS-defining illnesses. A list of AIDS defining illnesses is provided below.

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##### LIST OF AIDS DEFINING ILLNESSES

###### Indicator diseases for adult and paediatric cases:

- Bacterial pneumonia (recurrent)
- Candidiasis (bronchi, trachea or lungs)
- Candidiasis (esophageal)
- Cervical cancer (invasive)
- Coccidioidomycosis (disseminated or extrapulmonary)
- Cryptococcosis (extrapulmonary)
- Cryptosporidiosis chronic intestinal (> 1 month duration)
- Cytomegalovirus diseases (other than in liver, spleen or nodes)
- Cytomegalovirus retinitis (with loss of vision)
- Encephalopathy, HIV-related (dementia)
- *Herpes simplex*: chronic ulcer(s) (> 1 month duration) or bronchitis, pneumonitis or esophagitis
- Histoplasmosis (disseminated or extrapulmonary)
- Isosporiasis, chronic intestinal (> 1 month duration)
- Kaposi's sarcoma
- Lymphoma, Burkitt's (or equivalent term)
- Lymphoma, immunoblastic (or equivalent term)
- Lymphoma (primary in brain)
- *Mycobacterium avium* complex or *M. kansasii* (disseminated or extrapulmonary)
- *Mycobacterium* of other species or unidentified species
- *M. tuberculosis* (disseminated or extrapulmonary)
- *M. tuberculosis* (pulmonary)

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<sup>12</sup> CD4 cells are a type of white blood cells that play a central role in the immune system. Destruction of these cells is the major cause of the immunodeficiency observed in AIDS. Lab work is done at specific intervals to measure the number of CD4 cells in order to assess the immune system of the patient. Treatment is usually initiated at CD4 count of 350 (cells per microlitre of blood).

- *Pneumocystis jirovecii* (formerly *Pneumocystis carinii*) pneumonia (PCP)
- Progressive multifocal leukoencephalopathy
- *Salmonella* septicemia (recurrent)
- Toxoplasmosis of brain
- Wasting syndrome due to HIV

Indicator diseases that apply only to paediatric cases (< 15 years old):

- Bacterial infections (multiple or recurrent, excluding recurrent bacterial pneumonia)
- Lymphoid interstitial pneumonia and/or pulmonary lymphoid hyperplasia

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Source: Public Health Agency of Canada.

Advances in treatment have rendered AIDS-defining illnesses far less common in Canada, as proper adherence to antiretroviral medications means that progression towards AIDS will happen less frequently. (29) Nonetheless, deaths from AIDS continue to occur. In a study of all deaths in British Columbia that were reported to be AIDS-related from 1997-2005, 40% of those who died never accessed treatment despite it being provided free of charge. Low socioeconomic status was associated with this delay in seeking treatment and with increased mortality among PHA accessing treatment. (39)

Advances in treatment have rendered causes of death among PHA increasingly similar to that of the general population. A study examining cause of death among PHA in Alberta revealed that deaths from AIDS-related causes have decreased significantly, while increases were observed in non-AIDS-related deaths, including deaths caused by hepatitis B, hepatitis C (HCV), smoking and injection drug overdose. (40)

### 3.3.2 HIV AND CO-MORBIDITIES

Co-morbidities refer to the presence of one or more diseases in addition to a primary condition or disease. Co-morbidities can present challenges in treating and managing the various conditions. PHA who are on antiretroviral medications experience higher rates of certain diseases including cardiovascular disease, diabetes, bone

loss, and certain cancers. These HIV-associated non-AIDS conditions (HANA) are an evolving area of investigation in current research. HANA can be caused by HIV infection, side effects of antiretroviral medications, or a combination of the two. (36)

### 3.3.3 MENTAL HEALTH

Mental health can affect vulnerability to HIV infection and mental health conditions can result from HIV disease, HIV treatment side effects or a combination of both. (29) Mental health and quality of life are important areas of concern for PHA regardless of whether or not they are receiving antiretroviral treatment. PHA experience elevated levels of depression and apathy when compared with the general Canadian population. (41;42) A survey of PHA living in Ontario found that over 50% were experiencing depression. (43) PHA who were born outside of Canada were found to have greater depressive symptoms than PHA born in Canada, when controlling for the impacts of stigma on mental health. (44) Depression among PHA has been associated with poorer health, poorer health-related quality of life, negative coping strategies and higher usage of services and resources. (41;43;45)

Mental health problems such as anxiety, nervousness, dizziness, and insomnia, are also experienced at higher rates by PHA. (36) PHA with neurological symptoms can experience reduced health-related quality of life. (41;46)

### 3.3.4 HIV CO-INFECTIONS

A major challenge in health management for PHA is infection with, or vulnerability to infection with other illnesses with a shared transmission route, or increased susceptibility due to lower immune response. Common co-infections among PHA in Canada include tuberculosis and sexually transmitted and blood-borne infections (STBBIs) such as hepatitis B, HCV and syphilis. (29;47-49) PHA who are co-infected with STBBIs experience elevated morbidity and mortality when compared to PHA who are not co-infected. (36)

Co-infection can make life more difficult for PHA, as well as complicate treatment and diagnosis. (29) For example, an epidemiological study, which took place between 2001 and 2006, examined increases in infectious syphilis in Ottawa, and suggested that a more intensive diagnostic and therapeutic approach is necessary to detect syphilis in PHA as a result of modified clinical presentation of syphilis in HIV-infected individuals. (50)

HIV, other STBBIs and tuberculosis have a synergistic relationship. The presence of HIV can significantly impair the ability of the immune system to stave off infections while the presence of many STBBIs can increase vulnerability to, or the infectiousness of, HIV. HIV infection is a significant contributor in the progression to active tuberculosis among PHA with latent tuberculosis. (51)

The majority of recent research examining common HIV co-infections among PHA focuses on HCV. Infection with HCV among PHA is on the rise in Canada, particularly among people who use injection drugs. (29) HCV infection in PHA is an independent predictor of morbidity. (52) HCV-HIV co-infection is also independently associated with lower levels of treatment adherence and poorer treatment outcomes. (52-54)

PHA who are co-infected with HCV experience significant mental and physical health problems including more symptoms of depression, fatigue and poorer quality of life than PHA who are mono-infected with HIV. (55) A study of 482 PHA in Ontario found those who were co-infected with HCV were more likely to report substance use and a history of homelessness, and to experience significantly more depression than people infected with HIV only. They were also less likely to be receiving antiretroviral treatment. Further, those who were co-infected were more likely to be heterosexual, Aboriginal, less educated and unemployed. (56)

PHA co-infected with HCV also experience significant social barriers in accessing care, treatment and support. (57) Many of these social barriers are discussed in Chapter 4 of this report. In particular, PHA who are co-infected and who use injection drugs face additional complications regarding accessing treatment and services. (58)

Many co-infections (HCV-HIV and TB-HIV) are known to have negative impacts on HIV treatment outcomes. Treatment regimens for one infection may interact with those of another infection. This can make treating PHA who are co-infected difficult and can delay treatment for HIV and other co-infections. (29)

In a recent study of HIV and HCV co-infected patients attending an Ottawa clinic, different reasons for treatment interruption were observed between male and female patients, with females significantly more likely than males to interrupt treatment for neuropsychiatric reasons, such as depression or headaches. Death rates were also found to be disproportionately higher among females co-infected

with HIV and HCV. (59) Many of the elevated poor health and treatment outcomes of co-infected PHA are the result of underlying poor determinants of health, which are discussed further in Chapter 4 of this report. (60;61)

### 3.3.5 EPISODIC DISABILITY

For many PHA, HIV is an episodic disability, where periods of good health can be interrupted by unpredictable periods of ill health and disability. (29;36;62;63) Disability is defined broadly to include physical and mental challenges, such as pain, fatigue, and/or decreased memory; difficulties with day-to-day activities, such as walking or climbing stairs; and restrictions on social participation, such as difficulty working or participating in social activities. Some PHA have chronic, long-term disabilities, but many HIV-related disabilities come and go, without following a clear pattern of duration or severity. In addition to the difficulty faced in dealing with and adapting to the disability, PHA face additional challenges and stresses due to the uncertainty of not being able to predict and plan for these episodes. (29;36;63)

New HIV treatments are resulting in considerable improvements in symptom management and quality of life for PHA. For PHA who have recently been infected and who have accessed early treatment, periods of disability may be less common. Further and extended follow-up will be required to see whether this trend continues.

## 3.4 TREATMENT

Largely as a result of antiretroviral medications, HIV is now considered a chronic yet manageable illness. There has been a significant and progressive increase in life expectancy and decrease in mortality among PHA accessing current regimens of highly active antiretroviral therapy (HAART). (6;64) The increased availability and uptake of antiretroviral medications has been associated with improved virological outcomes and decreased drug-resistance among PHA. (65) These medications have also resulted in dramatic reductions in the incidence of AIDS-defining cancers. (66;67)

Despite these achievements, there are various challenges associated with treatment. In a study with 38 PHA participants, which looked at the effects of antiretroviral therapy on quality of life, PHA viewed treatment as a trade-off between diminished quality of life for extended longevity. They identified issues such as the consequences of side effects, including impacts on self-esteem, social



and sexual health, and the impact of drug toxicities. Other negative factors identified included tensions with health care workers, loss of independent decision making, disincentives to returning to work, the burdens of taking medication and the stress of hiding their HIV-positive status. (68)

Treatment in Canada is publicly available through provincial and territorial health systems, and most PHA access treatment, care and support. (29) However, not all PHA in Canada access recommended treatment. (39) The decision of when to begin treatment involves weighing a number of important considerations for PHA. (29;69) Once PHA begin treatment, they are advised to remain on treatment for the remainder of their lives. (29) Analysis of data collected from 104 PHA in Ontario did not find any significant differences in uptake of treatment between men and women PHA; on average both men and women began antiretroviral medications 2.2–2.3 years following their initial HIV diagnosis. (70) A number of personal and social barriers may impact the ability and willingness of PHA to follow treatment when it is recommended by a doctor.

A variety of factors influence treatment success. Adherence is a key factor—PHA must take their medications daily and not interrupt treatment. Section 3.4.2 will look at adherence issues in detail. Other factors affecting treatment success include the fact that individual PHA may respond differently to various treatment regimens, and that deferred or delayed uptake of treatment has an impact on the mortality of PHA. (71) Lastly, food insecurity, where access to nutritionally adequate food is limited or unstable, has been associated with treatment interruptions, poorer treatment outcomes and HIV-related mortality. (72;73) In a study tracking 1,119 participants in British Columbia's HIV/AIDS drug treatment program between 1998 and 2007, those who were food insecure and underweight were nearly twice as likely to die as those who were food secure and not underweight. (72)

### 3.4.1 TREATMENT SIDE EFFECTS AND INTERACTIONS

Various treatment regimens can cause side effects, which can negatively impact health and quality of life among PHA. It is often difficult to distinguish whether health problems and symptoms experienced by PHA are caused by HIV medications or HIV disease itself. In many cases, these health challenges may be a result of both treatment side effects and HIV infection. (29;36)

Side effects of HIV treatment vary between PHA, and between antiretroviral medication regimes. While some PHA experience severe side effects from treatment, others may observe mild to no adverse reactions. Reported side effects include: loss of appetite; nausea and vomiting, digestive problems such as diarrhoea and gas; fat redistribution; cardiovascular problems including strokes, heart attack; insulin resistance and diabetes; bone problems including bone death; liver problems; pancreatitis; skin problems; muscle and joint pain and muscle weakness; headaches; and mental health challenges such as depression and anxiety. (29;36;68;74)

Several studies have found that changes in body shape and image resulting from lipodystrophy—a side effect of certain medications, where body fat is redistributed—compromise quality of life among PHA on antiretroviral medications. (68;75;76) However, newer treatment regimens are less likely to cause this side effect. (36)

*I have self-esteem issues about body changes because of my medication and that's impacted me so bad I've actually been suicidal...I still feel [expletive] about my appearance and sometimes I wake up in the morning and I don't want to wake up and I feel that's been new with me since I've gotten more big in the stomach and lost all the fat in my legs and arms.*

—PHA (68)

Treatment has substantially improved the lives of PHA despite the negative impact of side effects on some. A comparison of the health-related quality of life outcomes of PHA using different treatment regimens in a three-year long multinational trial found that, overall, beginning treatment was associated with maintained or improved health-related quality of life. (77)

### 3.4.2 TREATMENT ADHERENCE

Successful suppression of HIV requires strict adherence to antiretroviral medications. Treatment interruptions can have negative clinical consequences, including the development of drug resistance. (36;78) Research on the success of antiretroviral medications has examined hospital (re)admission as a predictor of mortality. (79;80) Adherence to antiretroviral medications has been shown to reduce the chance of hospital readmission for PHA in a comparison of two cohorts, with equal numbers of PHA on HAART and not

on HAART. (80) Another study examining clinical predictors of hospitalization among a large sample of PHA on antiretroviral medications in British Columbia found that low CD4 cell count, as well as inadequate treatment adherence, previous hospitalization, female sex, and injection drug use, predicted hospitalization rates. (81) In a related study on the same cohort, those with suboptimal adherence had a 1.888 times higher risk for hospitalization. (79)

Simplifications in drug regimes help to improve adherence. In a study of 779 PHA in Ontario, 15% reported missing at least one dose of antiretroviral medications in the four days prior to their interview. Participants taking once-daily dosing were half as likely to miss a dose as those with more than one dose a day. Other factors correlated with suboptimal adherence include younger age, lower positive social interaction and increased frequency of binge drinking. (82)

#### a) Factors Affecting Adherence

Adherence is a health practice that requires a personal commitment from PHA to regularly fill prescriptions and take medications every day for the rest of their lives. The strictness of adherence required of HIV treatments means that beginning treatment may involve substantial changes in lifestyle for some PHA. (29;36;83) Treatment is associated with side effects and can complicate other conditions, as well as delay or interrupt the treatment of other infections. Therefore, PHA must consider the pros and cons of beginning treatment.

*When I first went on the drug regime, it felt very oppressive, and it felt difficult for me having to ask for accommodation around when we should eat, if I was with friends, and you know, let's say a dinner party or something.*

—PHA (83)

*I live around them. Cannot leave home without them kind of thing or have to come home for a certain time because I do not like [to] travel with them if I do not have to, so I will go to a friend's house, and then I will have to leave to take my meds.*

—PHA (83)

The ability and willingness of PHA to adhere to prescribed treatment regimens is complicated by psychological and social factors. (84-88) Depression is in itself a risk factor for mortality—even for PHA on treatment—and can

influence PHA's ability to adhere. The effect of adherence on the relationship between depressive symptoms and mortality among 563 PHA first initiating HAART was assessed over a six-year period. (84) Of these patients 51% were classified as having depressive symptoms at baseline. Those with depressive symptoms and less than 95% adherence were 5.9 times more likely to die than those who did not have depressive symptoms and adhered to treatment.

Fear of stigma and discrimination may influence adherence practices among PHA. Fifteen PHA described the considerations affecting their decision to decline HAART when it had been recommended by a physician. (85) Factors discouraging participants from initiating treatment included expected outcomes, medication factors and mood states, such as depression, anxiety and anger. Participants also cited the fear that the side effects of medications would expose their HIV infection to others and result in embarrassment, judgement, rejection and abandonment from social relationships.

*I am not strong enough to tell others I have AIDS. I am worried about what they'd think of me and how they'd look at me, how others might treat me. So I don't take pills because I don't want others to know.*

—PHA (85)

*A lot of it is denial about being HIV positive. That's a big part, and the side effects, but the first three reasons would be: denial, denial, denial. When people ask me I can say I'm fine as long as I'm not taking medication.*

—PHA (85)

In addition to the initiative and responsibility required of PHA, achieving optimal adherence involves the commitment of PHA care providers to offer a range of adherence support activities. In a survey of physicians, pharmacists and nurses who provide care to HIV patients in Ontario, a range of adherence support activities were endorsed by the majority of respondents, but they also reported that they did not always provide these supports. Barriers reported included lack of time, the need for more healthcare professionals to whom they could refer for adherence support, and the perception that certain activities were not part of their role. (69) PHA's access to social support may also have an impact on clinical outcomes among PHA on antiretroviral



medications. A study examining 34 PHA who were taking antiretroviral medications consistently over a four-year period found greater interpersonal, informational and emotional support to be associated with better clinical benefits, measured in terms of viral suppression. (89)

The process of relocation can interrupt treatment access and adherence practices for PHA. In a study of 2,421 PHA in British Columbia, those who moved at least three times in the study were 1.79 times more likely to be non-adherent. (90) International travel can also affect adherence practices—in an anonymous survey of 290 PHA attending an HIV clinic in Toronto, 133 reported international travel; of these, 29% reported either discontinuing their medications or being poorly compliant while traveling. (91)

#### **b) Treatment Adherence among Specific Populations**

Certain populations have greater difficulty accessing and adhering to treatment. In a study of 892 PHA receiving treatment in British Columbia, Aboriginal PHA (APHA) displayed lower levels of adherence to treatment than other PHA. (92) Slower treatment uptake has also been observed among APHA with a history of injection drug use. (93) Social marginalization, feelings of invincibility and misconceptions about treatment may play a role in treatment adherence among Aboriginal youth living with HIV. (94) Social and structural barriers have inhibited access to and utilization of HIV treatment and services by female sex workers in Vancouver's Downtown Eastside, a population with a high rate of injection drug use. (95)

PHA who are co-infected with HCV and who use injection drugs are a population known to experience significant barriers in access to treatment, which negatively impacts adherence to treatment. (96) Moreover, treatment for co-infection in this population can be complicated by interactions between treatments and illicit drugs. HCV co-infection was found to be a predictor of poor adherence patterns independent of injection drug use in a sample of 1,186 PHA including 606 co-infected with HCV. (97) There is evidence that methadone treatment may have the potential to improve treatment adherence and outcomes among HIV and HCV co-infected people who use injection drugs. (58;98)

A large body of research on treatment in Canada examines the relationship between injection drug use, adherence and mortality. In Canada, poor levels of adherence are disproportionately high among communities with large numbers of people who use injection drugs. (60;61;98;99) PHA who use injection drugs did not, however, display

elevated rates of antiretroviral resistance when compared to PHA without a history of injection drug use. (93) PHA who use injection drugs are more likely to adhere to recommended treatment when prescribed a daily single pill treatment regimen. (100)

Studies that compared the mortality of PHA who use injection drugs with those who do not, have come to different conclusions. In a study modeling life expectancy of different groups of PHA, PHA who use injection drugs had substantial disparities in life expectancy when compared with PHA who do not use injection drugs. (101) Nonetheless, in a study tracking 3,116 PHA initiating HAART, of whom 915 (29%) were injection drug users, five-year survival rates were virtually identical, once overdose deaths had been accounted for. (102)

In a study of 160 PHA participating in a larger study on injection drug users in Vancouver, 44% discontinued treatment during the study period. The most common reasons given for discontinuing treatment were incarceration (44%) and medication side effects (41%). (103) In a qualitative study of 12 HIV-positive injection drug users who had been incarcerated, participants reported experiencing treatment interruptions and receiving sub-optimal treatment advice while in prison. (104)

## **3.5 COMPLEMENTARY AND ALTERNATIVE MEDICINES**

Complementary and Alternative Medicine Therapies (CAMT) is a broad term that refers to "any therapy outside the standard Western model." (29) The majority of PHA who use CAMT do so to gain the benefits of both CAMT and conventional medicine. Complementary medicines are used in combination with antiretroviral medications, either to alleviate symptoms of HIV and AIDS, to relieve treatment side effects, and/or to generally improve quality of life. At this time, the vast majority of CAMT costs are not covered by public health care plans in Canada, although some PHA may access some forms of CAMT through private health insurance. (36)

Examples of CAMT include affirmations and visualization, acupuncture, aromatherapy, ayurveda, herbal medicine, homeopathy, massage and touch therapies, meditation, North American Aboriginal healing traditions, naturopathy, traditional Chinese medicine and yoga. PHA may use CAMT to increase energy levels, strengthen spiritual health, relieve chronic pain, relieve nausea, help recover from drug

toxicity, relieve stress and increase coping capacity. (36) For others, use of CAMT is part of a way of life. APHA often describe combining Aboriginal healing practices with Western therapies in their holistic approach to health management. (105)

*I think knowing a Western approach and knowing an Aboriginal approach and different kinds of cultural teachings would be the best because we don't live outside of the Western world. We live in it. And some people would only respond to it because they've been hurt by a lot of Aboriginal people along the way. So we need to know about both.*

—APHA (105)

Cannabis is a controlled substance in Canada; however, legal access for medicinal use may be granted to people with serious illnesses including HIV and AIDS, through the Marihuana Medical Access Regulations (MMAR). As of 2007, fewer than 1,400 Canadians had obtained MMAR approval. In a study of 197 PHA, nearly one-third reported using cannabis to self-medicate. A total of 80% of these participants reported relying on illegal channels to obtain cannabis. Factors including lack of information, and concerns about the quality of the product, were identified as barriers to legal cannabis access. In addition, many participants perceived the MMAR application process to be stressful, and described it as lengthy, onerous, complicated and confusing. (106)

There is mounting evidence that adverse reactions and drug resistance occur as a result of interactions between natural health products and antiretroviral medications. (36;107-110) Natural health products may include supplements, herbal remedies and/or vitamins. (36) A recent review of Canadian adverse reaction case reports, as well as human clinical studies for patients on antiretroviral medications and natural health products, found that the risk for therapeutic alterations and resistance can occur during simultaneous use of natural health products and antiretroviral medications. (110) Another systematic review conducted in 2005 found that important drug-level changes arise when natural health products are combined with antiretroviral medications. This study found significant interactions between antiretroviral medications and garlic, and between antiretroviral medications and St. John's Wort, although methodological limitations prevent these findings from being generalizable to patients. (109) Given the large

portion of PHA known to make use of natural health products in Canada, there is a need for further research on interactions between these products and antiretroviral medications.

In sum, there is very little research determining the effectiveness of CAMT. The limited evidence for many CAMT interventions means that most CAMT options are not, therefore, considered evidence-based treatments. (36) Given the estimated 90% of PHA known to use some form of CAMT in Canada, there is a considerable need for further research and evaluation on the effectiveness of the various forms of CAMT used by PHA. (36)

## 3.6 HIV WITHIN THE FAMILY

Having one or more family members living with HIV has implications for the entire family, including life partners, children and extended families. Caregiving is critically important to the health and well-being of PHA. The family plays a primary role in providing this care, since most non-medical care takes place in the family environment.

For the purposes of this report, family refers to “any combination of two or more persons who are bound together over time by ties of mutual consent, birth and/or adoption or placement and who, together, assume responsibilities for variant combinations of some of the following: physical maintenance and care of group members; addition of new members through procreation or adoption; socialization of children; social control of members; production, consumption, distribution of goods and services; and affective nurturance.” (111)

### 3.6.1 REPRODUCTIVE HEALTH AND FAMILY PLANNING

For PHA who want to have children, the decision is complicated by the risk of transmitting HIV to both sexual partners and unborn children, as well as the need for comprehensive HIV medical care and family resources. Raising a family while living with HIV may require careful health management and consideration of the realities of stigma and discrimination against family members. It also involves social support and healthy coping practices to address the challenges of parenting while living with a chronic disease.

As discussed in Chapter 2, vertical transmission from mother to child in pregnancy has been dramatically reduced in Canada since the introduction of widespread testing for pregnant women and the uptake of antiretroviral

medications. An increase in the desire to become pregnant among women living with HIV in Canada has recently been documented. (112-114) This increase is believed to be a result of improved technologies for treatment and prevention of vertical transmission. (114) The desire or sense of obligation of many women living with HIV to have children has also been linked to gender and cultural beliefs surrounding motherhood and womanhood. (113) A discussion of recent research on gender as a determinant of health can be found in Chapter 4 of this report.

Treatment is a factor in determining viral load and the risk of transmission in sero-discordant couples (where one partner is HIV-positive, and the other HIV-negative) who are trying to conceive. (115) Pregnancy planning requires careful consideration of treatment issues for pregnant women living with HIV. Adverse drug reactions may occur in pregnant women taking antiretroviral medications. A study conducted between 1997 and 2006 followed 103 women living with HIV who received HAART during pregnancy: there were 98 adverse drug reactions in 49 of the total 133 pregnancies (with some women reporting more than one reaction). Most of the adverse reports were mild to moderate. The most common adverse drug reactions were gastrointestinal, followed by central nervous system symptoms, anemia, elevated liver/pancreatic enzyme levels and skin rashes. (116)

Researchers are studying the question of whether antiretroviral medications taken by pregnant women have negative effects on their infants. Results from a cohort of 206 mothers with HIV who had been treated with antiretroviral medications from 1997 to 2005 did not indicate significant increased risk of prematurity or low birth weight in the infants born to them. Infants in this sample reached normal growth percentiles in the first two years of life. (117)

### 3.6.2 PARENTS AND HIV

The relationship between parenthood and HIV has been recently addressed as a topic of concern in Canadian research; to date, the focus has been on mothers. Studies examining women's experiences living with HIV often refer to the challenges of competing priorities associated with being a mother. (118) They struggle to balance their own health needs with the need for ensuring safe and stable family housing, finding employment, providing for and responding to the needs of their children and, for some, avoiding violence and abuse. Qualitative research suggests that women living with HIV tend to sacrifice their own health needs by putting the needs of their families first. (12;118-121)

*I'm the only person who is going to look after those kids. And you know I basically sat there and just talked to myself and telling myself I gotta do this.*

—Woman living with HIV/AIDS (121)

*I don't have time to look after myself I think as a woman because I'm busy looking after other people. And I do...you know, and it's finally when I'm almost crashing to the bottom that I realize I have to do something for myself. And you know I have a very high-maintenance [young child, who's] got issues, you know.*

—Woman living with HIV/AIDS (12)

The fear of losing children to social services as a result of HIV-related stigma has been described as an important issue by parents living with HIV/AIDS. (121;122)

*I have heard from other parents' horror stories about how social workers are called for absolutely no reason. But they assume that you have a social problem in your family [if there's HIV]. Yeah, like you just seem to be flagged in a way.*

— Parent living with HIV/AIDS (121)

Family income and housing stability can have an impact on the healthy development of children of parents living with HIV. A qualitative study analyzing the experiences of 50 parents living with HIV in Ontario suggests that housing instability can lead to an unstable home environment for children and uncertainty about the future. Single motherhood and associated challenges of income and housing instability, as well as HIV illness, were identified as impacting the parenting ability of PHA. Parents living with HIV described losing custody of their children or fear of losing custody as a result of HIV illness and housing instability. (121)

*I was very depressed, I was upset. Because like children and family services said ok you're sick and if you don't have family how are you going to take care of your daughter? And how are you going to take care of your son? And that really bothered me because when I was diagnosed they didn't care and then when I got sick all of a sudden my daughter was taken away from me and then my son and that really hurt me.*

— Parent living with HIV/AIDS (121)

### 3.6.3 CHILDREN AND YOUTH LIVING WITH HIV/AIDS

There are a small group of children and youth in Canada who were infected with HIV in the perinatal period, while others became HIV-positive as adolescents. This section focuses on those who have been living with HIV since birth.

Parents and medical professionals are responsible for disclosing to children the fact that they are HIV-positive. This disclosure is a continuous process that starts when a child is very young and gradually unfolds. For example, a young child might be told: "This medicine helps to keep your blood strong." (123) Older children and adolescents can understand more complex medical information. It is important that they be adequately informed about relationships, sexual health and prevention before they become sexually active. Disclosing HIV infection to a child living with HIV can create serious emotional stress for both parents and children, including stress related to fear of community rejection, and fear of blaming the mother when the child's infection has been acquired vertically. (123)

Decisions regarding HIV disclosure at school and among friends were identified as major sources of stress among children and youth living with HIV. (11;124) Two recent studies on children living with HIV in Canada suggest that children can be victims of stigma and discrimination in school and community settings. (121;124)

Youth living with HIV identify a range of concerns including isolation from both their own community and the HIV community, social rejection following disclosure, loneliness, hopelessness, treatment fatigue and fears concerning their long-term health. (11;125) For others, however, living with HIV is a relatively small part of their identity. (11)

*I think we feel the same sometimes, as like, being alone, sometimes you feel no one knows you. You have something but you know, other people won't think it. But you know yourself and then you act differently among people, you're conscious about what you say.*

—Youth living with HIV/AIDS (11)

*I am always just doing my thing. I never stop and think—hey I got HIV.*

—Youth living with HIV/AIDS (11)

Stigma and discrimination, anxieties about their health and their parents' health, and, for some, the experience of having lost a parent to AIDS, can combine to create mental health challenges, such as stress and depression among children and youth living with HIV. (124)

Matters of sexual health and romantic relationships were described as particularly concerning and stressful among youth living with HIV. (26;124;126) Youth living with HIV face the challenges of adolescence and their developing sexuality, which is complicated by issues of disclosure of their HIV status. In two Montréal studies looking at issues of sexuality among youth living with HIV since birth, the theme of fear of rejection resulting from disclosure was central. Although youth were well informed about HIV prevention, and felt a responsibility to protect their current and future partners, many did not report using condoms consistently, nor did they always disclose their HIV status.

*I don't see the point of telling him, if you're protecting him.*

—Youth living with HIV/AIDS (26)

*When I told him, yes it was a shock, but at the same time, he saw something else besides HIV. It was the most important experience for me of my life....Whatever happens I know that he'll always be there.*

—Youth living with HIV/AIDS (26)

Emerging research is examining the challenges faced by youth living with HIV as they transition from paediatric to adult HIV care. In a study of 54 youth living with HIV in Quebec who were transitioning to adult care, one-quarter were immuno-suppressed with CD4 counts under 200 and one-third of those who were tested had drug resistance. (127) Treatment adherence is a challenge for youth transitioning to adult care. Youth who felt their medications were essential for their well-being reported a more continuous adherence to treatment when compared with youth for whom their medications were seen as an indicator of difference from their peers. (26) These studies underline the importance of addressing the transition from paediatric to adult care, and show that positive peer support and flexible services can help in this transition. (125;128)



### 3.6.4 VIOLENCE IN INTIMATE RELATIONSHIPS

Domestic violence has been studied in relation to vulnerability to HIV infection, and this issue is addressed in the other reports in this series. Studies on Aboriginal, African and Caribbean populations look at the effect of domestic and sexual violence on HIV prevention and HIV infection. (12;118;129-131)

Limited research was found that examined violence and its effects on PHA. In a study examining male partner violence among 186 men with same sex partners in Vancouver, (132) HIV status was found to be a factor. Men living with HIV reported greater sensitivity to psychological abuse than their HIV-negative male counterparts. Although HIV status was not significantly associated with physical abuse, HIV-positive men reported greater severity of abuse than HIV-negative men.

## 3.7 HEALTHY LIFESTYLE

Living with HIV requires special attention to health management, including eating nutritious foods and getting regular exercise. Other lifestyle choices such as smoking and drug and alcohol use impact PHA health and likelihood of treatment success. These life practices influence treatment success, treatment adherence, as well as quality of life. (36)

### 3.7.1 HEALTHY DIET

While a healthy diet is important for everyone, due to the nature of HIV and its treatment, PHA have particular dietary requirements. Eating well while living with HIV involves the deliberate dietary inclusion of complex carbohydrates, fats and proteins, unprocessed fresh foods, and foods low in saturated fat. Protein is essential to the diet of PHA. Proteins are needed to produce hormones, enzymes, cell structures, and parts of the immune system, as well as to maintain lean muscle mass. (29)

PHA may experience weight management challenges as a result of HIV infection or treatment side effects. (29) A study on dietary intake and physical activity in a sample of 65 male PHA with metabolic abnormalities found that many were overweight or obese and reported diets with high fat, low fibre and inadequate micronutrient levels. (133)

A person is considered to be experiencing food insecurity when nutritionally adequate and safer food is limited or unstable. (72) Food insecurity is a problem for some PHA, particularly those who are street-involved and who have inadequate housing. (73;134) Ability and willingness to access healthy foods can be affected by addictions among PHA. (134) Food insecurity often occurs among younger PHA and is associated with higher likelihood of experiencing depressive symptoms, tobacco smoking and drug use. (73)

*Yesterday it was difficult for being a holiday, long weekend. Four places that hand out food were shut down because of the holiday. It was hard to get some decent food because that means all the other food line-ups are doubled up and they run out.*

— Man living with HIV/AIDS (134)

*People are drug addicts down here. They don't want to spend their money on groceries. They spend their money on a 10 dollar toot [of crack cocaine] and get a piece of pizza afterward.*

—Transgender person living with HIV/AIDS (134)

Not maintaining a healthy diet negatively impacts the outcomes of HIV treatment. (29) A study assessing treatment outcomes and body weight of 1,119 PHA in British Columbia over a nine-year period found that food insecurity was a significant predictor of mortality, particularly in underweight PHA. (72)

### 3.7.2 EXERCISE

Physical fitness is an essential component for living well with HIV. Exercise is associated with reduced depression, increased energy, stress relief, improved sleep, better cardiovascular and lung health, and the maintenance of lean muscle. (29) A 2010 review of 14 aerobic exercise interventions for adults living with HIV concluded that it appears to be safe for PHA to do aerobic exercise (defined as a combination of aerobic or progressive resistance exercise at least three times a week for at least 20 minutes, for at least five weeks) and that this may support improvements in fitness, body composition, and well-being. The review recommended that further studies be conducted with women, older people living with HIV, and those who discontinue their exercise programs. (135)

PHA on treatment often experience weight management problems resulting from treatment side effects. Lipodystrophy, a side effect of certain antiretroviral medications where body fat is redistributed, is a concern for many PHA in Canada. (36) In response, research has examined the potential of different forms of exercise training for mediating those consequences and generally improving quality of life. (75;76) Aerobic training can help reduce total body and visceral fat, as well as normalize lipid profiles in PHA. (133) Increased physical activity is also associated with decreased pain-related and increased mental quality of life. (41)

### 3.8 SEXUAL HEALTH

Healthy sexuality is the “presence of a satisfying, respectful and beneficial sexual part of your life.” (29) It involves the ability to have pleasurable and safer sexual intercourse with a consensual partner in an environment free from discrimination, threat, coercion or violence. Living with HIV has an impact on the infected individual's sexuality as a result of the health challenges associated with HIV infection and treatment. Living with HIV can have a restrictive effect on sexual relationships due to concerns about prevention of onward transmission and HIV disclosure which can complicate intimate relationships for PHA and their sexual partners.

Men and women living with HIV can experience complications with the physiological effects of HIV infection on their sexual health. Forms of sexual dysfunction in men living with HIV may include erectile problems, difficulty ejaculating, premature ejaculation, loss of libido, lack of pleasure from sex, anxiety over sexual performance and pain during sex. Some women living with HIV have reported a decline in sexual interest, difficulty attaining orgasm, and pain or reduced pleasure during sex. (36)

A study examining the relationship between sexuality and HIV infection among 20 women living with HIV in Canada, describes HIV as inhibitory of women's sexuality. (27) The women discussed feelings of diminished intimacy and spontaneity in sexual relationships as well as feelings of responsibility for protecting others from infection and fear of infecting others. Women also described being considered ‘vectors’ of the virus and discussed how this contributed to avoidance of sex or abstaining from sex, and the implications of this stigma on their health. (27)

There is little current research on the relationship between sexuality, sexual dysfunction, intimacy, sexual identity and the experience of living with HIV. There is some qualitative evidence to suggest HIV often has a restrictive effect on sexuality as the fear of infecting others may affect sexual relationships. (28;36)

### 3.9 AGING WITH HIV

PHA in Canada are aging—as is the general population—and with aging comes various health challenges and risks. In addition, PHA may experience symptoms associated with aging as a result of HIV disease or the side effects of antiretroviral medications.

Advances in treatment are allowing PHA to live longer. PHA are now expected to live a relatively normal lifespan; however, they remain susceptible and at an earlier age than the general population, to specific chronic conditions associated with aging, including cardiovascular disease, diabetes, arthritis, dementia, and some cancers. Some of these conditions are manageable.

The question of whether PHA experience accelerated aging, either caused by HIV or by antiretroviral medication is the subject of current discussion and research (29;36) although at the time of this review, no current Canadian research on this subject was found. Researchers are examining the role of inflammation in chronic disease, specifically how it may accelerate those conditions that are seen as aging related, such as cardiovascular disease. The findings suggest earlier HIV treatment initiation, and lifestyle interventions, such as smoking cessation and obesity prevention, may help mitigate the effects of inflammation as it relates to cardiovascular disease in PHA. (136)

Older adults tend to be diagnosed in later stages of HIV infection, which can be related to failure of healthcare providers to consider older adults as a population at risk of HIV infection. Older adults often present with AIDS-defining illnesses at the same time they receive their HIV diagnosis. (137) Healthcare providers may assume that symptoms of HIV/AIDS, such as hearing and memory loss, are part of the normal aging process and may not think to check for HIV infection. Moreover, the perception that older adults are less likely to engage in sexual activity may lead healthcare providers to neglect sexual history in risk assessment. (137)



Some authors have suggested that older PHA experience a 'double jeopardy' of HIV stigma and ageism, where they perceive ageism in accessing AIDS service organizations, and HIV stigma in accessing non-HIV services. Others point to the specific advantages that older adults may have, due to experience and problem-solving skills. The length of time in which an older adult has been living with HIV has important implications on their experiences. (138)

In a paper looking at the experience of aging among a group of gay men living with HIV in Vancouver, the experience of those who contracted HIV early in the epidemic was contrasted with those who were infected later in life. (138) Both groups faced challenges in managing their health and treatment, and some expressed fears of aging without a partner and social exclusion. Long-term survivors had lived through multiple losses and dramatic physical and emotional changes in their life trajectories. Most of them had lived much longer lives than they could have imagined when first diagnosed. Some expressed disillusionment with the current gay lifestyle, which they saw as having lost a sense of community orientation and the former urgency that led the early response to HIV. For the newly diagnosed older men, there was a greater sense of fear for the future and a strong desire for social support and community with other gay men. (138)

### 3.10 PALLIATIVE CARE

Comprehensive and informed HIV/AIDS-specific palliative care is essential for helping PHA manage the end of their lives in the most dignified and comfortable way possible. (139) Palliative care is an essential component of any HIV/AIDS care service. (36)

Appropriate end-of-life care for PHA requires integrated pain and symptom control, alongside supervised management of antiretroviral medication. Changes in the causes of death among PHA in Canada resulting from treatment have altered the nature of palliative care for this population. (140;141) Specifically, there is a need to consider symptom and pain management strategies for non-AIDS-defining illnesses.

The challenges of providing palliative care for PHA who are homeless and street-involved has received recent attention. High mortality rates among marginalized PHA hold implications for palliative care interventions. A recent study examining the effectiveness of shelter-based palliative care among a cohort

of terminally-ill homeless individuals in Ottawa, 25% of whom had HIV, found a heavy burden of co-morbidities including physical illness, psychiatric conditions and addictions. (142)

### 3.11 BEREAVEMENT

PHA and those affected by HIV experience multiple forms of bereavement throughout the course of their lives. Many forms of loss and grief associated with HIV are discussed throughout this report, including loss of jobs, loss of loved ones through rejection and abandonment, and loss of a former life. This section will review the literature on bereavement related to the loss of loved ones who died from AIDS, and how this experience impacts surviving PHA.

A process of grief and acceptance accompanies the loss of a loved one. For PHA who have survived a partner who died of AIDS, this experience can be complicated by feelings of anger, frustration, guilt, and fear of death. (143-145) Moreover, PHA may experience death and loss frequently, as a result of being linked together through social networks related to HIV, as well as other social networks, such as a local gay community. An Ontario study looked at the experiences of AIDS-related bereavement of 67 participants, 86% of whom were PHA. They reported having lost multiple friends, family and acquaintances to AIDS, with an average of 157 AIDS-related deaths, and multiple non-AIDS-related deaths and losses. They also reported many other significant losses, such as break-ups with partners, losing friends and family, career, health, independence, and body image. Physical and mental effects of this grief and loss included insomnia, fatigue, depression, anxiety, anger, frustration, and hopelessness. (144)

*AIDS created a great deal of conflict for me because at a relatively young age (25) I began to experience the loss of my social supports—an experience that even my parents hadn't begun to have. I didn't feel that I could talk about this with my family; I felt a stigma because it was AIDS.*

—PHA (145)

*My partner Keith and I were both HIV-positive, and I expected to die first. But in 1991 Keith died—I lost the love of my life. After that it was just one death after another. Because it was so painful, parts of me shut down.*

—Gay man living with HIV/AIDS (145)

Loss of loved ones may lead some PHA to engage in negative coping practices and risk behaviours that could endanger their health. (144) On the other hand, those who have lost loved ones from AIDS are sometimes able to find meaning in their bereavement. Some PHA have described changes in spiritual and faith systems resulting from bereavement. (144) In a qualitative study on HIV and bereavement, 15 caregivers who had cared for someone who died of AIDS were interviewed. Participants (nine of whom were themselves living with HIV) described both positive and negative changes including emotions of loss, distress and fear of death, and feelings of support, growth and spirituality. (146)

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## CHAPTER 4 – CURRENT EVIDENCE ON SOCIAL DETERMINANTS OF HEALTH AFFECTING PEOPLE LIVING WITH HIV/AIDS

The health and quality of life of people living with HIV/AIDS (PHA) are affected by multiple determinants of health. Other reports in this series have looked at how the determinants of health affect vulnerability to HIV infection, whereas, the research reviewed for this chapter shows how the determinants of health continue to influence health and quality of life for PHA in Canada after their infection with HIV. The influence of these factors on the physical and mental health and mortality of those living with HIV and AIDS will be examined.

The relationship between determinants of health and HIV/AIDS is complex and multi-directional. While determinants of health can contribute to vulnerability to HIV infection, living with HIV can itself have an effect on determinants of health, such as income, social environments, and personal health practices.

While there are common factors influencing the determinants of health of PHA in Canada, over all, this population is highly diverse. There may be little shared history between an urban gay man, a refugee from West Africa, and a street-involved person who uses injection drugs. These diverse experiences continue to shape the lives of people after HIV infection. The experiences of PHA who live in rural and remote areas differ from those who live in urban centres. Age, gender, and culture also influence PHA resilience, health, and quality of life.

Although the populations most affected by HIV in Canada may have very different life experiences, they may, however, share the experience of being marginalized and victims of different types of stigma and discrimination, including homophobia, racism, and sexism.

This chapter will examine the available research findings on PHA of all walks of life. It provides a synthesis of the current evidence on the social determinants of health and HIV/AIDS as it relates to PHA in Canada. Specifically, this chapter will address early childhood development; income, socio-economic status and education; employment and working conditions; social environments; social support networks; physical environments; culture; gender; access to

health services; and personal health practices. Themes of stigma and discrimination against PHA, and issues of HIV disclosure are also addressed in the chapter.

It should be noted that the international literature has established that there are biological differences among PHA that influence the duration between HIV infection and the onset of AIDS-defining illnesses. Some people progress to AIDS within a few years, while others may be infected with HIV for more than 10 years but remain in good health without initiating antiretroviral treatment. Since this report focuses on the social determinants of health, it will not look at research on this topic.

### 4.1 EARLY CHILDHOOD DEVELOPMENT

Healthy early childhood development is strongly linked to a healthier adult life. Obesity, mental illness, vulnerability to violence, addictions, and criminal behaviour may have origins in the early years of childhood. Conversely, positive involvement of parents and stimulating home environments can have a positive impact on children's health and development into adulthood. Factors influencing healthy childhood development include adequate family income, stable housing, effective parenting and family functioning, employer support for parents, and supportive community environments with accessible social programs and resources for parents. (1)

Experiences of abuse and neglect in early childhood can influence HIV risk behaviours in adolescence and adulthood, thereby contributing to vulnerability to HIV infection. (2-4) In a study of Aboriginal youth in two British Columbia cities, a history of non-consensual sex during childhood was associated with increased risk of HIV infection. (4) Early childhood development may also influence the health status and quality of life of adult PHA; however, no research was found that looked at the linkages between these specific factors. Furthermore, very little research on HIV/AIDS in Canada addresses issues of early childhood development among children (0 – 6 years) living with HIV.

## 4.2 INCOME, SOCIO-ECONOMIC STATUS, AND EDUCATION

Socio-economic status is the relative position of an individual or a group to others within a hierarchical social structure, based on education, income, occupation, wealth, and place of residence. Higher social and economic status is associated with better health; it has a strong influence on living conditions such as “safe housing” and the ability to buy sufficient food. It is associated with increased control over life circumstances and better coping skills for dealing with stress. (1) This section looks at income, socio-economic status, and education together, because these factors are usually associated with one another, and most definitions of socio-economic status include income and education.

The relationship between HIV and income is bi-directional. While poverty itself is not a risk factor for HIV infection in Canada, many of the groups at risk for HIV—Aboriginal people, people who use injection drugs, people from countries where HIV is endemic—live in poverty. (2;5;6) For those with relatively higher incomes prior to infection, the challenges of living with HIV can mean that people have to leave or reduce their paid employment, thus experiencing a reduced income.

Income is a predictor of health-related quality of life for PHA for both mental health and health distress.<sup>13</sup> (7) Food insecurity, an important marker of low income, is associated with treatment interruptions and HIV-related mortality. (8) Poor physical health-related quality of life is associated with unemployment. (9)

In a series of focus groups with 105 PHA across Canada, PHA of higher socio-economic status were found to encounter less discrimination as a result of having more resources, the ability to afford medical services beyond what provincial health insurance plans provide, and the ability to avoid reliance on social services. Homeless PHA were seen as experiencing more discrimination as homelessness in and of itself is a source of stigma. (10)

There was no evidence found about literacy, and limited information found about education, as independent factors

influencing health-related quality of life. One study of 308 PHA in Southern Alberta found that those with higher levels of education had higher rankings in several quality of life ratings, including energy, mental health, health distress, and cognitive function. The study also found that monthly income and employment were predictors of positive quality of life. (7) Research on Aboriginal people, people who use injection drugs, and sex workers has found that lower levels of education are common, and contribute to their vulnerability. (2;5)

### 4.2.1 SOCIO-ECONOMIC STATUS AND TREATMENT ACCESS

Low income and socio-economic status are associated with poor treatment access. In British Columbia, there is universal free treatment; yet in a study of the 1,239 HIV-related deaths in that province between 1995 and 2001, 32.8% of those who had died had not received any HIV treatment. Aboriginal people, people with lower incomes and women were more likely to have not accessed treatment before death, and if they had accessed treatment, were more likely to have discontinued it. (11) A subsequent study of HIV-related deaths in British Columbia between 1997 and 2005 found that 40% of PHA died without accessing treatment. The same study also looked at treatment-naïve patients who did access highly active antiretroviral therapy (HAART), and found that unemployment was a significant predictor of late access (CD4 count < 50). Further, among those who had accessed HAART, living in a neighbourhood with low levels of post-secondary education and high percentages of poverty was associated with HIV-related mortality. (12) In another British Columbia survey with 764 PHA respondents, antiretroviral medication use was associated with graduation from high school and having a household income greater than \$10,000 a year. (13)

### 4.2.2 THE IMPACT OF HIV/AIDS ON INCOME

Living with HIV/AIDS usually has a significant effect on income, regardless of income prior to acquiring HIV. The cost of HIV medication can be a significant burden, although for most PHA, antiretroviral medications are covered either fully or partially by a provincial health insurance program or through private insurance. Complementary medications and therapies are not always covered, nor are the costs of general prescription and non-prescription medications.

<sup>13</sup> Health distress was measured through a series of questions that included the following: Do you feel worn out? Do you have enough energy to do what you want? Do you feel discouraged by your health problems? Do you despair over your health problems? (7)



Other costs such as dispensing fees, nutritional supplements, special foods, transportation, childcare and/or parking for medical appointments, and other services are not usually covered.

Not only is living with HIV costly, but income for many PHA is reduced as the associated health problems mean that they either leave paid employment or reduce their working hours. In a study of 308 PHA in Alberta, made up largely of relatively well-educated gay men (only 16% of the sample had not finished high school, and 59% had some post-secondary education or a college degree), only 58% were employed, and 27% were living below the poverty line. (7)

PHA in Canada have access to a wide range of income sources, from paid employment to living on social assistance or disability benefits. PHA who receive income support may rely on income security programs such as Employment Insurance sickness benefits, the disability benefits of either the Canada Pension Plan or the Quebec Pension Plan, private long-term disability insurance, and provincial and territorial social assistance programs. Coverage varies by jurisdiction, and for many, this means that they have to apply to many different programs, each with different mandates, definitions of disability, eligibility criteria, forms, and adjudication procedures. Lack of coordination between jurisdictions and programs can result in challenges for those struggling to understand how available programs work. A further complication is that some programs are indexed to the cost of living, while others are not. (14-18)

Although figures vary by jurisdiction and by type of income support, many PHA living on income support are living below the low income cut-offs established by Statistics Canada. (16;17) Although for some PHA income support provides an opportunity to stabilize their symptoms and manage their health, most PHA find the levels of benefits inadequate. For many, living on social assistance is also demoralizing and stressful. (17;19;20)

*Basically, what concerns me is the health care and welfare systems in the sense of the quality of life we're expected to live with. I feel it's been reduced to the extent that it creates a great deal of stress.*

—PHA (19)

*When you're on social services in this province... it isn't making you a very good living. People find other ways to supplement their income or [go to a] food bank or wherever you can... I mean if we had enough to maintain a quality of life through income [it] would probably make things easier. If I didn't have to worry about food in the cupboard and bills getting paid, I think I wouldn't worry about whether or not I was going to get sick next week.*

—PHA (20)

In a study of 91 Canadian families with HIV-positive mothers, finances were a concern for the majority of parents (75%), contributing to parental and family stress. The majority (60%) had experienced a loss of income after diagnosis, while 31% had a stable income but increased expenses. (19) Parents often prioritized their children's needs over their own health needs.

*I don't have sufficient funds for special diets. On assistance you end up not eating so your children can eat, which of course leads to disease progression. Not adequate money for clothing in winter causes illness. Many medications are not covered; even simple meds like children's Tylenol are costly on [a] limited budget.*

—Woman living with HIV/AIDS (19)

#### 4.2.3 REMAINING AT OR RETURNING TO WORK

Several studies look at the trade-off for PHA between life on income support and returning to, or remaining in, paid employment. Many factors play into the decision to return to work, including personal health status, financial status, sense of isolation or support, concerns about workplace stigma and discrimination, concerns about a changed workplace (for those who have been unemployed for a long time), and fear of losing benefits. (14;17)

The fear of losing government income and medication coverage was widely identified as a barrier to (re)entering the workforce. PHA encounter many administrative and systems barriers and challenges that can interfere with their desire to return to work when managing the medication and other costs associated with their condition. Disability and pension plans provide a limited income and access to full coverage for medications and other health services. Those

seeking to return to work fear losing this coverage for medications. For many, paid employment does not pay enough to cover the cost of their medications. (14;15;17;20-24) For PHA who are parents, the difficulty of finding and paying for quality childcare can be an additional barrier. (22)

Most Canadian provinces have drug plans in place that cover medications to varying extents, but most cannot be accessed until private insurance has been exhausted. PHA are not always aware of these programs, and may have the misconception that returning to work will require them to pay for all of their medications. (10) Furthermore, antiretroviral medications may be covered in some cases, but other medications, including those to offset side effects, may not be covered. (14)

*If I worked full-time and went off my disability, I'd never be able to get a job that would pay my drug costs. My drug costs, my housing and day care, and food. I would never be able to make that much money.*

—Woman living with HIV/AIDS (22)

*I wasn't on welfare because I wanted to [be]. I wanted to work and do everything. Why isn't there any kind of program to help a disabled person get back to working?*

—PHA (23)

The fear of losing benefits is also experienced by those who are working. PHA who work for employers with a drug plan can feel trapped in that job, as moving to another employer or leaving the workforce could mean a loss of benefits or long-term disability coverage. PHA who experience this “job-lock” may feel frustrated and that their career options and progress have stalled. (10;15;20)

*It's always in the back of my mind that I will be covered as long as I'm here [at present employer]. You know what I mean? That's an insecurity that there's no way you can deny it.*

—PHA (20)

PHA can find the administrative procedures necessary to access programs—whether disability, income support, or training—challenging and frustrating. Some PHA reported that they needed support from AIDS service organizations or healthcare providers to fill out the applications. (17)

*You know, you get to them and they say “no” we don't do that; do you want to go over here and try somebody else? And I guess it's maybe all the legwork that you have to do to access some programs...just a never-ending list of steps. They're always, “Okay, you've got to go to these people, do this, do that.”*

—Gay man living with HIV/AIDS (21)

Much of the research identified a sense of frustration among PHA with the “all or nothing” approach of disability programs, where in order to access income support and medication coverage, PHA and others with chronic, episodic disabilities have to stop working altogether. Many PHA would prefer to work part-time or full-time, but with continued support for medications, and with the flexibility to move back and forth between the workplace and disability benefits, as their health allowed. (7;14;16;20-24)

*...I mean, the way it was explained to me is you are either disabled or you are not. You either can work, or you can't. So someone who can work 20 hours a week, make enough, thousand, fifteen hundred dollars a month to support themselves, take care of their personal needs, but can't afford to pay for thousands of dollars of drugs every month.*

—PHA (14)

*It was difficult enough to get onto disability benefits and then even more difficult to get additional benefits by tweaking legislation and using it to get more funds. If I went back to work they would close my life and I would lose all of that and the way legislation is now you'd never get it back.*

—PHA (20)

## 4.3 EMPLOYMENT AND WORKING CONDITIONS

Employment has a significant effect on a person's physical, mental, and social health, because paid work provides a sense of identity and purpose, social contacts, and opportunities for personal growth. (1) This section looks at paid employment; however, it is important to note that many of the positive benefits of work—



engagement with others, identity, self-worth, meaningful work—can be achieved through unpaid volunteer work, including community involvement and activism, which is an important activity for many PHA. (22) This topic will be discussed in Section 4.5 Social Support Networks.

After the introduction of antiretroviral medications, and as these regimens have improved, returning to or maintaining employment have become options for many PHA. In a study of 308 PHA in Southern Alberta, 58% were employed, and of those, 85% worked full-time. Employment status was strongly associated with improved quality of life. (7)

In a British Columbia study of 392 PHA on antiretroviral medications who had been unemployed at baseline, only 16% were employed after one year. Having a baseline income over \$10,000, being on long-term disability or unemployment insurance at baseline and having better health, were factors found to be associated with a return to employment. A history of injection drug use and having provincial assistance as an income source were negatively associated with employment. Those on provincial assistance (over half of the participants) were likely reluctant to lose a guaranteed source of income, especially if they could only find part-time or low-paying employment. (25)

#### 4.3.1 THE BENEFITS OF WORK

In addition to financial security, benefits of employment noted in the research included independence, identity, empowerment, opportunities for socialization and participation, feelings of recognition and self-worth, confidence, satisfaction, a sense of purpose and fulfilment, daily structure, and a distraction from health concerns. (10;14;20-23) For some PHA, a return to work is a sign of the re-establishment of good health and independence. (5;22;23) In a study of women living with HIV/AIDS, the desire to set a good example for their children and other women living with HIV/AIDS was also cited. (22)

*I want to feel productive and that I'm active, and I think that's the sort of self-preservation in terms of feeling useful. I want to keep the paid employment. I need it. I need it financially; I need it just to be out doing something.*

—Woman living with HIV/AIDS (22)

*I loved the get up and go; I loved the responsibility; you know the feeling of self-worth and now I'm missing that.*

—Woman living with HIV/AIDS (22)

Despite the positive benefits of work, some PHA feel that they must choose between work and health, fearing that the demands and stresses of paid employment will have a detrimental effect on their health.

*You can't afford to take that chance because ultimately your health is more important than just making money. I gave up all that. It's survival; that's all there is to it. It's just pure survival.*

—PHA (20)

*I literally had to decide at one point to do something about it because if I didn't [stop working] I was going to die, and that just wasn't an over-dramatization at all. That was just a certain fact.*

—PHA (20)

#### 4.3.2 MANAGING HEALTH AT WORK

As discussed in Chapter 3, living with HIV may mean living with an episodic disability where health can be interrupted by unpredictable periods of ill-health and disability. (15-17;26;27) This uncertainty and the effects of both HIV and HIV medications affect the working lives of PHA, adding to stress and fears about poor performance and potential job loss.

Episodes of ill health, ongoing symptoms such as nausea and diarrhoea, rigorous medication regimes, side effects of medication, frequent medical appointments, heightened stress, and fatigue are major barriers for some PHA in seeking and maintaining employment, or in maintaining the same level of work as they had previously. (21-23)

*For me to hold down a job would be impossible. There's too many doctors' appointments, too many mood swings and depression, different side effects from the medication.*

—PHA (23)

*I've been taking them [HIV medications] for a full year and one of the side effects that was giving me a lot of trouble was that the medication was affecting my sleep patterns and when I already had a very hectic schedule that was really starting to catch up to me.*

—PHA (21)

The need for workplace supports was identified, including flexible schedules, the ability to take time off for treatment and recovery, a need for frequent washroom breaks, the ability to refuse overtime, the support of understanding managers and colleagues, and safe environments. (10;20-23)

Many PHA find it difficult to coordinate medication regimes with work and family schedules. For those whose HIV status is not public, there are challenges in hiding their medication. PHA fear that the challenges of managing their health in the workplace, including time away due to medical appointments or illness, may jeopardize their employment. (22;23;28)

*I have to worry about hiding it and how am I going to take my pills? Or having to worry about taking the pills and having the shits for an hour and can I get to the washroom which is way down the hall.*

—PHA (28)

*Shift work can conflict with the taking of medication, causing difficulties in adhering to a strict schedule. I try to go with the schedule. I want to stay alive too, so I do take them [medications]. I try to take them on a regular basis. I know it fluctuates a lot. I try to shift them. I push them four hours each way depending which way I'm going.*

—PHA, shift worker (28)

Newer HIV treatments are resulting in considerable improvements in symptom management and quality of life for PHA, and may mean that the challenges of managing medication regimes and side effects will be reduced. Further follow-up will be required to track the impact of these new treatments on PHAs' ability to manage their health at work.

### 4.3.3 STIGMA AND DISCRIMINATION IN THE WORKPLACE

Human rights legislation and labour and employment laws protect PHA from discrimination in the workplace; however, incidents of discrimination continue to occur. (15) Stigma and discrimination appear in the workplace in different ways, ranging from more subtle acts of social rejection, through harassment, to refusing to hire someone who is HIV-positive. Although firing someone on the grounds of their HIV status is illegal in Canada, PHA may experience harassment and pressure that results in them deciding to quit their jobs. (29)

In a series of focus groups with a total of 105 PHA, some reported that they had been restricted to positions where their interaction with the public was limited; for example, those in the hospitality or the food industry reported being moved away from food preparation and serving. PHA also reported concern and suspicion about colleagues' attitudes, with some concerned that they were fired or treated poorly because of their HIV status, but with no concrete proof. (10)

*I also think that if someone is found out to be HIV-positive that they are going to lose their job or whatever, or they're not going to be considered for a promotion or position because of their health.*

—PHA (21)

Disclosure of HIV status in the workplace is a challenge for most PHA. For many, disclosure is a choice—they can choose either to keep their status private or inform their colleagues. Many PHA successfully hold jobs without disclosing their status, seeing this as a personal health matter. (10) For others, disclosure of their status is involuntary—either due to gossip, symptoms, or the demands of medical appointments and medication regimes. Once made, disclosure cannot be retracted, so fears and concerns about stigma and discrimination leading to rejection and loss of employment are a reality for most PHA. (14;20-23) For some, however, particularly those who work in an AIDS-aware environment, disclosure is not seen as a problem. (10;14;21;23)

*I felt very compelled to tell my supervisor. I spoke to somebody in law and she put me into perspective by saying that my relationship with her and my doctor is a relationship bound by confidentiality, where my relationship with my boss is not really and things do leak and I wouldn't be protected.*

—PHA (23)

*They don't want somebody with HIV coming back. I was management so I know the little tricks of the trade that were going on in the branches with some of these managers—no advancement [for a PHA]*

—PHA (23)

Hiding one's status in the workplace can be stressful. In some cases when an individual discloses their HIV-positive status to their employer, managers have advised the employees to keep their status a secret in the workplace.

*I'm not allowed to let anybody know that I'm HIV-positive.*

—PHA (10)

*I was on my feet all the time and by the end of the day I'm exhausted and tired, I go home, I go to sleep tired. I wake up tired. I mean hiding it all [HIV status and medications] just didn't work out well for me. I just decided to give up.*

—PHA (14)

Disclosure of HIV-positive status is necessary to be able to access certain disability insurance and healthcare coverage. This creates a dilemma for PHA: by disclosing they receive support, but lose their privacy and confidentiality; and by not disclosing, they lose the possibility of disability insurance and healthcare coverage. Furthermore, people may be forced out, or refused coverage, as the employer does not want to pay an increased amount for health insurance. (10;14)

Despite the challenges and barriers that PHA may confront in the labour force, most consider employment to be a positive and essential component of their lives that provides structure, purpose, satisfaction, confidence, and a way to participate in society. (14;20;22;23)

## 4.4 SOCIAL ENVIRONMENTS

The ability of PHA to manage their health and cope with the challenges of living with HIV depends partly on their social environment—their family, peers, community, and workplace. Aspects of the social environment influence health outcomes among PHA and are fundamentally related to other determinants of health, including culture, gender, income and education level, social support networks, individual coping skills and behaviours, and access to health services. (10)

### 4.4.1 STIGMA AND DISCRIMINATION

Much of the literature examining the social environment of HIV and AIDS highlights the persistence, nature, and consequences of stigma and discrimination for both those infected with, and affected by, the virus. UNAIDS describes HIV-related stigma as “a process of devaluation of people either living with or associated with HIV and AIDS.” Discrimination is defined as “the unfair and unjust treatment” of PHA that may occur at political, economic, social, psychological, and institutional levels. (30) Stigmatization of PHA often relates to existing negative beliefs and attitudes toward sexuality, same-sex relationships, commercial sex work, and drug use. Stigma is understood to build upon and reinforce discrimination based on race, gender, and sexuality. HIV-related stigma may also stem from ignorance regarding the way HIV is transmitted and fear of disease and death. (10;30-32)

Canada has a number of laws at the federal, provincial, and territorial levels that are designed, in part, to protect PHA from discrimination. The equality provisions of the *Canadian Charter of Rights and Freedoms* protect individuals from discriminatory government action. Federal, provincial, and territorial human rights statutes prohibit discrimination by private actors, such as persons and corporations in areas such as employment, service delivery, access to facilities and goods, contracts, accommodation, and membership in unions or other associations.

Despite existing protections, stigma and discrimination against PHA persist in Canadian society. Results from a national attitudinal survey on HIV/AIDS conducted in 2006 showed that people living in Canada exhibit mixed feelings regarding PHA. (33) Only 35% of those surveyed believe PHA should be allowed to work in positions that serve the public, such as dentists. Although the majority of Canadians do not blame PHA for their condition, 10% of respondents think that those who acquired HIV through

sex or injection drug use got what they deserved. Nearly one in three Canadians does not believe PHA should have the right to be sexually active. (33) Levels of comfort and tolerance with PHA were lower among respondents with less knowledge of HIV/AIDS, stronger religious ties, lower education and income levels, people born outside Canada, and senior citizens (65 years and older). Canadian women exhibited slightly more tolerance with PHA than did Canadian men. (33)

In 2011, a similar study was conducted to determine how attitudes and perceptions have changed, and found that substantial and increasing majorities of Canadians report being comfortable interacting with PHA. More than three quarters said that would be comfortable working in an office with a PHA; 49% said they would be very comfortable, up from 42% in 2003. Sixty percent said they would be comfortable if their child was attending a school with someone who was known to have HIV, up five percentage points since 2006. (34) Despite this encouraging change, it should be noted that a significant proportion of Canadians are still not comfortable interacting with PHA.

A 2009 Quebec telephone survey on HIV/AIDS in the workplace also found generally positive attitudes to working with PHA: 89% stated that it was very or somewhat probable that they would have good relationship with a colleague living with HIV. (35) In a related web-based questionnaire filled out by 111 managers and executives of Quebec companies, 93% of respondents felt that a person living with HIV could enjoy a “normal career,” although 38% of the total would avoid hiring a PHA if possible, citing fears of absenteeism and fear of, or unease with, HIV. (36)

#### 4.4.2 EXPERIENCES OF STIGMA BY PHA IN CANADA

PHA in Canada continue to report experiences of stigma and discrimination as a result of their HIV status. A 2008 survey of 381 PHA underlined that the vast majority of those surveyed (82%) still view stigma as a major problem in their lives. Sixty-seven percent felt that HIV affected their social life, and 45% felt isolated. (37;38) Another qualitative study of 105 PHA, conducted in 2007, identified common experiences of discrimination in communities, workplaces, education, housing, among family and friends, and in the healthcare system. (10)

Many PHA are members of marginalized social groups and engage in behaviours stigmatized by society. As a result, PHA often describe experiencing layers of stigma

and discrimination. (10;39;40) Some PHA feel that they experience more stigma from being gay and/or a person who injects drugs than from being HIV-positive. (40)

*Hatred is a terrible thing, and when you're a victim—if you're Black or a religious designation, or a social or sexual orientation, and somebody picks on you and you don't know who it is [sic] So you've got to be very careful when you fall into a category [sic] imagine if you're Jewish with HIV and you're gay—you could be a triple target in certain areas of society. Or how Natives are picked on and...stereotyped.*

—PHA (40)

HIV-related stigma is sometimes associated with negative perceptions of modes of HIV transmission, including unprotected sex and injection drug use. (10;41) These activities may be considered by some to be shameful, thus resulting in condemnatory attitudes toward PHA. Some PHA have also identified illness and the changes in physical appearance resulting from lipodystrophy (a side effect of certain medications where body fat is redistributed) as a source of stigma. Fear and ignorance among the Canadian public regarding how HIV is transmitted and sensational media portrayals of PHA are believed to be the source of this stigma towards PHA. (10)

Negative attitudes surrounding sexual orientation add an additional layer of stigma for many PHA. Many men living with HIV have stressed the homophobic nature of discrimination they face. (10) As a result of the North American HIV epidemic having first occurred in gay communities, the false perception of HIV/AIDS as a “gay disease,” or the notion that all gay men are HIV-positive continues to contribute to stigma and discrimination against PHA. (10;42)

Some literature on stigma and PHA in Canada addresses differing experiences based on gender. (10;31;32;39;43) The results from a qualitative study of 105 PHA in Canada demonstrated that some participants—primarily women—identified gender as a factor influencing the kind and degree of discrimination they experience as PHA. These women highlighted perceptions of their involvement with commercial sex work and/or promiscuity, and stigmatizing of their children, as gender specific discrimination. (10) The literature also documents the perception that most HIV funding is targeted toward gay men's issues and that many AIDS service organizations exhibit gaps in services for women. (10;44)



*My HIV status doesn't just affect me. It affects my job. It affects the people I work with. It affects my daughter. It affects the school she goes to and how the neighbourhood in general reacts to us and our family because I think there is such stereotypes about everybody and HIV. But I think that the ones about women are pretty strongly negative. And if you have negative thoughts or whatever about me it also impacts the rest of my life.*

—Woman living with HIV/AIDS (31)

PHA may feel that stigma and discrimination against them occurs at the institutional level of society. (45) In other words, PHA may feel that aspects of the Canadian health and social services system, as well as Canadian law and legislation, are discriminatory against PHA.

*The system is very discriminating and especially to us immigrants. What I found quite challenging with the system [is] the fact that I'm an immigrant, and a single mother and a woman with HIV and a black woman was all working against me.*

—Woman living with HIV/AIDS (45)

Some PHA may internalize HIV-related stigma and discrimination by coming to believe or endorse negative attitudes toward themselves. Literature on stigma and discrimination often refers to the process of internalizing shame and blame associated with HIV as “self-stigma.” (10)

*After I was diagnosed HIV-positive, I felt dirty all the time. I didn't feel clean. It didn't matter how much I showered.*

—PHA (10)

PHA have also described accepting irrational fears that they will transmit the virus to others, resulting in avoiding occupations, friends and family, having children, and from seeking intimate partners. (10)

#### 4.4.3 IMPACTS OF STIGMA AND DISCRIMINATION ON PHA IN CANADA

Research has documented many potential negative health consequences of stigma for PHA in Canada. (37;39;40) While the impacts of stigma and discrimination are varied among PHA, several common themes emerge from the literature. Stigma and discrimination against PHA reinforces existing social inequalities and can lead to exclusion,

withdrawal, and social isolation. (10;39;41;42) Stigma is associated with feelings of low self-worth, psychological distress, loneliness, hopelessness, depression, and other negative mental health consequences for PHA. (31;41;43;45-47) Harassment of people living with HIV can lead to housing instability, insecurity, and negative coping practices. (45)

The potential consequences of disclosing one's HIV infection to community members, friends and family, intimate partners, employers, and others is an important issue for PHA in Canada. (10;39;40;48) Fear of stigma may cause PHA to avoid disclosing their HIV infection. Social discrimination, effects on future relationships, sex life, overall reputation, and criminal convictions in situations of non-disclosure are common causes for reluctance to disclose.

PHA may have disclosure concerns pertaining to fear of rejection and abandonment by friends and family, as well as fears of discrimination, violence, and victimization.

*I wasn't ready to address my HIV because of the simple fact that I'd seen other girls in the system [prison] being shunned from having friends and going out and doing things, and it was awful. And I knew I had this deep little dark secret behind me that I was sick, and I thought, I can't even express how I feel now, because look at the way they're treating that girl.*

—Aboriginal woman living with HIV/AIDS (39)

Stigma has a negative impact on prevention efforts by contributing to secrecy and HIV non-disclosure, reinforcing HIV risk and discouraging condom use in some communities. (42) Fear of stigma and discrimination has been found to contribute to silence and denial around topics of sex, sexual health, drug use, and sexual orientation. (10;39)

PHA are diverse, and the experience of stigma and discrimination varies for different groups. For example, gender-based discrimination against women living with HIV can negatively affect access to health services, particularly in the area of reproductive health care. (43;44)

Finally, stigma and discrimination have been identified as factors preventing full participation of PHA in the development of research, policy, and programming targeting them. (31;49) Efforts to involve more PHA in community-based research activities are often promoted, in keeping with the principle of Greater Involvement of People Living with HIV/AIDS (GIPA). A recent analysis of data, taken from a broader study on



barriers and facilitating factors in relation to HIV-related community-based research in Ontario, aimed to determine the success of these efforts in applying the GIPA principle. The study found that, compared to researchers and frontline service providers, PHA were the least involved in all stages of community-based research projects including input, design, and outcome. The results suggest that stigma, health challenges, PHA's mistrust of researchers, lack of credentials (diplomas, degrees, certifications, etc.), and lack of capacity to engage in research, act as major barriers to the success of GIPA implementation in the community-based research response to HIV/AIDS. (49)

## 4.5 SOCIAL SUPPORT NETWORKS

Access to information resources, social networks, and social support, as well as connections to culture and community, can influence health outcomes. (1) Lack of social support, or barriers to accessing social resources have negative health consequences for PHA. (31;39;50) Nevertheless, many PHA demonstrate remarkable resilience in overcoming the impacts of stigma and discrimination by drawing on a rich variety of social support resources.

### 4.5.1 SOCIAL NETWORKS

Supportive family and friends and interaction with peer support networks are important sources of social capital for PHA in managing their health. (10;39;48;51) Connections with social networks allow PHA to access health information and resources and reduce the social isolation caused by stigma. Connecting with other PHA has been described as an important source of strength and resilience for many PHA. (39;41;44;50;52)

*I find out little bits from other people that are HIV [positive]. I go to [HIV medications support program for marginalized persons] every day, and I pick up little things from there again, from other people that go there. Just little things, like things you shouldn't do or things that you should have or you shouldn't be taking, or what they feel is good for them. I wonder if I should try it for me, or if they're...finding this out from their doctor or where they're finding it out from.*

—Aboriginal person living with HIV/AIDS (APHA) (39)

*It's so much easier to be able to talk one on one with someone that has it because then they know what you are talking about and they know the kind of feelings that you're going through because they've gone through it.*

—Woman living with HIV/AIDS (48)

Conversely, lack of social support can inhibit the willingness of PHA to disclose their HIV infection to family and friends, intimate partners, and fellow community members. (39) Loss of social support as a result of stigma and discrimination can affect PHAs' access to health and social services, as well as information resources. Feelings of social rejection and isolation can contribute to negative mental health outcomes including depression for PHA. (10) In a study of 23 women living with HIV, participants described lacking supportive networks, as well as living in poverty, suffering from depression, experiencing barriers at work, and difficulty tolerating symptoms as factors that prevented them from fully participating in social life. (31)

Social networks can play an important role in sharing health information. In addition to healthcare providers, PHA may rely on AIDS service organizations and on-line resources, as well as specifically seeking information and support from other PHA. Health information exchange and emotional support are closely linked in this context. (50-54)

*I'm a people person so I like to interact with people and find out all information and knowledge from other people so I would go to like a doctor or the nurse to find out specific AIDS-related information.*

—PHA (51)

*When you collect the information then you can pick out the similarities ...then you compare to yours. Like recently I didn't know that bed night sweats was a side-effects [sic] until I asked a friend. So I think it's always good to consult other people.*

—PHA (51)

### 4.5.2 COMMUNITY INVOLVEMENT

"Social engagement in the community builds trust, efficacy, and a sense of belonging that is associated with improved mental and immunological health." (1) Involvement in community activism has been identified as an important source of strength for many PHA living in Canada. (31;39;44;55) Sharing stories and contributing

to community HIV prevention efforts can help PHA derive a sense of purpose from their condition, enhance social connectedness and contribute to improved quality of life.

*I do as much as I can almost on a monthly basis. I guess it's not for everybody. But I have a lot of good friends in the HIV community. Generally, being on committees and working with the HIV community helps me a lot; it helps me to build a better life for myself.*

—APHA (39)

In a study of 23 women living with HIV, those who were identified as active participants in their communities described their children, involvement in support networks and possessing strong self-identity, as sources of strength and resilience. (31)

#### 4.5.3 SOCIAL SUPPORT AND HEALTH OUTCOMES

Access to social support may have an impact on clinical outcomes of treatment for PHA. A study assessing the association between social support and virological outcomes of 34 Toronto-based PHA who were on treatment over a period of four years, found social support to be a determining factor in treatment outcomes. (56) PHA in this study displayed better clinical outcomes if they identified having emotional, interpersonal, and information support available to them.

Uptake of community-based social support services may depend on the demographic characteristics and behaviour patterns of PHA. A recent study found that the most vulnerable PHA (those who were single, lived alone, and reported poor health) were the most frequent users of community-based services. (57)

## 4.6 PHYSICAL ENVIRONMENTS

The physical environment a person inhabits is the setting for many social determinants of health and is understood to influence physical and mental health outcomes. Physical environments may impact the accessibility of health services and ability to perform the activities of daily life. Community design and safety, access to adequate housing, safe water, education, transportation, childcare, and adaptive devices are key factors in creating healthy physical environments. (1) The majority of recent research on the physical environments

of PHA in Canada focuses on how place of residence can affect the accessibility and quality of health and HIV services they receive. The topic of housing and homelessness among PHA has also been the focus of recent research.

#### 4.6.1 THE INFLUENCE OF LOCATION ON PHA

Location of residence can influence the health outcomes of PHA directly by facilitating or inhibiting access to services, and indirectly by impacting the context of other determinants of health, including social environments.

Like other patients with complex conditions, PHA living in rural communities and on First Nations reserves have limited access to specialized care, treatment, and support for their condition. PHA in small communities may be reluctant to seek services out of fear that their confidentiality could be violated and result in stigma and discrimination. (50;58;59) The need for specialized HIV services may force PHA to leave their home communities for urban centres where the separation from their social network may lead to social isolation, loneliness, and depression. (58;59) A study in British Columbia found that areas around urban centres, particularly Vancouver, receive the highest influx of HIV-positive patients, suggesting PHA migrate to urban centres in search of specialized care, treatment, and support. (60)

PHA living in Canadian cities experience health management and access challenges as a result of where they reside. The location of a neighbourhood within a city can be associated with increased risk of death of PHA. (61) A study of 533 PHA who participated in the British Columbia Centre for Excellence in HIV/AIDS Drug Treatment Program, found that those who were living in a neighbourhood with a high concentration of injection drug use had three times the risk of death than PHA living in a neighbourhood with a high concentration of gay men, despite a higher occurrence of AIDS found in the latter. PHA living in a neighbourhood with a high concentration of injection drug use were more likely to be female, to have used injection drugs, to have a less experienced HIV physician, and to be less adherent to HIV treatment. (61)

The layout of services in urban centres can determine their accessibility for PHA who live there, which can impact the uptake of services. (61;62) Spatial analysis of the distribution of HIV services offered in Toronto found that emergency and prevention HIV services were clustered in certain city areas, while other services including emotional support services, post-test diagnosis services, medical services, and end-of-life services were more evenly distributed. (62)

To examine the effect of location on PHA from another perspective, a survey of 214 HIV health service providers of various professions examined the practices, referral patterns, and changes in HIV service delivery affecting PHA in Canada. (63) Respondents identified numerous barriers to access and delivery of HIV services; however, the results of the study did not indicate significant differences in referral patterns by community size, jurisdiction, or northern regions of practice.

#### 4.6.2 HOUSING AND HOMELESSNESS AMONG PHA

Homelessness and unstable housing can negatively impact mental and physical health, creating barriers to self-care and increasing the use of emergency health services. As a result of concentrated HIV epidemics in many of Canada's urban centres, much of the recent Canadian research on housing and HIV has focused on PHA who live in and around Toronto's and Vancouver's city centres. (9;64)

A systematic review of the literature on health outcomes and housing among PHA in Canada found a positive association between increased housing stability and improved health outcomes. Positive effects were found on treatment adherence, the use of health and social services, health status, and reduction of risk behaviours. (65) Negative health outcomes and poorer health-related quality of life has also been found to be associated with unemployment, unmanageable housing costs, the experience of housing-related discrimination, and depression. (9)

An analysis of a cohort of 602 PHA living in Ontario found that the location of PHA can impact access to safe and affordable housing. (9) This study found that living in the Greater Toronto Area and higher social support was associated with better physical health-related quality of life. PHA who were connected to their community, had strong social support networks, and felt comfortable with their place of residence, were found to have high mental health-related quality of life. However, PHA who experienced difficulty managing housing costs, feared eviction, and engaged in harmful use of alcohol and drugs, were found to have lower mental health-related quality of life. (9)

Vancouver's Downtown Eastside neighbourhood has been the subject of much recent research on housing and HIV in Canada due to its high prevalence of PHA,

commercial sex work, and injection drug use, as well as the lower socio-economic status of those who reside there. PHA in this neighbourhood were found to rely on single occupancy hotels at 1.5 times the rate of people without HIV. (66) For people whose housing status is unstable, adherence to medications is challenging. Despite the negative perceptions of the Downtown Eastside, it should be noted that for some people the neighbourhood is their home, and a place where they feel comfortable and accepted. (67)

*So I hit downtown – skid row, right? And the whole thing got happy for me. There was people like me, you know; I fit into the world for the first time in my life. I wasn't an outcast, or the antisocial one, or the criminal, or the junkie. There was nobody pointing fingers at me anymore. And so that was the turning point in my life, where I decided I would go for counselling, I would get psychiatric treatment.*

—Woman living with HIV/AIDS (67)

Housing instability and homelessness have been identified as major concerns among parents living with HIV, particularly single mothers. Qualitative interviews with 50 parents living with HIV suggest that the need for affordable, safe, and stable housing for families may impact personal health practices and treatment adherence among parents living with HIV. Poor housing conditions and unsafe neighbourhoods, as well as barriers to accessing support services, were also identified as important concerns. Parents in this study also described HIV-related stigma and discrimination and racism toward them. (45)

*When you have kids it's hard. You have to live in a place where you feel secure and comfortable.*

—Parent living with HIV/AIDS (45)

*Housing is the biggest concern because you don't want to be on the streets especially with your family.*

—Parent living with HIV/AIDS (45)

Parents caring for children living with HIV have identified the critical need to live close to both their place of work and their child's school in order to be immediately available in case of emergency and to protect the child's confidentiality.

*I need to be there. Like I just—it makes me very uneasy...that I wouldn't be able to get to her in a very short period of time. So if she gets hurt at school, where they don't know her status, I don't want them being the ones taking her to the hospital. I don't want that. So it's very important for me to be very close by.*

—Mother of a child living with HIV/AIDS (45)

#### 4.6.3 PHA AND PRISON ENVIRONMENTS

The prison environment can increase the vulnerability of PHA to poor health and social outcomes. The prevalence of HIV and other sexually transmitted and blood-borne infections (STBBIs), such as hepatitis C and hepatitis B, is disproportionately high in many Canadian prisons. (68;69) Tools, such as condoms and dental dams, which can be used to reduce the transmission of STBBIs, are available in many Canadian prisons; however, some issues still remain regarding access. A survey of inmates in federal prisons identified access issues rooted in logistics, discrimination, and confidentiality. (69) The overall impact of HIV-related stigma and discrimination, including homophobia among fellow inmates, can also render the prison environment hostile to PHA.

People serving sentences of more than two years are incarcerated in federal prisons, and the lengthy duration of this sentence for PHA means that it is easier to access and adhere to treatment. PHA serving time in provincial and territorial prisons face more challenges in treatment access and adherence, in part due to the fact that they may only be in prison for a few days or weeks, creating logistical challenges for health care access, as they cannot bring their medications with them, and need to get a prison doctor to re-prescribe them.

PHA who are incarcerated face unique challenges in personal health management and access to HIV treatment and services. For PHA who use injection drugs, recent incarceration was found to be associated with discontinuing treatment for non-clinical reasons. (70) In a study of 12 PHA who were recently incarcerated in British Columbia, participants described multiple barriers to HIV treatment and related services. Entry into prison resulted in difficulties accessing HIV medications and treatment interruptions for PHA. Some participants said they were unable to access treatment altogether while incarcerated, and were obliged

to wait until they were released to reinitiate treatment. Participants perceived the quality of care within the institution to be lower than HIV services offered in their communities. (70)

*I was sentenced to a month and I only did 21 days. And in those 21 days, they did not even hand me medicine until the morning I was leaving. I was choked [enraged]. The nurse said the [institutional] doctor couldn't get a hold of my doctor. They couldn't find my doctor's number—come on, everyone has computers.*

—PHA (70)

## 4.7 CULTURE

Culture and tradition can play both positive and negative roles in determining the health and well-being of people and communities. (1) To date, research on HIV/AIDS and culture in Canada has tended to focus on assessing cultural factors that contribute to HIV vulnerability and risk. Less research has examined the ways in which cultural beliefs and practices impact the lives of PHA in positive ways. The following section reviews the available literature on culture and PHA in Canada, which has focused to date on the Aboriginal and the Black, African and Caribbean communities.

### 4.7.1 CULTURE AND SOCIAL VULNERABILITY AMONG PHA

For many PHA, HIV is only one factor in lives complicated by multiple social burdens and racial discrimination. (42;44;71) Black Canadians identified intergenerational conflict, problems faced by Black youth in the school system, unemployment, racism, and immigration issues as frequently taking priority over treatment and care of PHA. (42) Aboriginal people living with HIV/AIDS (APHA) have also described layers of stigma, as well as issues related to intergenerational trauma and the residential school legacy, domestic and sexual violence, poverty, addictions, and family responsibilities, as taking precedence over their personal health. (44;59;71)

*I think the Black community feels it's under siege. And if you don't have to deal with [HIV] then why?*

—Woman from Trinidad living in Canada (42)



*I've been to clinics when I've had an injury—whether it was due to drinking or not even drinking—that I think I felt a prejudice where they just kind of came in and took a glance and [said], “Oh, yeah, you did something stupid when you were drunk. And it doesn't really matter because you're just an Indian, and you're probably going to just go get drunk and do it again.*

—APHA (59)

Stigma and discrimination of PHA is known to be a serious concern for many Aboriginal communities, as well as among Black, African and Caribbean communities in Canada. (42;59;71)

*[The nurse] made a very sarcastic statement. She said she always tells her daughters that everybody from Africa is HIV-positive.*

—Woman from Kenya living in Canada (42)

PHA from minority groups may experience stigma and discrimination both from the wider population based on their cultural or racial background, and from within their own community based on their HIV status. (42;44;59;71-73) Cultural, community, racial, and religious affiliations may be sources of stigma and discrimination against PHA. This stigma and discrimination is partly rooted in cultural traditions and practices that discriminate against gay people, people who have sex outside of marriage, people who have multiple sexual partners, people who use drugs, and people who are living with infectious diseases. (32;42) Some cultural practices or beliefs have been shown to generate stigma and discrimination against PHA, and may result in community rejection and exclusion, barriers in access to health services, and depression. (42;59;73) Some communities may hold prejudices against PHA that can lead to ridicule, social isolation, and community and family rejection.

Some faith-based communities and religious groups believe HIV and associated at-risk populations—gay men and people who use injection drugs—are sinful and immoral, and may see HIV infection as divine punishment for committing sinful acts. Conversely, people may hold the belief that those who are following their religion cannot have HIV. (42;74)

*Back in Kenya, you find every Sunday everyone is in church, and your parents are church-going people. So when you're in the church you raise your children very well and they're not supposed to get into trouble.*

—Woman from Kenya living in Canada (42)

A study of 30 PHA from African and Caribbean communities in Toronto, as well as 74 women and men from these communities whose HIV status was unknown, found a range of factors leading to social isolation and barriers to treatment. (42) PHA in this study described fears of community gossip, ridicule, verbal harassment, and loss of friendship, which compelled them not to disclose their HIV infection, and to avoid accessing treatment and care. Cultural norms that inhibit willingness to discuss sex, sexuality, physical, or psychological health issues, were found to cause denial that HIV exists in these communities. Men living with HIV were found to avoid seeking medical care until the acute or “end stage” of the illness, which is thought to be related to cultural pressures for men to be tough and private. In addition, men in this study were found to avoid seeking HIV services out of fear of homophobia within communities and fear of being identified as gay. (42) HIV was perceived to be a “gay disease.” A female participant from Jamaica highlights the logic around HIV in her community:

*You associate HIV with homosexuality and coming from a Jamaican background, there are no gay people in Jamaica, right? So therefore, it follows that Jamaican people can't have HIV because there are no gays.*

—Woman from Jamaica living in Canada (42)

Qualitative evidence suggests that APHA are highly stigmatized both by the general public, as well as within many Aboriginal communities in Canada. (10;31;39) In a study including 31 participants, APHA described ongoing mental health challenges associated with histories of colonization and abuse, violence in the home and community, and serious concerns regarding stigma and lack of confidentiality in their communities. (39)



### 4.7.2 CULTURE AND RESILIENCY AMONG PHA

Culture, religion, and spirituality play a critical role in resiliency against HIV for many cultural communities living in Canada. Research on culture and resiliency among PHA has to date, focused on Aboriginal people and communities impacted by HIV. Less is known about the positive influences of culture on resiliency for PHA of other cultural groups.

*Everything from healing circles to the meetings for alcoholics and narcotics, to the healing circles done for people living with HIV and AIDS at (ASO) to these conferences. This is what I consider my health services, 'cause they're with my vitality, my longevity [sic], and my healing you know. I don't need that healing in a f-king bottle. I need a healing in my heart and my soul, you know. Church, that's my health services. A sweat lodge, that's my health services!*

—Woman living with HIV/AIDS (44)

*I think my biggest strength comes from... connecting with the Creator, God; and that's where my strength comes from. And I can look back now on my life and I can see all these red flags that I didn't see. It was like my eyes opened when I connected with my Creator and it was like he opened my eyes and I could suddenly see that he was the one that brought me through all those places safely.*

—Aboriginal woman living with HIV/AIDS (44)

APHA who participated in various qualitative studies have described using Aboriginal healing practices in their personal HIV care, such as sweat lodges, church, smudging, seeking advice from elders, art, and traditional crafts. (44;73;75) Many participants describe using both Western and traditional Aboriginal medicines and healing ceremonies to treat their illness. (44;75) It should be noted, however, that some APHA study participants have reported that they do not make use of cultural practices in their health management. (59) Community-based interventions fostering reconnection with culture have been shown to encourage resilience among Aboriginal youth PHA. (76)

Researchers examining the responses of Aboriginal culture and Black, African and Caribbean cultures to HIV in Canada, highlight the importance of providing culturally competent care for PHA in these communities. (42;75) Culturally competent care can include knowledgeable and sensitive staff, non-discrimination policy, confidentiality training, overcoming language barriers, or incorporating traditional cultural medicines and healing practices.

## 4.8 GENDER

The gender roles of women and men, and boys and girls, can create vulnerability to poor health outcomes. The World Health Organization has defined gender as “what a society believes about the appropriate roles, duties, rights, responsibilities, accepted behaviours, opportunities, and status of women and men in relation to one another.” (77) Furthermore, gender relations are “often unequal and hierarchical. Women generally do not have equal access to resources such as money, power, and influence, relative to men.” (77) Gender is a determinant of health inextricably linked to other determinants of health, specifically culture, access to healthcare, family life, and intimate relationships.

The gender inequality of women and girls is widely accepted to be a driver of the HIV/AIDS pandemic worldwide. Women and girls living with HIV are more vulnerable to poor health and social outcomes than are men living with HIV. Globally, gender inequality is known to limit women's ability to access treatment, practise safer sex, and make prudent breastfeeding choices, as well as to increase the risk of violence against women. (77)

Women and girls living with HIV in Canada face specific challenges in social and family life, sexual and reproductive health, HIV disclosure, intimate relationships, and childrearing. The impact of gender-based violence against PHA, specifically women and girls, has also been noted in recent studies on the lived experiences of women with HIV in Ontario. (44;45) Although a few studies have examined the influence of gender norms on men living with HIV, research undertaken in this area has predominantly focused on women and girls.

In some cases, discrimination against women living with HIV is based on traditional beliefs about gender regarding women's sexuality and the social role of women as mothers. Women living with HIV feel they are perceived as “vectors” of the disease and infectious to men and babies, and may be blamed for infecting their children. (71;78)

*The nurses and everything, they didn't even care, they just blurted everything out right in front of everybody else and right away they threw [in] an AIDS case: "Look at what you did to your kid," you know. "How can you live with yourself, what kind of woman are you to have kids in the first place?" "You shouldn't even have sex."*

—Woman living with HIV/AIDS describing her experience in hospital after giving birth (71)

Gender norms and relationships between genders influence the public perception of men and women living with HIV. The "VIHsibilité Project" identified differences in the portrayal of men and women living with HIV in the media. This project examined newspaper coverage of HIV/AIDS in Quebec from 1988 to 2004. (79) The findings showed that women living with HIV were presented in the media as "innocent victims" and "mothers" in need of greater access to care, treatment, and support, while the coverage of men living with HIV centred on heroin use, homosexuality, criminal or negligent behaviours, and being of Haitian origin.

#### 4.8.1 GENDER-BASED VIOLENCE

Women and girls living with HIV are at heightened risk of sexual and gender-based violence globally. (77) Fear of violence has been identified as a concern for both women and men living with HIV and AIDS. (3;44;80) Although research in Canada has not measured the prevalence of gender-based violence among men and women living with HIV, qualitative evidence shows that the issue is a major concern for women. (44;74)

Studies examining the experiences of women and girls involved in street-level sex work in the Vancouver's Downtown Eastside—a population with heightened HIV prevalence—demonstrate that women in this population experience multiple forms of sexual and drug-related vulnerability, and struggle with multiple morbidities, unstable housing, and addictions. (3;5) Gender-based violence has also been demonstrated to have a negative impact on coping strategies, health, and quality of life of women living with HIV in Canada. (3;44;48;81;82) In particular, violence against women living with HIV in Canada has been linked to negative coping practices including alcohol and drug use, which in turn creates increased vulnerability to poor health outcomes. (3;44)

Gender-based violence against women living with HIV is known to lead to poor health outcomes by negatively affecting treatment adherence and access to care and support services. (77) Histories of sexual violence and abuse may discourage some women from accessing critical sexual and reproductive health services. (44)

#### 4.8.2 GENDER AND HIV DISCLOSURE

HIV disclosure has been identified as a serious concern for both men and women. (10) Both women and men may feel anxiety about disclosing their HIV status to their families fearing rejection and abandonment. (48)

Women living with HIV may have concerns about disclosure due to fear of partner violence, fear of the impact on family life, and the perceived risk of losing access to their children. (44;48) Anxiety and fears about disclosure can lead women to hide their HIV infection from family, friends, and society and can prevent them from accessing social support networks. (48) Fears regarding disclosure contribute to stress in romantic and family life, specifically the desire to be open about their status, as well as to protect loved ones from stigma and harm. These gender-related fears place additional burden on women living with HIV, particularly women who are involved in violent relationships.

*We haven't spoken openly about it. And I didn't want to scare them off when I knew about my status because the children—I didn't know how they may have taken it. So I thought there may have been stigma in the house—not sharing the same cups, the toilet and everything. So I didn't talk about it.*

—Woman living with HIV/AIDS (48)

*You know, I was scared. I was scared to tell them [my family]. Not knowing how'd they react; [feeling like] I'm going to lose my family over this.*

—Woman living with HIV/AIDS (48)

#### 4.8.3 GENDER AND CULTURE

Gender norms and the relations between men and women vary between and within cultures and can have a significant impact on the health of the people in these communities. (77) Certain cultural beliefs regarding gender may contribute to the health and social vulnerability of women living with HIV in Canada.

In a study of 26 Ontario women of African and Caribbean descent living with HIV/AIDS, participants noted sexist practices, embedded in cultural traditions that regulate women's role within marriages and families as contributing to the silence regarding HIV. (32) Another study on women PHA of African and Caribbean descent in Toronto, as well as providers engaged in HIV service provision among this population, suggests that cultural traditions and gender norms support a patriarchal family environment, in which women may have limited control over matters of sexuality. (74)

*[It] is not acceptable to even hint that you do not trust your partner. When we look at that, it's part of the way that women are brought up; and part of that is sex, the issue of trust, you're not even supposed to bring it up.*

—Kenyan woman living with HIV/AIDS (74)

Women living with HIV reported that the fear of being ostracized and isolated as a result of their HIV infection contributed to denial, silence, and secrecy. Perceptions of stigma among this community may deter women from accessing critical health services and isolate them from seeking valuable social support networks. (74)

*I am a professional Guyanese woman coming from a Muslim [sic] very traditional family who is well known within my community...but I still would not go to a female doctor within my community because the likelihood that she knows my family still prevents me from going to her.*

—Guyanese woman living with HIV/AIDS (74)

*Muslim woman, she's allowed to touch only her husband. So they [will] say, "You are Muslim, how come you get this disease?" They might make fun of you.*

—Somali woman living with HIV/AIDS (42)

Men living with HIV of Caribbean and African descent may experience specific challenges as a result of entrenched homophobia in cultural values. A large study of Caribbean and African communities in Toronto found that gay people are often highly stigmatized in these communities, which leads to secrecy and reproachfulness. (42) Homophobia may have the impact of restricting men in these communities from accessing care, treatment, and support.

A few studies have examined the gender-specific challenges of living with HIV for Aboriginal women. (44;71;72) Perceptions of stigma and experiences of discrimination in this population are compounded by discrimination against Aboriginal women and girls. Sexualized imagery and stereotypes of Aboriginal women may lead to HIV- and gender-specific discrimination against Aboriginal women living with HIV.

*I get calls, um ...people call me a "squaw who has AIDS" and, you, you know, you probably deserve it because squaws deserve dying, you know, "Since we can't kill you all off, you might as well die of AIDS."*

—Aboriginal woman living with HIV/AIDS (71)

## 4.9 ACCESS TO HEALTH SERVICES

The accessibility of health services is a fundamental determinant of health; access to publicly funded health care is a guarantee under the *Canada Health Act*. Unfortunately, social and economic inequalities prevent equal access to health services among Canadians. Many people face barriers to health care services, including physical inaccessibility and social isolation, socio-cultural issues, language barriers, gender-based barriers, and the costs of health care not publicly provided. (1) Although most treatment costs of PHA are publicly funded, and many advances have been made in improving the availability and quality of HIV treatment and services, many PHA in Canada continue to face multiple barriers to accessing critical HIV services and supports. (12)

PHA look to their doctors for not only medical and clinical expertise, but also for legal and statutory expertise—knowledge of how to access services such as disability benefits and subsidized housing—and ethical or moral expertise. (83) In addition to health services, many PHA access a wide range of social services including community-based organizations, peer support, counselling services, educational support, financial support, housing support, food banks, and recreational programming. (41)

Policies and programs encouraging testing, early detection and access to care, treatment and support have improved over time. Despite these important achievements, many PHA continue to be diagnosed in later stages of their illness. (84) A recent study sought to assess the immune status of patients at first presentation for HIV services in 13 Canadian and American cohorts, totalling 44,491 PHA participants. The

median age of initial presentation for HIV care was found to have increased over time. Though CD4 count at initial presentation has increased over the past 11 years, many PHA continue to first access testing below 350 cells/mm<sup>3</sup>. (84) In other words, many patients continue to be tested in later stages of their infection, which suggests a pressing need to increase access to HIV testing, early diagnosis, and access to treatment.

These delays in accessing testing and treatment also occur in HIV-related conditions. Despite high rates of abnormal cervical cancer screenings among women living with HIV, uptake of screening among this population remains low. (85)

#### 4.9.1 BARRIERS IN ACCESS TO HIV HEALTH SERVICES FOR PHA

Perceptions of stigma and discrimination can impact PHA access to health services and support. PHA may perceive stigma or negative judgements in some healthcare settings, which can lead to avoidance of services. (51;83)

Policies at the organizational level of health service delivery can add to perceptions of HIV-related stigma. In a study of PHA's perceptions of health care services, some expressed preference for specialized HIV services, while others felt treating PHA differently through targeted services contributed to further stigma and discrimination. (40)

*Having our building identified [as an ASO] is appalling to me. I don't think that we need to put "HIV" up at the front of our building. People need to be able to come in and out of here without that stigma being attached to them.*

—PHA (40)

Perceptions of stigma can act as a deterrent in access to critical health services and supports. PHA may avoid accessing services out of fear of being identified as HIV-positive to others. Systematic practices in healthcare settings, including universal precautions (such as use of gloves and a mask) may be perceived as a form of stigma by PHA and in turn lead to avoidance of HIV services. (39) The perceived need to disclose HIV status to healthcare workers, combined with the need to keep HIV status secret, was also highlighted as a potential barrier to health service access. (39)

*She [receptionist] wants to know why you want to see the doctor. There's a room full of junkies and people behind me, no partition in between us, and she wants to know or wants me to explain to her why I'm there to see the doctor. I don't see what business it is of hers. If I want to see my doctor, that's my right.*

—PHA (39)

Participants highlighted the paramount importance of protecting client confidentiality in service centres with open physical layouts where other patients are present. Strategies that reduced stigma for PHA included offering confidential HIV services at the same time as non-HIV services, as well as measures to avoid HIV disclosure to healthcare providers. (39)

*The doctor said, "You don't have to go and tell them you've got HIV now, because they already know you have hep C. They'll take the same precautions as...they do for HIV."*

—PHA (39)

*We were always infectious disease, but there were certain days just HIV. So what we try to do now is put other patients in, so we have different clientele in the waiting room.*

—Healthcare provider (39)

An interesting model in countering some of these barriers was developed in a Hamilton study where seven PHA acted as resource tutors in sessions with groups of physiotherapy and occupational therapy students and family medicine residents. The resource tutors provided their perspectives on issues related to living with HIV, treatment issues, culture, socio-economic status, and their past experiences with health professionals. The students identified that this experience served to give them a better, more personal understanding of PHA and challenged some of their attitudes and assumptions about HIV. There were clear benefits for the PHA resource tutors as well, with participants identifying a positive impact on their teaching skills, self-awareness, understanding of HIV, confidence in teaching, and everyday life. (55)



#### 4.9.2 ACCESS TO HEALTH SERVICES AMONG SPECIFIC PHA POPULATIONS

Stigma and discrimination against people who use injection drugs contributes to barriers in accessing health and social services among this population. (86) Increasing recognition of the benefits of comprehensive HIV treatment and care models prompted research on the potential value of integrated supervised injection and HIV care sites. (87) A qualitative study involving interviews with 22 PHA who use injection drugs, and their health care providers, examined the impact of a supervised injection program offered through the Dr. Peter Centre, an HIV care facility in Vancouver. The results of this study revealed that integrated HIV service programs can positively influence access to care by fostering trusting client/provider relationships, improving access to treatment for injection-related infections, and improving PHA engagement and knowledge of safe injection practices. (87)

There is limited HIV treatment access and utilization among street level sex workers in Vancouver's Downtown Eastside. Data, collected through a baseline needs assessment of 159 people accessing a service centre for street level sex workers, showed that despite the high accessibility and utilization of services in the area, HIV-specific services received limited uptake. Although 34 participants (23%) reported living with HIV, only 14 (9%) were accessing treatment. Self-reported measurements indicated that barriers to treatment access were largely attributable to misinformation and misconceptions about treatment. Barriers cited to accessing treatment included inadequate knowledge, fear of side effects, difficulty in maintaining daily medication regimes and making regular appointments, and fear of revealing HIV infection to others. (5)

Some studies have found that APHA are less likely to see their doctors than non-Aboriginal PHA and less likely to initiate antiretroviral therapy. A study in British Columbia found that APHA were also more likely to die of AIDS than non-Aboriginal PHA. (88) Barriers in accessing health care for APHA include the experience or perception of racism and discrimination from service providers and lack of culturally appropriate health care services. For APHA living in small or remote communities, fear of their HIV-positive status being disclosed, and lack of specialized HIV care are also barriers. (2) Research in Black communities also identifies barriers such as discrimination, a lack of cultural understanding and culturally appropriate information, and linguistic and cultural barriers. (6)

In a study of 34 youth living with HIV, most were users of youth health or social services organizations and were generally satisfied with these services. Several found that AIDS service organizations were not "youth-friendly" and expressed a desire for more youth-tailored services. (41) A study that looked at youth living with HIV and the Internet found that although youth had high rates of Internet usage, they used it primarily for communication and entertainment. Although health information seeking was rare, participants expressed support for the idea of websites designed for, and by, HIV-positive youth. (89)

As discussed in Chapter 3, there are increasing numbers of older adults living with HIV in Canada. As the majority of HIV services are perceived as being targeted to the needs of younger adults living with HIV, concern has been expressed over potential service barriers for older PHA. However, a study examining the ability of older adult PHA to access health and social services suggests that for these older adults, their positive and proactive attitudes and knowledge of the disease facilitated their access to services. (90) This study found that older adult PHA access a range of social and emotional supports, as well as HIV service organizations, similar to younger PHA.

#### 4.9.3 FRONTLINE SERVICE ORGANIZATIONS AND PEER NETWORKS

Many PHA and people at risk of HIV infection access health information and support from community-based AIDS service organizations and frontline service organizations, in addition to, or instead of health services, although, as noted earlier, some PHA may be reluctant to use them. Community-based AIDS service organizations play an important role in providing support to the most vulnerable PHA. A study of 297 PHA in Ontario suggests that these organizations are being accessed by those who need them most. The study found that those who accessed community-based AIDS service organizations were significantly less healthy and reported physical disabilities and depression more often than those who did not use them. They were also poorer and used more non-hospital health and social services. (91) These organizations are seen to be non-judgemental, and to understand the specific needs and realities of the communities they serve. PHA often play a key role in these organizations, delivering counselling and support services.



Despite this important role, frontline service providers face challenges in delivering this support to vulnerable PHA. A qualitative study of 59 frontline service providers in Ontario found a consensus that funding and administrative constraints can prevent service providers from meeting the needs of their clients. (92) Providers described playing a “gate keeper” role between PHA clients and government funding. Service providers felt that their role has increasingly become a matter of rationing and limiting access to resources and not about providing non-judgemental support for PHA.

Peer-driven HIV intervention models, which involve PHA educating other PHA, have recently demonstrated potential to improve treatment uptake and adherence among marginalized PHA. (48;93) A study of treatment adherence among 20 female sex workers living with HIV in Vancouver found that participating in meetings increased self-esteem, moral and social support, decreased boredom, decreased involvement in survival sex work, and decreased time spent on the street and using drugs. Participants also attributed increased stability in treatment adherence and improved viral load outcomes to participation in meetings. (94) Other anecdotal evidence confirms the value of peer support in health management among PHA in Canada. (48;93)

*I wasn't even thinking about hope; that was until I got to learn about people and not so much the disease, then I started looking at hope and it was like wow, you've had it for 25 years and you look so good. You can't read that from a book and get the same reaction so it was really cool.*

—PHA (93)

#### 4.9.4 REHABILITATION

For many PHA, HIV is now a chronic, episodic condition, meaning that rehabilitation services have an important and ongoing role to play in maintaining function. Rehabilitation in the HIV context can be defined as “a dynamic process that includes all prevention and/or treatment activities and/or services that address body impairments, activity limitations, and social participation restrictions for an individual.” (95) Rehabilitation takes a holistic view of treatment, one which is both goal oriented and client centred, where PHA control the direction of care. (27)

*Rehab means living the best that you can at this point in time throughout the prognosis.*

—PHA (95)

There are multiple life domains where rehabilitation can help in maintaining or improving function for PHA—physical (i.e., pain management and muscle weakness), functional (i.e., energy conservation, modification of the activities of daily living), psychological (i.e., spiritual and personal growth, cognitive skills), social (i.e. community participation), and vocational (i.e. workplace modification and skills training). (31;48;95) Thus, there are numerous professional service providers in the rehabilitation process, including both traditional rehabilitation professions, such as occupational and physiotherapy, in addition to related professions, such as social work, psychology, and nutrition.

Barriers to accessing rehabilitation services by PHA include financial ones. For example, there is limited public funding for many rehabilitation services, and this may limit the access of those who do not have supplemental insurance coverage. Service issues related to the nature of the populations served, including stigma, discrimination, cultural contexts, and personal circumstances, may mean that PHA have difficulty in fully accessing rehabilitation services. A further barrier is that PHA may not be well informed about the availability of rehabilitation services, and thus may not realize that some of their conditions could be ameliorated through the provision of specific rehabilitation services. (63;95)

Recent research has demonstrated that there is a gap between the rehabilitation needs of PHA and the services that are presently being accessed. In a survey of 214 Canadian HIV healthcare providers who may refer PHA for rehabilitation services, it was determined that PHA, when referred, were only being directed to a limited range of rehabilitation services. The majority of the referrals were to social work and HIV/AIDS service organizations and only a limited number were to traditional rehabilitation professionals, such as physiotherapists or occupational therapists for physical impairments or activity limitations. (63) In addition, a 2008 survey of 1,058 rehabilitation services providers found that while the majority were willing to work with PHA, only 39% had actually provided services to PHA in the past year. (96)

## 4.10 PERSONAL HEALTH PRACTICES

Personal health choices, behaviours (such as exercise, diet, smoking, and drug use), and coping skills impact overall health. The personal health practices of individuals may be shaped by the social and economic environments in which they live, work, learn, and interact. (1) Exercise and nutrition among PHA, as part of a healthy lifestyle, is discussed in Chapter 3 of this report. Research on the personal health practices of PHA in Canada addresses issues of health behaviours and coping mechanisms, mental health, and quality of life.

Managing HIV care involves a lot of effort by PHA—finding the right doctor and other supports; finding health information and sharing it with friends, family, and professionals; learning about, and adhering to, antiretroviral medications; and following a healthy diet and exercise regime. (54)

### 4.10.1 COPING SKILLS AND STRATEGIES

The strength of coping skills and strategies has been shown to determine health outcomes and health-related quality of life among PHA. (93;97;98) Conversely, potentially harmful coping strategies, such as drug and alcohol use, are known to negatively impact health and quality of life. (59;97) APHA who use drugs and alcohol have described addictions as coping mechanisms for dealing with past traumas and histories of abuse, as well as diagnosis and life with HIV. (39;59;99) As discussed in Chapter 3, PHA experience elevated rates of mental health issues, which can negatively influence their personal health practices and coping mechanisms.

Smoking prevalence is around three times higher among PHA than the general population. (100) A recent study of 97 PHA examined the impact of physical activity and smoking on quality of life measurements among PHA. Well-paced physical activity that accommodates the level and tolerance of PHA was associated with reduced pain among PHA with chronic pain and with improved mental quality of life. The same study found that smoking by PHA was associated with poorer mental quality of life and coping skills. (97) This research further found that an active problem-solving or task-oriented approach to stressors was associated with improved quality of life among PHA. Conversely, an emotionally oriented approach to stressors was associated with reduced quality of life. (97)

In a study looking at PHA who use injection drugs, personal health choices were found to play an important role in treatment adherence, influencing decisions to fill prescriptions, acquire the necessary foods, and take medications consistently and on time. (101)

### 4.10.2 RESILIENCY IN PHA PERSONAL HEALTH PRACTICES

Research in Canada has recently begun to document and analyze sources of resiliency—such as community engagement, faith and spirituality, social networks, and family. (102) PHA in Canada of diverse backgrounds are employing active coping strategies and improving their health and quality of life. (48;59;103) Many PHA find that living with HIV makes them realize how precious their lives are.

*To be able to overcome [facing death] and realize I can make the quality of my life better... that's what has encouraged me is that I can make a difference. I can improve my quality of life through my attitude, through my behaviour.*

—PHA (48)

In a 2008 survey of 381 PHA, both negative and positive experiences resulting from living with HIV were reported. Among the positive experiences, 75% reported that they had re-assessed their values, 47% that their spirituality had been enhanced, 44% reported that their physical condition has improved due to more frequent exercise, and 32% had an improved relationship with their family. (38)

Faith and spirituality have been identified as an important source of support for coping with illness for PHA. (10;32;39;44;48;73;93;102;104) PHA have reported that religion and spirituality have provided them with a sense of hope that things would be okay for them and their families. (104) Spirituality can also be an important tool in dealing with caring for loved ones and bereavement. (102)

*If I hadn't had my church I wouldn't have made it through that really bad time; when I was really, really sick they kept me here. That and my family, between the two, definitely was my anchor.*

—PHA (39)

HIV activism has found a strong expression in art from the beginning of the epidemic in North America. Arts-based approaches to health and healing provide an avenue for learning and acquiring positive coping techniques. (104;105) The practice of body mapping involves illustrating personal, social, geographical, political, and emotional experiences of living with HIV on a life-size human body image. (105)

The Names Project, or AIDS quilt—a quilt made up of many small personal quilts memorializing the names of many PHA that was first assembled in 1989—was discussed in a study on PHA understandings of hope. (104) The quilt was found to remind PHA that there is hope in their illness and that HIV is not necessarily a death sentence.

*[The quilt] makes you realize another 20 years [is possible]. You could live the next twenty to thirty years. People look at that [living quilt] and they see that you don't die after two weeks, six months or whatever. You could live forever. Or a lot longer than you think.*

—PHA (104)

As discussed in the section on social networks, many PHA have found involvement in community HIV activism and support to be an important source of encouragement, helping them cope with their condition. Involvement in community activism was described by PHA as offering a sense of purpose and hope in that their contributions led to making a difference in preventing new infections and further suffering. (104) PHA who have become HIV educators have described the experience as improving their self-awareness, personal understanding of HIV, and confidence in teaching and everyday life. (55) Women living with HIV have described community involvement as offering a sense of purpose and inspiration. (48) Youth have demonstrated that involvement in community HIV activism can contribute to positive living with HIV. (106)

*I've got more confidence in myself. I realize I have lots to offer.*

—PHA (55)

*You always carry things, you can't leave anything from behind and who you are today is because of what was there yesterday...I've grown a lot. I've learned a lot. I think that that positive attitude has been the one that got me through and given me the courage to do the things that I needed to do and wanted to do.*

—Woman living with HIV/AIDS (48)

Community engagement is a source of resilience for many PHA, helping them face many challenges related to the determinants of health.

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## CHAPTER 5 – CURRENT HIV/AIDS RESEARCH

Research into HIV and AIDS in Canada is multidisciplinary. This chapter presents an overview of research projects on people living with HIV/AIDS (PHA) funded between 2008 and 2010, focusing on research in the behavioural, economic, epidemiological, legal, and psychosocial fields. Selected characteristics are identified in the analysis of the projects, including geographic location and affected population. Project characteristics analyzed include community research capacity, research dissemination, health policy research, and knowledge transfer. Other research themes analyzed include the determinants of health, treatment, mental health, and resilience. A complete list of the 148 projects identified can be found in Appendix B, with their original abstracts (where available).

### 5.1 METHODOLOGY

The information in this chapter was gathered from national and selected provincial organizations that provide funding for HIV/AIDS research in Canada or provide venues for presenting HIV research. At the national level, these included the Canadian Institutes of Health Research (CIHR), the Canadian Association for HIV Research (CAHR), the Canadian Foundation for AIDS Research (CANFAR), and the Social Sciences and Humanities Research Council of Canada (SSHRC). Provincial funding organizations from which information was gathered include the British Columbia Centre for Excellence in HIV/AIDS, the Michael Smith Foundation for Health Research (MSFHR), *Le Fonds de recherche du Québec – Société et culture* (FQRSC) and the Ontario HIV Treatment Network (OHTN).

Research projects included in this chapter met all of the following selection criteria:

- (1) The project was funded by one of the above organizations at some time between 2008 and 2010. For projects from CIHR and most projects from OHTN, where detailed information on project start dates was available, the two-year period between October 2008 and October 2010 was used.
- (2) The project had a specific focus on HIV/AIDS and is related to PHA.
- (3) The project research was based in Canada or immediately relevant to Canadians living with HIV/AIDS.

Exclusion criteria included the following:

- (1) The research project was related exclusively to vulnerability for HIV infection and/or prevention work.
- (2) The research project was related to basic science, microbiology and/or clinical medicine.
- (3) The research project was an international study conducted abroad by Canadian researchers, unless the nature of the study would provide additional insight for the lived experience of Canadian PHA.

It was assumed that research completed before 2008 would have been published and identified in the academic and grey literature review completed for the previous chapters of this status report. Hence, it is excluded from this chapter. Thus, given the sometimes long lag-time between research and publication, some material may not be included in either section. Projects included in Appendix B were scheduled to be completed in 2008 or later, or are currently under development. In addition, research funded by the private sector is not included in the scope of this report.

It should be noted that research funded through basic science, microbiology, or clinical medicine funding streams is highly relevant to PHA. This research was excluded, however, as the scope of this report is on the lived experience of PHA and the impact of the determinants of health on PHA.

It should be further noted that all of the populations affected by HIV and AIDS in Canada were included in the research criteria, including gay men and other men who have sex with men, people who use injection drugs, Aboriginal people, women, people from countries where HIV is endemic, youth at risk, and people in prison.

#### 5.1.1 METHODOLOGICAL LIMITATIONS

A limitation of the selection strategy is that some projects received grants from more than one organization, or more than one grant in a different year from the same organization. Thus, some projects may be documented in Appendix B more than once. Conversely, some funding was provided to support researcher salaries, student grants, knowledge translation, or operating costs; thus, the same funding source may support more than one project over a successive period of years, where only one project is outlined in the application to the funding source.

A second limitation in the methodology is that abstracts and full descriptors were not available for all projects. In some cases, PHA may not have been identified as a population studied in summary information available on the projects. To counter this limitation, projects for which there were no abstracts were included only if any of the search terminology were used in the title or noted as project keywords. Some project descriptions required further exploration and, where possible, principal investigators were contacted to determine whether their projects were specifically related to PHA in Canada. In short, some projects relevant to PHA may not have been documented through the search process due to the limitations of the search strategies, exclusion criteria, and the scope of this report.

## 5.2 OVERVIEW OF HIV/AIDS RESEARCH FUNDED BETWEEN 2008 – 2010

This section presents an overview of the 148 research projects that were identified as funded between 2008 – 2010 on issues related to living with HIV or AIDS in Canada. Information presented in Appendix B includes

the following: the research project title, the investigator name(s), the project abstract, and the dates and sources of funding. Each research project is identified with a project identification number (e.g. R1) corresponding to the project description in Appendix B. Note that some projects are referenced more than once in the analysis, because more than one theme can be identified in the project description.

### 5.2.1 DISTRIBUTION OF RESEARCH PROJECTS BY GEOGRAPHIC LOCATION

The geographic location of each research project was assessed by identifying the province or territory where the research is located. The majority of the 148 research projects do not identify a primary location for the research. Of the 71 projects that identify a location for the research, 18 are located in British Columbia. Ten are located in Alberta, Saskatchewan, and Manitoba combined, with an average of three per province. Fifteen projects are based in Ontario and 10 in Quebec. Three projects are located within the Atlantic Region. In addition, 15 projects were identified as having a national scope. None of the currently identified projects are located within the territories.

**TABLE 1:** Distribution of research projects by geographic location

PROVINCE/TERRITORY	NUMBER OF PROJECTS	PROJECT IDENTIFICATION NUMBER
British Columbia	18	R3, R19, R22, R27, R35, R41, R45, R50, R51, R60, R64, R69, R70, R79, R109, R118, R132, R135
Alberta	4	R14, R39, R76, R82
Saskatchewan	3	R5, R78, R86
Manitoba	3	R72, R86, R133
Ontario	15	R13, R18, R43, R47, R49, R56, R62, R92, R108, R114, R122, R124, R129, R140, R141
Quebec	10	R43, R47, R52, R53, R54, R58, R61, R112, R113, R148
Atlantic Provinces (New Brunswick, Prince Edward Island, Nova Scotia, Newfoundland)	3	R24, R98, R102
National	15	R26, R30, R32, R33, R34, R37, R40, R56, R65, R85, R95, R105, R106, R147, R122

N.B.: No location was identified for the other 77 projects.



**TABLE 2:** Distribution of research projects by population

POPULATION	NUMBER OF PROJECTS	PROJECT IDENTIFICATION NUMBER
Aboriginal people	13	R3, R5, R17, R58, R66, R67, R70, R78, R119, R123, R132, R136, R142
People who use injection drugs	10	R6, R24, R31, R45, R60, R70, R89, R97, R109, R132
Youth	11	R9, R12, R13, R14, R20, R32, R37, R61, R117, R122, R132
Women	34	R3, R9, R13, R18, R21, R32, R37, R53, R54, R57, R58, R62, R67, R73, R74, R76, R78, R81, R92, R94, R99, R105, R108, R109, R112, R113, R115, R118, R121, R123, R125, R126, R142, R146
Gay Men and other men who have sex with men	8	R7, R35, R38, R43, R75, R120, R124, R137
People from countries where HIV is endemic	14	R14, R26, R39, R40, R47, R58, R62, R65, R76, R77, R110, R113, R130, R134
People in prison	2	R66, R133
Transgender	2	R140, R141
Other populations	6	R50, R59, R72, R91, R109, R138

N.B.: The total does not add up to 79, as some projects address two or more populations.

### 5.2.2 DISTRIBUTION OF RESEARCH PROJECTS BY POPULATION

Of the 148 projects identified, 79 (53%) of the projects address specific populations, including Aboriginal peoples, peoples from countries where HIV is endemic, people who use injection drugs, youth, women, gay or other men who have sex with men, people in prison, transgender and other populations. The remaining 47% of projects identify other populations or focus on PHA generally. Several of the projects identify more than one population, and thus appear more than once in the description and analysis below.

#### a) Aboriginal people living with HIV/AIDS (APHA)

As discussed in Chapter 2, Aboriginal people in Canada, including First Nations, Inuit and Métis, represent approximately 3.8% of the Canadian population; yet they make up a disproportionately high number of HIV infections, accounting for an estimated 8.9% of all prevalent infections in 2011. (1) Of the 148 projects in this review, 13 projects focusing on APHAs were funded between 2008 and 2010. In the *Population-Specific HIV/AIDS Status Report: Aboriginal Peoples* (2010), which looked at projects funded between 2006 and 2008, 16 of the 149 projects identified in that report were focused on APHAs. (2)

Three projects examine issues related to accessing health services. Project R3 examines the challenges of accessing health services in remote communities. Project R17 examines the impact of alcohol addiction on the ability of APHAs to access services, while project R66 explores the experience of recently released Aboriginal prisoners in accessing community-based health services. Two projects focus on building Aboriginal research networks and capacity. [R5, R136].

Four projects focus on Aboriginal women. Research areas include culture and gender as determinants of health for Aboriginal women living with HIV [R67], maternal health [R78], and the impact of violence experienced by Aboriginal women [R123] and two-spirit women [R142]. One study compares the resilience of indigenous PHAs in Canada, New Zealand, and Australia [R119]. Two projects [R70, R136] examine the intersection of culture and Aboriginal peoples' experience of health while living with HIV or AIDS. One project examines co-infection among Aboriginal people who use injection drugs in the context of families living with HIV [R70]. Although one third of Aboriginal persons living in Canada who are diagnosed with HIV infection are under the age of 30 years, only one project looks specifically at young Aboriginal people; R132 focusses on HIV and hepatitis C vulnerabilities of young Aboriginal people who use drugs, and will include a case management intervention aimed at APHA.

Some studies funded between 2006-2008, identified in the *Population-Specific HIV/AIDS Status Report: Aboriginal Peoples* (2010), examined how homelessness and access to food affect APHA; however, none of the studies identified in this report explore these issues among APHA in Canada. The unique needs and challenges of specific Aboriginal populations, such as First Nations, Inuit or Métis PHA are not addressed in any of the studies identified.

#### **b) People living with HIV/AIDS who use injection drugs**

As observed in Chapter 2, the incidence and prevalence of HIV among people who use injection drugs accounted for an estimated 16.9% of prevalent infections in Canada at the end of 2011. (3) Ten projects focus on PHA who use injection drugs; six of these focus on access and adherence to antiretroviral medication regimens [R6, R45, R60, R89, R97, R109]. Project R109 examines issues experienced by female sex workers who use injection drugs. Projects R31 and R70 focus on co-infection with hepatitis C, and project R89 examines treatment adherence among individuals co-infected with hepatitis C. Project R132 explores HIV and hepatitis C vulnerabilities among young Aboriginal people who use drugs. Project R31 examines relationships among polysubstance abuse, mental health, and co-infection. Finally, project R24 examines ways of involving people who use injection drugs in assessing how to improve their access to services.

#### **c) Youth living with HIV/AIDS**

Eleven projects focus on youth living with HIV/AIDS. The projects primarily examine the support systems available to HIV-positive youth and their intimate relationships. Project R122 examines issues experienced by sexually active youth. Project R37 explores the issues of support and service needs of young women living with HIV with a focus on sexual health, and project R61 examines family support systems. R12 looks at health management and responses to treatment, social relationships and sexual health for adolescents living with HIV. Project R32 explores issues experienced by youth who were born with HIV and the impact of antiretroviral treatment. Project R117 is a research partnership and capacity-building meeting that focuses on issues related to youth. Project R9 examines the effectiveness of human papillomavirus vaccine on youth living with HIV. Projects R13 and R14 examines ways to improve health services for street youth. R132 follows a cohort of young Aboriginal people who use injection drugs, including looking at HIV care for those who are HIV-positive.

#### **d) Women living with HIV/AIDS**

Women accounted for an estimated 23.3% of all prevalent infections in Canada at the end of 2011, with heterosexual contact and injection drug use identified as the two main exposure categories. (4) Thirty-four projects were identified that focus specifically on HIV-positive women. Of these, 12 projects look at issues related to pregnancy and perinatal treatment, with the impact of antiretroviral medications being the predominant focus [R18, R21, R32, R58, R73, R74, R99, R105, R108, R118, R121, and R126]. Six projects examine fertility intentions of HIV-positive women and pregnancy planning [R73, R74, R105, R108, R118, R121].

Other selected research projects that focus on HIV-positive women covered a variety of topics. Three projects examine barriers and access to health services [R3, R13, R37]. Five projects describe the experiences of women who are from countries where HIV is endemic, and their experience of stigma and social supports, including familial relationships [R58, R62, R76, R78, R113]. Five projects look specifically at the experience of Aboriginal women living with HIV [R3, R13, R58, R67, R123]. Projects R123 and R142 focus on sexual violence and homophobia experienced by HIV-positive women, and projects R50 and R109 explore the experience of sex workers (including survival sex workers).

One project explores how antiretroviral therapy requirements and responses differ in women from men, including adverse events [R115], another addresses cognitive impairment and memory issues [R81], and a third project examines the impact of the human papillomavirus vaccine [R9]. Project R94 looks at lipodystrophy on women living with HIV/AIDS. Projects R53, R54, R57 and R112 are evaluations of programs and services provided to HIV-positive women.

#### **e) Gay men living with HIV/AIDS**

As discussed in Chapter 2, the exposure category men who have sex with men (MSM), continues to account for the largest proportion of positive HIV test reports, representing an estimated 46.7% of prevalent infections at the end of 2011. (1) Of the 148 projects identified in this report, eight focus on gay men and other men who have sex with men; of these, five look at issues surrounding the risk behaviours of HIV-positive men who have sex with men, including “poz prevention” strategies to reduce the risk of onward transmission in serodiscordant relationships [R7, R35, R43, R120, R124]. One of these projects examines the behaviours of men living with HIV/AIDS who use gay Internet cruise websites to meet partners [R43].

This project also examines social and personal perceptions of stigma, as does R38. The utilization of health services [R75] and citizenship and race [R137] are also addressed.

#### f) PHA from countries where HIV is endemic

As discussed in Chapter 2, PHA from countries where HIV is endemic represented an estimated 14.9% of prevalent infections at the end of 2011, though only approximately 2.2% of the Canadian population. (1)

Fourteen projects focus on PHA from countries where HIV is endemic. Three look at the relationship between of HIV serostatus and immigration policies [R40, R65, R134]. Two projects examine housing issues [R26, R62], and three explore social relationships, including family relationships [R110] and the relationship between social support and quality of life for women living with HIV [R76, R113]. Project R39 looks at contextual factors that impact treatment, including the experience of stigma. Project R77 examines gender-based violence and the experience of sub-Saharan immigrants to Canada. Only one project examines access to services [R14]. Project R130 funds a research think-tank.

Many of these themes were also identified in the 19 research projects funded between 2007-2008, and discussed in the *Population-Specific HIV/AIDS Status Report: People from Countries where HIV is Endemic: Black people of African and Caribbean descent living in Canada* (2009). (5)

#### g) People in prison living with HIV/AIDS

As noted in Chapter 2, the prevalence of HIV in the federal prison population was 1.6% in 2006. (6) Two projects focus on PHA in prisons in Canada [R66, R133]. Project R66 examines the experience of APHA who were recently released from prison in accessing health services. Project R133 studies ways to reduce the transmission of HIV and other sexually transmitted and bloodborne infections in an inmate population.

#### h) Transgender people living with HIV/AIDS

Two related projects focus on the transgender community. R140 explores issues experienced by transgender PHA, such as social marginalization. The same study also examines how social factors—such as health care access and the source and stability of one's income—can affect quality of life for transgender people living with HIV/AIDS. Project R141 is a symposium funded to present the research findings from project R140.

#### i) Other populations living with HIV/AIDS

Within the funded research, six projects focus on populations other than the eight populations identified by *The Federal Initiative to Address HIV/AIDS in Canada*. One project's study population involves heterosexual men living with HIV [R91]. Two projects explore the experience of older Canadians living with HIV [R59, R138]. One project focuses on people living with HIV in rural and remote locations [R72]. Two projects look at improving the uptake of antiretroviral medications and HIV care among sex workers [R50, R109].

### 5.2.3 COMMUNITY-BASED RESEARCH, HEALTH POLICY RESEARCH, RESEARCH DISSEMINATION, AND CAPACITY BUILDING

Community-based research (CBR) is a collaborative approach to research that involves all partners in the research process. CBR attempts to combine knowledge and action for social change with community health to eliminate health disparities. CBR brings researchers together with members of the community to accomplish the following: identify the issues; collect, analyze, and interpret the data, and then decide how to use the results to inform policy, change practice, and improve conditions in the community. Twenty-five of the funded projects support CBR [R5, R7, R17, R24, R26, R49, R51, R53, R57, R62, R66, R78, R82, R84, R86, R88, R91, R92, R98, R108, R112, R114, R136, R140, R142]. The majority of the projects identified were funded by the CIHR's Community-Based Research funding streams.

Eleven projects focus on health policy research [R18, R30, R33, R40, R41, R50, R106, R108, R109, R116, R139]. Three projects are about health policy related to pregnancy and HIV [R18, R105, R108] and seven projects relate to knowledge translation supporting health policy development [R29, R64, R72, R80, R88, R105, R147]. Six projects focus on health policy surrounding treatment [R33, R41, R50, R109, R116, R127]. One project [R40] is about immigration policy as it pertains to PHA.

Twenty-two projects were identified that focus on research dissemination and knowledge transfer [R1, R2, R15, R19, R25, R30, R36, R42, R64, R77, R79, R80, R82, R88, R102, R104, R106, R112, R129, R139, R141, R148]. Of these, two are symposia that address issues related to disclosure [R1, R2]. Project R42 is a meeting to discuss issues facing the treatment of patients with non-B subtypes of HIV. Project R79 is a conference organized by the BC Centre for

Excellence in HIV/AIDS to present the annual HIV antiretroviral update to clinicians, pharmacists, and healthcare providers. Project R104, the National Aboriginal Centre for HIV/AIDS Research, fosters research-community partnerships and supports the mobilization of research knowledge translation among stakeholders. Project R129 is the Ontario HIV Treatment Network's Research Conference, which provides an opportunity for Canadian HIV investigators to showcase advances in basic science, clinical, socio-behavioural, epidemiological, and community-based research. Project R141 is a symposium bringing together transgender people, researchers, service providers, and policy makers to discuss the quantitative data from the Trans PULSE survey, and to plan 'research to action' strategies. Project R148 is a workshop focusing on HIV-1 infected subjects with slow disease progression.

Eight projects focus on capacity-building [R5, R24, R25, R29, R88, R91, R92, R108]. Four of these focus on a specific population, including Aboriginal people [R5], people who use injection drugs [R24], heterosexual men [R91], and women living with HIV [R92]. The remaining projects are funded to develop capacity-building research networks that examine the interplay between living with HIV and the determinants of health.

## 5.2.4 DETERMINANTS OF HEALTH

Fifty-three of the 148 projects address specific determinants of health. Seven of the projects adopt a general determinants of health approach (where more than three determinants of health are addressed through the research project).

Nineteen projects explicitly address issues related to access to health and other services. Of these, three projects examine health services for APHA [R3, R17, R66]. Five projects focus on perceptions of stigma and discrimination experienced by PHA accessing healthcare services [R3, R47, R56, R128, R142].

Eight projects include research on the role of social support for PHA and 14 address social environments and stigma. Project R59 explores social participation among people aging with HIV. Five projects [R26, R62, R82, R106, R114] address physical environment issues related to housing and PHA. Two projects look at employment and labour force participation [R44, R49].

Nineteen projects examine aspects of personal health practices and coping mechanisms. Research topics include alcohol use [R17], smoking [R8, R51], sexual behaviours [R7, R12, R35, R45, R98, R122, R124, R133], HIV testing [R35], and HIV disclosure [R12, R53, R112, R122]. PHA populations addressed include gay men, street youth, youth born with HIV, women, people in prison and Aboriginal people.

TABLE 3: Distribution of determinants of health among research projects

DETERMINANT OF HEALTH	NUMBER OF PROJECTS	PROJECT IDENTIFICATION NUMBER
Access to health services	19	R3, R13, R14, R17, R23, R39, R47, R50, R56, R62, R66, R71, R72, R75, R89, R91, R128, R139, R142
Social support networks	8	R12, R39, R57, R73, R76, R86, R91, R113
Social environments including stigma	14	R12, R38, R39, R43, R47, R52, R59, R73, R85, R91, R94, R112, R128, R142
Physical environments, including housing	5	R26, R62, R82, R106, R114
Employment and working conditions	2	R44, R49
Personal health practices and coping skills	19	R7, R8, R12, R13, R14, R17, R33, R35, R43, R51, R53, R54, R57, R98, R112, R113, R119, R122, R124
Culture	6	R66, R67, R70, R121, R123, R136
Gender	8	R59, R63, R67, R77, R123, R126, R136, R137
Income, socio-economic status, including food insecurity	2	R22, R84
Education and literacy	0	n/a
Healthy child development	0	n/a
Projects addressing multiple determinants of health	7	R6, R29, R37, R60, R88, R104, R140

N.B.: The total does not add up to 53, as some projects address two or more determinants of health.



Six projects examine the role of culture [R66, R67, R70, R121, R123, R136]; some of these were discussed in the section on key populations. Projects R67, R123 and R136 examine intersections between Aboriginal culture and gender, and project R66 looks at the relationship between Aboriginal culture, offender subculture and healthcare practices in order to improve healthcare for APHA recently released from prison. R70 looks at the culturally specific healthcare needs of Aboriginal families living with HIV/AIDS. Gender is examined in eight projects: in the context of aging [R59], women [R126], impact of antiretroviral medications [R63], Aboriginal women living with HIV/AIDS [R67, R123], APHA [R136], and violence [R77, R123].

No projects were identified that address income and socio-economic status, education, literacy or healthy child development. Food insecurity, a marker of low socio-economic status, was studied in projects R22 and R84, with a focus on the impact on treatment outcomes.

Three projects look at PHA's experience of violence [R10, R77, R123]. Five projects explore the issues of PHA in family situations [R61, R62, R70, R86, R143]. One project examines disability in the context of HIV [R46]. Two projects focus on quality of life for the aging population living with HIV [R59, R138].

### 5.2.5 OVERVIEW OF RESEARCH PROJECTS ADDRESSING TREATMENT

Forty-six of the 148 projects focus on treatment, co-infections and co-morbidities, looking at issues such as treatment adherence, resistance, interventions, outcomes, and adverse effects (Table 4). Projects funded through basic science, microbiology, or clinical medicine funding streams were excluded from the scope of this report; however, there

may be projects on these topics funded in those streams that are relevant to the lived experience of PHA.

Thirteen projects address adherence to antiretroviral medication regimens. Four projects examine resistance to antiretroviral medications, and nine examine adverse events related to treatment with antiretroviral medications.

Eight projects look at co-infections of HIV and hepatitis C [R28, R34, R83, R100, R101, R102, R107, R111], one looks at co-infection with herpes [R28] and five projects examine co-morbidities and HIV with a focus on diseases such as cancer and cardiovascular disease.

Nine projects examine treatment intervention [R8, R45, R50, R55, R57, R88, R96, R109, R116], with three looking at optimizing strategies to reach key populations [R45, R55, R109]. Fourteen projects address treatment outcomes and responses and disease progression; these include two projects that look at the impact of food insecurity on treatment outcomes [R22, R84], and two that look at slow disease progression [R144, R148].

### 5.2.6 MENTAL HEALTH

Two projects examine issues related to mental health and mental illness [R31, R57]. One addresses co-occurring polysubstance abuse, psychosis and viral infections [R31], and the other looks at a case management intervention to improve the well-being of women living with HIV/AIDS [R57].

### 5.2.7 RESILIENCE

Two research projects focus explicitly on resilience, health, and well-being in relation to HIV/AIDS [R61, R119]. These projects focus on dimensions of the health and wellness of PHA. One addresses the experience of APHA [R119] the other addresses family life [R61].

TABLE 4: Overview of research projects addressing treatment

SUBJECT AREA	NUMBER OF PROJECTS	PROJECT IDENTIFICATION NUMBER
Adherence to treatment	13	R6, R11, R27, R31, R45, R48, R50, R55, R56, R96, R97, R118, R135
Resistance to antiretroviral medications	4	R42, R48, R69, T97
Treatment interventions	9	R8, R45, R50, R55, R57, R88, R96, R109, R116
Treatment outcomes, responses and disease progression	14	R22, R33, R41, R58, R69, R84, R90, R96, R118, R125, R131, R135, R144, R148
Adverse effects, including toxicity	9	R21, R28, R32, R81, R90, R94, R99, R100, R115
Co-infections	8	R28, R34, R83, R100, R101, R102, R107, R111
Co-morbidities	5	R4, R28, R31, R131, R147



## 5.3 AREAS FOR FURTHER RESEARCH

A selection of areas for further study has been identified through the analysis of data included in this chapter, the research syntheses in Chapters 3 and 4, and by the Status Report Working Group.

### 5.3.1 GEOGRAPHY

- The experience of PHA in the Prairies, Atlantic Provinces and northern regions.
- The experience of PHA in rural and remote communities, including First Nations, Métis and Inuit communities.

### 5.3.2 SPECIFIC POPULATIONS

- The experiences of gay, bi-sexual, two-spirit and other men who have sex with men living with HIV are underrepresented in current research (given that they make up 48% of prevalent infections).
- Men who identify as straight, including men from countries where HIV is endemic.
- Women's experience of living with HIV, outside of the context of fertility and pregnancy.
- Living with HIV in prison and life after being released from prison.

### 5.3.3 DETERMINANTS OF HEALTH

- The influence of the following determinants on PHA quality of life: income and social status, education and literacy levels, and healthy child development.
- Employment is pivotal to well-being, yet underrepresented in current research.
- Cultural beliefs and practices and their impact on people living with HIV/AIDS.

### 5.3.4 ACCESS TO CARE AND TREATMENT

- Prevalence of co-morbidities and co-infections among PHA, and impact on their quality of life and life expectancy.
- Evaluations of the effectiveness of complementary therapies for PHA, either as stand-alone treatments or in combination with antiretroviral medications.

### 5.3.5 LIVING WITH HIV

- The impact of living with HIV on sexuality, intimacy, and sexual function.
- PHA experiences with, and perspectives on, disclosure to sexual and drug-sharing partners.
- Activity limitations and participation restrictions in the context of exercise regimes.
- Benefits of exercise regimes for PHA.
- Greater involvement of people living with HIV/AIDS (GIPA).

### 5.3.6 RESILIENCE

- Personal and societal factors contributing to PHA resilience.
- Assets-based approaches that support PHA in identifying positive assets and capacities that can be preserved, used, and enhanced.

## 5.4 REFERENCES

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- (5) Public Health Agency of Canada. Population-specific HIV/AIDS Status Report: People from countries where HIV is endemic: Black people of African and Caribbean descent living in Canada. Ottawa: Public Health Agency of Canada; 2009.
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## CHAPTER 6 – CURRENT RESPONSE TO HIV/AIDS

This chapter offers an overview of the strategies, coalitions, networks, and organizations that have a mandate to serve people living with HIV/AIDS (PHA), as well as a programmatic response. Projects at the national, regional, and local levels are funded by federal, provincial, and territorial government funding programs. Most organizations that work along the continuum of education, care, treatment, and support of PHA are also involved in prevention work. To limit the scope of this report, however, this chapter only provides an overview of those Canadian strategies, coalitions, networks, organizations, and projects that include a focus on PHA. This chapter does not examine Canada-wide responses to the various determinants of health and their impact on the vulnerability and resilience of PHA.

### 6.1 METHODOLOGY

To obtain information on projects, coalitions, committees, plans, and policy initiatives in place between 2009 and 2011 that relate to PHA, information-gathering templates were circulated to federal, provincial, and territorial officials through the following committees or consultants: Federal/Provincial/Territorial Advisory Committee on AIDS (F/P/T AIDS) and the Public Health Agency of Canada's national and regional HIV/AIDS program consultants. In addition, templates were circulated to the First Nations and Inuit Health Regions through Health Canada, and the Heads of Corrections Working Group through the Correctional Service of Canada.

It is important to note certain limitations of the methodology for this chapter. First, the information-gathering method used in this report may not have captured some projects, programs, or initiatives delivered by provinces and territories. Second, the networks, coalitions, and programs identified in this chapter were active at some point between 2009 and 2011, though may no longer be active at the time of publication.

Only those projects, coalitions and networks that specifically mention work with PHA were included in this chapter. Projects that involved an integrated prevention, care, treatment, and support approach were included, but those that focus only on HIV prevention and education have been excluded from the analysis.

### 6.2 OVERVIEW

Canada's response to HIV/AIDS has grown in scope and complexity since the early 1980s. Governments, non-governmental and community-based organizations, researchers, health professionals, regional health authorities, front-line organizations, and people living with, and at risk of, HIV/AIDS are engaged in addressing the disease and the conditions that sustain it.

Through *The Federal Initiative to Address HIV/AIDS in Canada*, the Government of Canada promotes public health and HIV prevention through the development of policy guidelines and programs, national and regional community funding programs, health research, knowledge transfer, surveillance, laboratory science, public awareness, social marketing, and global collaboration. (1) The federal government also provides health services, including HIV treatment, to First Nations on reserve and some Inuit communities, and to prisoners in the federal correctional system. Under its Interim Federal Health Program, Citizenship and Immigration Canada (CIC) also provides health services, including HIV treatment, to refugee claimants, resettled refugees, individuals detained under the *Immigration and Refugee Protection Act*, and victims of human trafficking who do not qualify for provincial or territorial health insurance or supplemental health benefits programs and who lack financial means.

The provinces and territories are primarily responsible for the provision of health and social services to people living with, or at risk for, HIV/AIDS. Provinces and territories also conduct surveillance, health research, knowledge transfer, and some fund projects and programs delivered by the voluntary sector.

Voluntary and public sector organizations operate in all provinces and territories to reduce vulnerability to, and the impact of, HIV/AIDS, and to provide diagnosis, prevention, care, treatment, and support services to those most at risk. Depending on the jurisdictions, regional or local public health authorities play a substantial role in addressing the epidemic. Voluntary sector organizations, at both the national and community levels, have been key to the response, delivering care, treatment, prevention, and support activities to the populations that they serve.

These organizations conduct these activities through government and private funding. In addition, the private sector—including corporations, pharmaceutical companies, and faith-based organizations—is also involved in the response to HIV/AIDS in Canada.

## 6.3 HIV/AIDS STRATEGIES

This section provides an overview of existing HIV/AIDS strategies that specifically address PHA at both the national and provincial or territorial levels. HIV/AIDS strategies specific to all populations living with HIV/AIDS are also identified here, but are addressed in more detail in the other Population-Specific Status Reports. As noted earlier, these strategies were in place between 2009 and 2011, although some may have been renewed by the time of publication.

### 6.3.1 PAN-CANADIAN STRATEGY

*Leading Together: Canada Takes Action on HIV/AIDS (2005-2010)* outlines a coordinated nationwide approach to HIV/AIDS in Canada, looking at the responses of governments at all levels, community, researchers and people living with, and at risk of, acquiring HIV/AIDS. *Leading Together* highlights the importance of community involvement in the response, as well as the need for sensitive and culturally appropriate services for people from various ethnocultural groups.

### 6.3.2 GOVERNMENT OF CANADA STRATEGY

The Government of Canada's response to HIV/AIDS is *The Federal Initiative to Address HIV/AIDS in Canada*. Through this initiative, the Public Health Agency of Canada, Health Canada, the Canadian Institutes of Health Research, and Correctional Service of Canada strive to prevent the spread of the disease, slow its progression, and improve the quality of life of PHA. The Government of Canada collaborates with provincial and territorial governments, non-governmental organizations, researchers, healthcare professionals, and people living with, and vulnerable to, HIV/AIDS. (1)

The Federal Initiative promotes public health and disease prevention through national and regional community funding programs, health research, knowledge transfer, surveillance, laboratory science, public awareness, social marketing, and global collaboration. It focuses on those populations most affected by HIV and AIDS—PHA, gay

men and other men who have sex with men, Aboriginal Peoples, people who use injection drugs, people in prison, women, youth at risk, and people from countries where HIV is endemic.

### 6.3.3 PROVINCIAL AND TERRITORIAL STRATEGIES

Most jurisdictions have strategies that address HIV/AIDS, including care, treatment, and support of PHA. Increasingly, many jurisdictions have moved to an integrated approach to addressing HIV/AIDS as part of a broader sexually transmitted and blood-borne infections (STBBIs) strategy.

British Columbia's strategy *Priorities in Action in Managing the Epidemics. HIV/AIDS in BC: 2003-2007* has guided the health system toward sustained improvements in HIV/AIDS prevention, harm reduction, care, capacity, treatment and support, and coordination and cooperation. Each regional health authority in the province develops its own regional service plans to complement provincial directions. Starting in the early 2000s, the BC Centre for Excellence in HIV/AIDS pioneered universal access to anti-retroviral therapy, which over time evolved into today's Treatment as Prevention protocol. The protocol promotes increased testing and facilitated access to antiretroviral treatment for all medically eligible HIV-positive people to stop the progression of HIV infection to AIDS or death, and simultaneously halt the spread of HIV and AIDS. As part of this, the Seek and Treat for Optimal Prevention of HIV/AIDS (STOP HIV/AIDS) was launched in 2010 to better engage hard-to-reach and vulnerable populations in Vancouver's Downtown Eastside and Prince George in HIV prevention, screening, diagnosis, treatment, and care.

Alberta's *Sexually Transmitted Infections and Blood Borne Pathogens Strategy and Action Plan (2011-2016)* provides provincial direction to focus and coordinate the efforts of all partners involved in sexually transmitted infection (STI) and blood-borne pathogen (BBP) prevention, control and management. The strategy has the following five strategic goals: increase prevention of STIs and BBPs; improve early detection and diagnosis; enhance management and control; strengthen support and counselling services for those infected and affected; and strengthen infrastructure to support the Alberta STI and BBP Strategy and Action Plan.

The *HIV Strategy for Saskatchewan, 2010-2014* has as one of its goals improving the quality of life for HIV-infected individuals. The strategy has four pillars as follows: community engagement and education; prevention and harm reduction; clinical management; and surveillance and research.

Components of these pillars include the following: the establishment of HIV-positive peer-to-peer networks to provide knowledgeable and acceptable supports to those HIV-positive or at risk; reducing homelessness for those at risk or living with HIV; increasing access to testing, treatment, care, medication/formula for HIV-positive individuals (including those involved with Corrections); and incorporating mental health and addictions programming. The pillar on clinical management has as one of its foci, the adoption of cross-disciplinary teams to provide a continuum of support to HIV-positive individuals and increasing outreach and support services to areas of the province (including First Nations communities) where services do not exist.

Manitoba Health and Healthy Living, Youth and Seniors are co-leading the development of a new provincial *Sexually Transmitted Blood Borne Infections Strategy 2012-2017*. The province's wide approach integrates HIV into the overall STBBI prevention, treatment, and surveillance strategy. The strategy development process has been a result of key collaborations between provincial, regional, federal, and community partners and stakeholders. The strategy will address chlamydia, gonorrhoea, syphilis, hepatitis B, hepatitis C, human papilloma virus and HIV. This updated strategy is intended to create a more coordinated provincial response to STBBI prevention and control in Manitoba.

In Ontario, the Ontario Advisory Committee on HIV/AIDS has developed *A Proposed HIV/AIDS Strategy for Ontario to 2008*. The goals of the strategy include preventing the spread of HIV, and improving the health and well-being of PHA and their communities. The strategy adopts a social determinants of health approach to treatment and prevention, and aims to address social justice issues.

In Quebec, the *Quebec Strategy on HIV and AIDS, HCV and Sexually Transmitted Diseases, 2003–2009* (*Stratégie québécoise de lutte contre l'infection par le VIH et le sida, l'infection par le VHC et les infections transmissibles sexuellement, 2003-2009*) includes the mandate to respond to the needs of people living with HIV by providing services required by those infected with HCV and other STIs. Its mandate also includes promotion, prevention, surveillance, research, and evaluation. In addition, the strategy defines vulnerable populations for HIV, HCV and other STIs, and proposes population-specific interventions. The Quebec Public Health Program (2003-2012) includes a goal to reduce the incidence of infection for HIV, Hepatitis C and other STIs by 2012, and provides an overview of the epidemiology of these infections in the province.

Coordination for the implementation, monitoring and evaluation of Nova Scotia's *Strategy on HIV/AIDS* is carried out by the Nova Scotia Advisory Commission on AIDS. The strategy identifies the need to work with PHA, including Aboriginal populations, African Nova Scotians, newcomers to Nova Scotia, and Francophone and Acadian communities. The goals of the strategy relevant to PHA include the following: integrating HIV/AIDS policy development and service delivery, and providing Nova Scotians living with, and vulnerable to, HIV and AIDS with the best possible care, treatment, and support services available. Guiding principles include involving PHA in planning and implementing the services that affect them, and working to ensure that care, treatment, and support services respond to the needs of PHA, so that they are supported in making choices about their care.

Currently, Nunavut and the Northwest Territories are in the process of developing new sexual health and STBBI strategies. New Brunswick, Prince Edward Island, Nunavut, the Northwest Territories, Newfoundland and Labrador do not have strategies specifically addressing HIV/AIDS, although they may include approaches to HIV/AIDS as part of a strategy on STBBIs.

### 6.3.4 POPULATION-SPECIFIC STRATEGIES

In addition to the provincial and territorial strategies identified, some provinces and territories have developed strategies specific to the vulnerable populations in their jurisdiction. Many of these will be discussed in greater detail in each Population-Specific Status Report. Identified below are aspects of these strategies that are relevant to PHA within a specific vulnerable population.

### 6.3.5 STRATEGIES PERTAINING TO ABORIGINAL PEOPLES

The Canadian Aboriginal AIDS Network recently renewed its *Aboriginal Strategy on HIV/AIDS in Canada for First Nations, Inuit and Métis Peoples from 2009 to 2014*, which builds on the previous strategy, *Strengthening Ties, Strengthening Communities*, published in 2003. The renewed strategy identifies the following seven areas for action to address the needs of Aboriginal people living with, and affected by, HIV/AIDS: holistic care, treatment and support; Aboriginal involvement in HIV/AIDS research; broad-based harm reduction approaches; capacity building; legal, ethical, and human rights issues; partnerships, collaboration, and sustainability; and prevention and awareness.



Pauktuutit Inuit Women of Canada, led by the Canadian Inuit HIV/AIDS Network (CIHAN) Steering Committee, launched the *Inuit Plan of Action for HIV/AIDS* in 2002. Aimed at Regional Inuit Associations, the plan includes in its goals promoting partnerships that enable Inuit living with HIV/AIDS to access appropriate care, treatment, and support.

Aboriginal-specific HIV/AIDS strategies currently exist in British Columbia, Alberta, Manitoba, Ontario, and Quebec. In 2006, British Columbia and First Nations Leadership Council signed the 10-year *Transformative Change Accord: First Nations Health Plan*, which identifies 29 actions, including one addressing HIV/AIDS, intended to close the gap in health status between First Nations people and other British Columbians. Following up on this plan, the province signed *The British Columbia Tripartite Framework Agreement on First Nation Health Governance* on October 13, 2011. The agreement paves the way for the federal government to transfer the planning, design, management, and delivery of First Nations health programs to a new First Nations Health Authority over the next two years. As these provincial tripartite initiatives come into effect, regional efforts like the Northern Aboriginal HIV/AIDS taskforce continue to operate. The taskforce was created as an outcome of a 2005 meeting of chiefs from northern communities, government officials, and service organizations. The taskforce brings all levels of government and non-governmental organizations together to address HIV/AIDS in northern BC.

In Alberta, Aboriginal strategies and actions are integrated into the *Alberta Sexually Transmitted and Blood Borne Pathogens Strategy and Action Plan 2011 – 2016*. Manitoba's strategy, *As Long as the Waters Flow: An Aboriginal Strategy on HIV/AIDS*, is a component of the provincial AIDS strategy and includes strategy for treatment and support for APHA, coordination of services, and research and evaluation.

The Ontario Aboriginal HIV/AIDS Strategy (OAHAS), an AIDS service organization (ASO), provides culturally respectful and sensitive programs and strategies to respond to the growing HIV/AIDS epidemic among Aboriginal people in Ontario through promotion, prevention, long-term care, treatment, and support initiatives consistent with harm reduction. OAHAS has developed a strategy for 2010-2015 that focuses on providing care, treatment, and support for APHA, including the following: establishing long-term and

palliative care; facilitating knowledge development and exchange for people affected by HIV/AIDS; addressing the determinants of health, including those that impact the quality of life for APHA; focusing on key populations within the Aboriginal population, including women, children, youth, two-spirit people, people in prison, and people who use drugs; providing leadership; and reporting on the indicators listed in the strategic plan.

The First Nations of Quebec and Labrador Health and Social Services Commission's HIV/AIDS strategy, entitled *The Circle of Hope: The First Nations and Inuit of Quebec HIV and AIDS Strategy*, was created in 2000 at the request of the Assembly of the First Nations of Quebec and Labrador. The strategy includes addressing care and treatment, healthy communities, and coordination.

### 6.3.6 STRATEGIES PERTAINING TO PEOPLE FROM COUNTRIES WHERE HIV IS ENDEMIC

While many provincial strategies or advisory committees on HIV/AIDS identify people from countries where HIV is endemic or ethnocultural communities as key populations, Ontario is the only jurisdiction to have developed a population-specific strategy for its African and Caribbean Black population. The *Strategy to Address Issues Related to HIV Faced by People in Ontario from Countries Where HIV is Endemic* was developed by the African and Caribbean Council on HIV/AIDS in Ontario (ACCHO), a coalition of service providers, researchers, policy makers, and individual community members working to prevent the spread of HIV among African and Caribbean communities in Ontario. Its creation was supported by the AIDS Bureau, Ontario Ministry of Health and Long-Term Care. It is considered a key component of the Ontario HIV/AIDS Strategy. Launched in 2005, this strategy coordinates and guides actions to address issues related to HIV faced by people from countries where HIV is endemic living in Ontario; to reduce the incidence of HIV among African and Caribbean people; and to improve the quality of life for those infected with, and affected by, HIV/AIDS.

In Alberta, strategies and actions focused on populations from countries where HIV is endemic are integrated into the *Alberta Sexually Transmitted and Blood Borne Pathogens Strategy and Action Plan 2011 – 2016*.



### 6.3.7 STRATEGIES PERTAINING TO WOMEN

Some provinces and territories have developed women-specific health strategies. British Columbia, for example, has a strategy called *Advancing the Health of Girls and Women*, which provides a gender-centred approach to priority conditions, including HIV/AIDS. Manitoba and Saskatchewan support an action plan for women's health, developed by the Prairie Centre of Excellence for Women's Health, which focuses on projects for women and includes sexual education related to HIV/AIDS.

In recent years, there has been progress toward developing the framework for an Aboriginal Women's Strategy Action Plan to address Aboriginal women's HIV/AIDS issues in Canada. The framework, which is the result of several months of consultations with Aboriginal women across the country, will provide an Aboriginal women-specific strategic action plan over the next five years for HIV/AIDS.

In terms of a multi-sectoral approach, *The Blueprint for Action on Women and HIV/AIDS* is a coalition of HIV-positive women, Canadian and international HIV/AIDS organizations, and a variety of women's and reproductive rights groups advocating for better prevention, services, and supports for women and girls infected with, and affected by, HIV/AIDS.

In Alberta, strategies and actions focused on women are integrated into the *Alberta Sexually Transmitted and Blood Borne Pathogens Strategy and Action Plan 2011 – 2016*.

## 6.4 NETWORKS, COALITIONS, AND ADVISORY BODIES

This section provides an overview of national and provincial or territorial PHA-specific networks, coalitions, and advisory bodies that were in place between 2009 and 2011. It should be noted that some may no longer be active at the time of publication. These bodies undertake a variety of activities, such as providing advice, advocacy, and undertaking research. Some of the networks and coalitions listed below also deliver projects. The existence of these organizations indicates the importance of working in partnership across community, organizational, and government sectors to address HIV/AIDS among PHA. Most of the organizations below also have a broader mandate, including prevention and education; however, only the aspects of their work related to PHA are discussed in this report.

For the purposes of this report, a network or coalition is defined as an organization that has member organizations and/or individual members and was formed to represent the interests, goals, or objectives of these member organizations at provincial, national, or international forums. An advisory body is defined as an organization that provides advice on the development and/or implementation of strategies, policies, and programs. (See Appendix C for a list of these networks, coalitions, and advisory bodies.)

Canadian national networks, coalitions, and advisory bodies related to HIV/AIDS with a specific (though not exclusive) mandate to support PHA, include federal advisory bodies and national HIV organizations. They have been identified on the basis of information provided by the data collection templates and by the Public Health Agency of Canada.

### 6.4.1 NETWORKS AND ORGANIZATIONS SUPPORTING PHA

Nationally, both CAS and CAAN have forums for PHA, to which only PHA are invited. In the past few years, there has been a reduction in the number of PHA-specific organizations. As well, many PHA-specific organizations have considered changing the name of their organization to better reflect an emphasis on "positive living." These changes may be related to the increasing integration of prevention, care, treatment, and support within organizations.

The Global Network of People Living with HIV North America (GNP+NA) is the North American affiliate of the Global Network of People Living with HIV (GNP+). GNP+NA is an independent regional organization that aims to address the global AIDS pandemic by creating and sustaining an active North American network of PHA. GNP+NA endorses the vision of GNP+ to improve the quality of life of PHA.

The International Community of Women Living With HIV/AIDS (ICW), like GNP+, has North American representation.

In British Columbia, Positive Living BC is dedicated to empowering PHA through mutual support and collective action. Positive Living BC delivers a wide range of services, programs, and events, and produces a variety of resources and publications. The Positive Women's Network provides education, support, and resources for women living with HIV in British Columbia and for service providers in health and social services across the country.

In Saskatchewan, the Persons Living with AIDS Network Inc. of Saskatchewan is a community-based, non-profit organization that provides care and support services for PHA. These services are also available for care providers, family, and friends.

The mission of the Manitoba PHA Caucus is to help PHA help themselves by offering its membership skills building, networking opportunities, information sharing, and informal support.

The Ontario AIDS Network, in collaboration with the British Columbia government, has created the Positive Leadership Development Institute, which supports PHA in realizing their leadership potential and increasing their capacity to participate meaningfully in community life. The Toronto People With AIDS Foundation exists to promote the health and well-being of all PHA by providing accessible, direct, and practical support services. Until it ceased operation in 2010, Voices of Positive Women was a community-based organization directed by, and for, women living with HIV/AIDS that provided confidential support, outreach, information, and advocacy in Ontario.

AIDS Action Now! (AAN!) is a Toronto-based HIV activism organization. It maintains an on-line presence, holds regular meetings open to the public and organizes community forums and events. The organization does not receive government funding. Its mandate includes improving the availability of medications for PHA; improving the standard of care for PHA; supporting progressive AIDS-related initiatives launched by other organizations and individuals; and undertaking any other activities that AAN! believes will improve the quality of life for PHA.

In the Atlantic region, AtlanticPoz is an online discussion group for PHA in Atlantic Canada.

#### 6.4.2 NATIONAL BODIES

The Pan-Canadian Public Health Network was established by Canada's Federal, Provincial and Territorial (F/P/T) Health Ministers in 2005, as a key intergovernmental mechanism to: strengthen and enhance Canada's public health capacity; enable F/P/T governments to better work together on the day-to-day business of public health; and anticipate, prepare for, and respond to public health events and threats.

Until 2011, the Federal/Provincial/Territorial Advisory Committee on AIDS provided policy advice on issues and high priority initiatives related to HIV/AIDS in Canada. It also

promoted timely, effective, and efficient intergovernmental and interjurisdictional collaboration on issues related to HIV/AIDS in Canada.

In 2011, the Communicable and Infectious Diseases Steering Committee (CIDSC) comprised of federal, provincial and territorial government Ministry of Health representatives was set up to provide recommendations on priorities and issues of relevance to the Public Health Network. Issues include sexually transmitted and bloodborne infections, including HIV.

The Leading Together Championing Committee promotes the widespread use of *Leading Together* throughout Canada. This blueprint for action influences and guides all sectors of Canada's response to overcome the HIV/AIDS epidemic and improve the lives of people at risk of, and living with, HIV/AIDS. Its membership includes non-governmental organizations, researchers, PHA, and government.

#### 6.4.3 FEDERAL ADVISORY BODIES

The CIHR HIV/AIDS Research Advisory Committee (CHARAC) has a mandate to make recommendations to the Institute of Infection and Immunity and to the Research Priorities and Planning Committee (RPPC) of CIHR regarding research priorities for HIV/AIDS. In particular, CHARAC provides advice to the CIHR Institute of Infection and Immunity Advisory Board regarding strategic initiatives in HIV/AIDS research to aid in the development of future targeted strategic funding opportunities.

The Ministerial Advisory Council on the Federal Initiative to Address HIV/AIDS in Canada provides evidence-based strategic policy advice to the Minister of Health on pan-Canadian aspects of HIV/AIDS. The main focus of its work is to monitor current and emerging issues, and propound a long-term vision for addressing HIV/AIDS in Canada. The Council's membership reflects a broad range of experience and knowledge including several Canadians living with HIV/AIDS.

The National Aboriginal Council on HIV/AIDS (NACHA) acts as a national advisory body, providing policy advice to Health Canada and the Public Health Agency of Canada about HIV/AIDS and related issues among all Aboriginal Peoples (First Nations, Inuit, and Métis) in Canada.

#### 6.4.4 NATIONAL NON-GOVERNMENTAL ORGANIZATIONS AND NETWORKS

These organizations are funded by the Public Health Agency of Canada and other sources to support capacity building, provide support for PHA, undertake knowledge transfer and exchange (KTE) activities, and deliver other projects, which are listed with brief descriptions in Appendix C.

The Canadian Aboriginal AIDS Network (CAAN) is a coalition of individuals and organizations that provides leadership, support, and advocacy for PHA, regardless of where they reside.

The Canadian AIDS Society (CAS) maintains a national coalition of over 120 community-based AIDS organizations across Canada, dedicated to strengthening the response to HIV/AIDS across all sectors of society, and supporting people and communities living with HIV/AIDS.

CATIE is a national knowledge broker for information about HIV and hepatitis C. CATIE connects people living with HIV or hepatitis C, at-risk communities, healthcare providers, and community organizations with the knowledge, resources, and expertise to reduce infectious transmission and improve quality of life.

The Canadian Association of HIV Research (CAHR) is a Canada-wide organization, which represents people who conduct HIV/AIDS research. CAHR's mission includes the following: fostering collaboration and cooperation among HIV research communities, including basic science, clinical science, epidemiology and public health, and social science; promoting education and the development of new researchers; and providing a unified voice for Canadian HIV researchers to engage diverse stakeholders in ongoing dialogue and knowledge exchange to ensure that HIV research remains responsive to their needs.

The Canadian HIV/AIDS Black, African and Caribbean Network (CHABAC) is a national network of service providers offering support and programs to the African and Caribbean diaspora and Black communities across Canada. CHABAC's mandate includes strengthening the capacity of front-line health and social service providers.

The Canadian HIV/AIDS Legal Network (CHLN) promotes the human rights of people living with, and vulnerable to, HIV/AIDS, in Canada and internationally, through research, legal and policy analysis, education, and community activism. CHLN provides AIDS service organizations with

tools to enhance their knowledge of the legal aspects of HIV non-disclosure to better support their clients and promote healthier behaviours among PHA.

The CIHR Canadian HIV Trials Network (CTN) is a partnership of clinical investigators, physicians, nurses, PHA, pharmaceutical manufacturers, and others who facilitate HIV/AIDS clinical trials.

The Canadian Public Health Association (CPHA) is a national, independent, voluntary association representing public health in Canada. With links to the international public health community, the CPHA advises decision-makers about public health system reform and guides initiatives to help safeguard the personal and community health of Canadians and people around the world.

The Canadian Treatment Action Council (CTAC) promotes informed public policy and creates awareness about issues that impede access to treatment and health care for PHA. CTAC views treatment as a broad concept, which includes Western, traditional, complementary, and alternative medicine. CTAC is run by, and for, PHA.

The Canadian Working Group on HIV and Rehabilitation (CWGHR) brings together the traditionally separate worlds of HIV, disability, and rehabilitation through multi-sectoral partnerships. Through these partnerships, CWGHR works to increase the capacity of research, education and cross-sector partnerships, and the rehabilitation needs of PHA.

The Interagency Coalition on AIDS and Development (ICAD) is a coalition of AIDS service organizations (ASOs), non-governmental organizations (NGOs), faith-based organizations, educational institutions and labour unions. Its mission statement includes providing leadership in the response of Canadian international development organizations and Canadian HIV organizations in reducing the impact of the global HIV and AIDS epidemic. ICAD does this through improving public policy, providing information and analysis, and sharing lessons learned.

#### 6.4.5 PROVINCIAL AND TERRITORIAL NETWORKS, COALITIONS, AND ADVISORY BODIES

In British Columbia, the Pacific AIDS Network (PAN) coordinates community responses to HIV/AIDS by convening forums for PHA to discuss issues and formulate programming and policy recommendations for the organization, government, and regional health authorities.

Alberta has a regional HIV/AIDS network, the Alberta Community Council on HIV (ACCH), which is a non-profit, provincial network of 11 regional harm reduction and AIDS service organizations (ASOs), with a primary mandate of HIV/AIDS prevention, care, treatment, support, as well as the prevention-education needs of PHA. ACCH is funded by Alberta Health and Wellness and the Public Health Agency of Canada through the Alberta Community HIV Fund. Its members include community – based AIDS service organizations, such as the AIDS Calgary Awareness Association (ACAA), which provides support for PHA and engages in community outreach.

Manitoba and Saskatchewan have a few collaborative networks. The MAN/SASK Network addresses and represents the regional needs of agencies working in the prevention, care, and treatment of HIV/HCV. In Northern Manitoba and Saskatchewan, the Play it Safer Network's goal is to implement a community-based strategy to address HIV/AIDS, STIs, hepatitis C, and healthier lifestyle choices through education, prevention, treatment, and medical and social supports.

The Ontario AIDS Network (OAN) includes the following among its objectives: maintaining and enhancing the existing network of PHA within the OAN and community partnerships that support PHA; increasing the knowledge and skills of PHA related to care, treatment, and support; increasing the number of PHA involved with community-based organizations, including member groups of the OAN; and maintaining and increasing effective PHA inclusion and meaningful involvement in the OAN. The Ontario HIV Treatment Network (OHTN) is a collaborative network of researchers, health service providers, policy makers, community members, and PHA who work together to promote excellence and innovation in HIV treatment, research, and education in Ontario. The Ontario Advisory Committee on HIV/AIDS (OACHA) provides ongoing policy advice to the provincial health minister on all aspects of HIV/AIDS-related policy. One third of the committee members are PHA; one third are from community-based AIDS organizations; and the final third are healthcare providers involved in the response to HIV/AIDS.

In Ontario, the Gay Men's Sexual Health Alliance (GMSH) is a provincial network made up of front-line workers, researchers, public health officials, policy makers, and community members. The GMSH aims to respond to the sexual health needs of Ontario's diverse communities of

gay, bisexual, two-spirit, and other men who have sex with men, and includes the development of resources, production of campaigns, and the creation of working groups.

In Quebec, the Coalition des organismes communautaires québécois de lutte contre le sida (COCQ-SIDA) includes in its goals support and consolidation of community action within Quebec, bringing together organizations concerned with HIV/AIDS, and uniting the action and resources of these organizations while respecting their autonomy.

The Atlantic Provinces have the Atlantic Interdisciplinary Research Network, a group of university-based researchers (from Dalhousie, Memorial, the University of New Brunswick) working in collaboration with other government and community stakeholders in the areas of HIV and HCV.

In the Atlantic Provinces, the Regional Atlantic AIDS Network (RAAN) develops collaborative strategies in supporting PHA in the region. The Nova Scotia Advisory Commission on AIDS is an arm's length body of the Nova Scotia government. It exists to provide policy advice regarding HIV/AIDS to the provincial government, as well as to act as a link between government and community. The Commission is responsible for the implementation, monitoring, and evaluation of Nova Scotia's *Strategy on HIV/AIDS*, and works closely with the three AIDS service organizations in Nova Scotia.

The Northern region is supported by the Northwest Territories HIV & Hepatitis C Support Network, which provides educational resources, support networks, and capacity building.

## 6.5 PROGRAM ANALYSIS

This section describes the distribution of programs and projects addressing HIV/AIDS among PHA across Canada. These projects were identified through the data-gathering process outlined in Section 6.1. This section also analyses to what extent the current response reflects the realities and needs of the population based on available evidence.

### 6.5.1 GEOGRAPHIC DISTRIBUTION OF PROJECTS

Table 5 shows the distribution of projects across Canada. Between 2009 and 2011, there were 155 projects funded through federal and provincial/territorial initiatives. Note that provinces with larger populations may have more funded projects.



**TABLE 5:** Distribution of projects across Canada

LOCATION	NUMBER OF PROJECTS	PROJECTS
National	8	P1-P8
British Columbia	29	P9-P37
Alberta	11	P38-P48
Saskatchewan	6	P49-P54
Manitoba	5	P55-P59
Ontario	54	P60-P113
Quebec	21	P114-P134
New Brunswick	5	P135-P139
Newfoundland and Labrador	6	P140-P145
Nova Scotia	5	P146-P150
Prince Edward Island	1	P151
Northwest Territories	1	P152
Nunavut	1	P153
Yukon	2	P154-P155

The geographic distribution of projects across the provinces and territories is as follows. Eight projects funded by the Public Health Agency of Canada are delivered by national NGOs. Two of the national projects address specific populations. The Canadian Aboriginal AIDS Network [P1] supports and addresses the needs of Aboriginal ASOs, and the Interagency Coalition on AIDS [P8] provides national support to new immigrants and engages Black Canadian, African and Caribbean communities. Two projects focus on delivering information about treatment. The Canadian Treatment Action Council [P4] works to enhance national HIV/AIDS policy development specific to treatment access issues. CATIE [P6] provides information about treatment options. The Canadian Working Group on Rehabilitation [P5] works to develop best practice guidelines on HIV for rehabilitation professionals. The Canadian HIV/AIDS Legal Network [P3] enhances national HIV/AIDS coordination and planning, policy development and capacity building, and communications as it pertains to the legal, ethical, human rights of individuals, AIDS service organizations, and members of the general public affected by HIV/AIDS. CATIE [P7] also has a project funded to support its role as the national knowledge aggregator—i.e., as a single point of access to information on prevention, care, treatment, and support knowledge for front-line organizations working in HIV/AIDS. Finally, the Canadian AIDS Society supports AIDS service organizations, and acts as a national voice in the

development and implementation of national policy, communication, and capacity-building strategies throughout the voluntary sector.

In British Columbia, 29 projects are currently funded by the Public Health Agency of Canada or the province. Common themes in programming across nearly all the projects include creating access to care and support for PHA. Other predominant themes include access to food [P9, P10, P21], housing [P12, P21, P22, P23, P37], income [P16, P18], cultural programming [P28], advocacy [P12, P16, P21, P31, P34], and programming for rural regions [P13]. One project supports access to complementary therapies [P19], while another provides spiritual counselling services to PHA [P14]. The primary type of organization delivering the projects is ASO.

Alberta has 11 funded projects delivered by ASOs. All of the projects funded include providing access to care and support for PHA. Two projects provide advocacy for PHA [P38, P42], and one provides spiritual support for PHA [P39], as well as promoting community-based research [P39, P43]. Another project supports housing for PHA [P43].

In Saskatchewan, six ASOs deliver funded projects, all of which promote access to care and support for PHA. One project aims to develop regional capacity-building initiatives for non-reserve Aboriginal community-based programming [P51].



There are five funded projects in Manitoba delivered by ASOs. Four projects support access to care, treatment and support for PHA, including peer support, knowledge translation and awareness [P55, P56, P58, P59]. One project aims to develop national and regional capacity-building initiatives for non-reserve Aboriginal community-based programming [P57]. One funded project supports the PHA Caucus, although this network has since dissolved [P55].

Of all provinces, Ontario has the most funded projects—54 in total. Most provide access to care and support for PHA. Seven projects promote access within rural communities [P61, P63, P64, P66, P72, P73, P109]. One provides services geared towards the Asian population [P78], while another provides services for the Spanish-speaking population [P83]. One project serves the deaf population in Ontario [P97]. One project supports people who acquired HIV via blood transfusion [P88]. Five projects are funded to build capacity within the context of GIPA, providing opportunities for PHA to contribute to program development or prevention work. Six projects in total are funded to support capacity building within ASOs. Two projects were funded to fight stigma against PHA [P63, P100]. One project promotes access to food for PHA [P106], while three projects address the issue of housing for PHA [P79, P82, P91]. Project P91 provides hospice options specifically for PHA. One project provides free legal services to people affected by HIV [P89].

Quebec funded 21 projects delivered by ASOs. These projects provide access to care and support for PHA. One in particular supports the deaf population of PHA [P120]. Two fight against stigma [P124, P125], and one is funded to increase involvement of PHA in program delivery [P121].

In the Atlantic Region, five projects are funded in New Brunswick, six in Newfoundland and Labrador, five in Nova Scotia, and one in Prince Edward Island. All projects are delivered by ASOs providing access to care and support for PHA. In Newfoundland and Labrador, two projects are funded to provide temporary [P145] and long-term [P144] housing for PHA.

In the Northern Region, there are two funded projects in the Yukon [P154, P155] and one in the Northwest Territories [P152]; all three projects provide support services and access to care for PHA and those affected by hepatitis C. Nunavut funded one project with a sexual health focus [P153].

Four projects specifically serve rural regions. In British Columbia, the AIDS Network Kootenay Outreach and Support Society [P13] provides programs and services specifically designed to address regional issues facing rural communities. In Ontario, the Wellington and Grey Bruce Rural Prevention Outreach Program [P63] works to decrease stigma and discrimination experienced by rural Aboriginal people, the gay, lesbian, bisexual, and transgender community, the mental health community, and PHA. The Outreach Program also works to increase knowledge, skills, and ability among rural physicians in the care and treatment of PHA and provides information on treatment to the rural community. Until the program's conclusion, the Voices of Positive Women [P109] supported a project that created a referrals list for both urban and rural communities. Finally, the Yukon's Council of Yukon First Nations includes a mandate to facilitate access to diagnosis, care, and treatment and to create social support opportunities for those infected with HIV and other related diseases and conditions, and to provide general HIV/AIDS awareness in Northern rural remote areas [P155].

### 6.5.2 POPULATIONS WITHIN THE PHA POPULATION

Although all of the projects funded address the needs of PHA, some organizations have projects that address the needs of a specific population. All the projects mentioned below include supporting PHA as part of their mandate.

#### a) Gay, bisexual, two-spirit, and other men who have sex with men

There are five clearly identified projects that address the needs of gay and other men who have sex with men who are living with HIV. The AIDS Calgary Awareness Association has a community outreach project for men who have sex with men [P39]. In Ontario, three of the funded projects provide support for gay and other men who have sex with men. The Wellington and Grey Bruce Rural Prevention-Outreach Program works to reduce stigma and discrimination faced by gay and other men who have sex with men [P63], as well as other populations. The Toronto People with AIDS has a project called PHA Engagement in POZ Prevention for Gay Men, with a mandate of positive prevention among men who have sex with men [R107]. Ontario also has a working group, the Groupe de travail pour hommes gais, bisexuels, et HAH francophones (Working Group for gay, bisexual and MSM Francophones), which provides support on the development of strategies aimed at improving services

to Francophones living with HIV [P88]. In Quebec, the Mouvement d'information, d'éducation et d'entraide dans la lutte contre le sida (LE M.I.E.N.S.) has one project identified as serving men who have sex with men [P127].

#### **b) People who use injection drugs**

There are five organizations that clearly identify that they serve the population of people who use injection drugs. The Vancouver Native Health Society has programming for people who use injection drugs, although it is not exclusive to people who use injection drugs [P33]. In Calgary, the AIDS Calgary Awareness Association identifies programming for outreach to people who use injection drugs [P39], as does the HIV North Society [P43]. AIDS St. John serves the population of people who use injection drugs along with other populations [P138].

#### **c) Aboriginal peoples**

As discussed earlier, there is one national project that addresses the needs of Aboriginal people [P1], the Canadian Aboriginal AIDS Network. In British Columbia, the Positive Women's Network provides culturally appropriate programming for Aboriginal women who face multiple barriers [P28]. The Vancouver Native Health Society responds to the specific needs of Aboriginal people, delivering medical, counselling and social services [P33]. In Alberta, the AIDS Calgary Awareness Association identifies programming for outreach to Aboriginal people [P39]. In Saskatchewan, the All Nations Hope AIDS Network works to share knowledge and resources in support of APHA [P51]. Manitoba's Nine Circles Community Health Centre provides culturally appropriate programming for Aboriginal youth [P58]. In Ontario, the Wellington and Grey Bruce Rural Prevention-Outreach project works to decrease isolation among APHA [P63]. In addition, the Ontario AIDS Network has programming specifically for Aboriginal youth [P96], and the Ontario Aboriginal HIV/AIDS Strategy [P93] provides off-reserve outreach and services. Two-Spirited People of the First Nations [P108] provides support for two-spirited PHA. In Quebec, the Commission de la santé et des services sociaux des premières nations du Québec et du Labrador has a sharing circle project for APHA [P122]. The Atlantic Region does not have projects specifically identifying services for APHA.

#### **d) People from countries where HIV is endemic**

As discussed earlier, there is one national project that addresses the needs of ASOs supporting people from countries where HIV is endemic [P8], which is managed by the Interagency Coalition on AIDS. In British Columbia, the Vancouver Native Health Society, by virtue of being located in the Downtown Eastside, also serves immigrants, as well as Aboriginal people [P33]. Manitoba's Sexuality Education Resource Centre has programming directed at people from countries where HIV is endemic. It focuses on improving access to services for new immigrants in Winnipeg [P59]. In Ontario, the AIDS Committee of Cambridge, Kitchener, Waterloo & Surrounding Area has programming for interpreters, which supports communication with people from countries where HIV is endemic [P60]. The AIDS Committee of Toronto has two projects that are directed at ethnocultural communities, including the Portuguese-speaking population [P70, P71]. The Alliance for South Asian AIDS Prevention has a project for South Asian PHA that aims to reduce barriers to accessing services [P77]. The African and Caribbean Council on HIV/AIDS in Ontario directs programming to address social isolation and discrimination experienced by people from countries where HIV is endemic [P76]. The Black Coalition for AIDS Prevention also provides projects including case management for PHA [P80]. Finally, the Women's Health in Women's Hands Community Health Centre in Ontario funds a project to support negotiating disclosure [P111]. In Quebec, the Centre d'action sida Montréal offers services for women from diverse cultures and funds a project that supports refugees who are PHA [P117, P118].

#### **e) Women**

In British Columbia, the Positive Women's Network has a support program for HIV-positive women, which has a mandate to provide effective programming and resources for women, their families, and service providers, including culturally appropriate services for Aboriginal women [P28]. Alberta's AIDS Calgary Awareness Association's client services provide support for women involved in the sex trade and youth [P39]. Manitoba's Kali Shiva AIDS Services has a Positive Women's Program that provides non-medical supports and services to PHA women and their children [P56]. The Voices of Positive Women project works to reduce the isolation, increase self-esteem, and enhance the quality of life of PHA women [P109]. The Women's Health in Women's Hands Community Health Centre's project Negotiating Disclosure, provides an HIV serostatus disclosure model for African and Caribbean

Women [P111]. Also in Ontario, the Women's HIV/AIDS Working Group supports research on women living with HIV [P113]. In Quebec, the Centre d'action sida Montréal (femmes) provides services for HIV-positive women from multicultural environments [P117]. *Par elles, pour elles, pour la vie* (By them, for them, for life) responds to the needs of PHA women to create solidarity and support [P125].

#### f) Youth

In British Columbia, the Vancouver Native Health Society also provides programming for youth in Vancouver's Downtown Eastside [P33]. YouthCo AIDS Services provides support services to PHA youth [P35]. In Alberta, the AIDS Calgary Awareness Association delivers programs to youth as one of the target populations to which it provides support services [P39]. In Manitoba, the Nine Circles Community Health Centre funds a programmatic response directed at youth [P58]. In Ontario, the AIDS Committee of Toronto has a Positive Youth Outreach project to increase access to services for PHA youth [P69], and YOUTHlink inner city [P112] offers treatment support to Toronto's youth. The Aboriginal Youth Peer Prevention Project funds programming to increase its capacity to serve Aboriginal youth [P96]. Planned Parenthood of Toronto has a project funded to develop youth-led strategies supporting a common approach to HIV, hepatitis C, and STI prevention, which is geared to increasing the knowledge of PHA youth regarding their sexual health [P100].

#### g) Children and families

Three of the funded projects specifically address the needs of children. In Manitoba, Kali Shiva AIDS Services provides a support network for women living with HIV and their children [P56]. In Ontario, The Teresa Group has two funded projects supporting children [P104, P105]. The Infant Formula Program attempts to reduce the risk of HIV transmission through breast milk by offering free formula for a period of one year to new mothers in Ontario who are living with HIV. Another program provides training to volunteers to increase knowledge and awareness of HIV issues for affected children and families.

Ten projects provide support specifically to families affected by HIV. In British Columbia, the AIDS Society of Kamloops [P12] provides one-on-one counseling for families affected by HIV. The McLaren Housing Society of British Columbia [P22] provides safe, affordable housing to families living with HIV/AIDS, who are in financial need and yet are able to live independently. The Positive Women's Network [P28] provides culturally appropriate programming for women and

their families. In Alberta, the Central Alberta AIDS Network (CAANS) [P41] works to reduce the negative effects of substance use and the sex trade on individuals, families, and communities through a harm reduction approach. In Ontario, AIDS Thunder Bay [P75] works to increase social contact for PHA and their partners/families. In Ottawa, Bruce House provides rent-geared-to-income housing units and apartments for PHA, along with support, such as counselling, coaching, and family support [P81]. The Teresa Group also provides support for families of PHA. In New Brunswick, AIDS St. John serves PHA and their families.

#### h) People in prison

In British Columbia, Prisoner POSITIVE works with the population of people in prison through outreach activities [P17]. Alberta's AIDS Calgary Awareness Association includes programs for prisoners in its mandate [P39]. In Ontario, the Peel HIV/AIDS Network includes health promotion projects for people in prison [P98], and the Prisoners with HIV/AIDS Support Action Network (PASAN) works to provide support, outreach, and education to PHA in prison [P101]. In Quebec, the project Sentinelle Bleue [P116] works to consolidate all program information for prisoners who are about to be released back into the public, in order to facilitate their access to programs. The *Commission de la santé et des services sociaux des premières nations du Québec et du Labrador* has a sharing circle project for APHA who are in prison [P122]. In New Brunswick, the John Howard Society [P135] runs HIV/AIDS programs that connect youth with appropriate services. The Society has branches across Canada, with each region having specialized programming.

## 6.6 REFERENCE

- (1) Government of Canada. The Federal Initiative to Address HIV/AIDS in Canada: Strengthening Federal Action in the Canadian Response to HIV/AIDS. 2004.

## CHAPTER 7 – CONCLUSION

This is the first time the Public Health Agency of Canada has synthesized evidence from a variety of sources in one document to better understand the lives of people living with HIV/AIDS (PHA) in Canada. It is hoped that the evidence provided in this report will be useful to governments, non-governmental organizations, public health officials, researchers, communities and others in informing the development of programs and policies addressing PHA in Canada.

Surveillance data presented in this report show that the burden of HIV in Canada has shifted. In the early stages of the HIV epidemic, most PHA in Canada were gay men. Now, transmission routes are varied. Transmission in the men who have sex with men (MSM) exposure category still accounted for an estimated 46.6% of new infections in 2011; but transmission through heterosexual sex and injection drug usage also represent a significant proportion of new infections, accounting for 37.2% and 13.7% of estimated new infections respectively. Aboriginal people and people from HIV-endemic countries are disproportionately affected by HIV in Canada. (1)

A key theme that emerged in the writing of this report is the diversity of PHA—the lived experiences prior to infection of a gay youth, a street-involved person who uses drugs, and a refugee woman from West Africa are very different. These different experiences and life paths continue once someone is infected. The majority of studies that look at PHA focus on one of the sub-populations affected, and it is sometimes difficult to compare studies and findings on one population with another.

Despite this diversity, most PHA come from marginalized populations. The health and quality of life of PHA are affected by multiple determinants of health, including early childhood experiences, poverty, social and physical environments, culture, gender, and social support. These multiple determinants affect their vulnerability to HIV infection, and continue to influence their health status and quality of life once infected.

Stigma and discrimination is a shared experience for most PHA, affecting all aspects of people's lives, from their relationship with intimate partners, family, and friends, to their community, their workplace, and society at large. For many, this stigma is compounded by other forms of discrimination targeted towards the group they identify with—i.e., racism, sexism, and homophobia.

Due to the advances made in HIV treatment, living with HIV is now an issue that extends across the life course. PHA are becoming parents, and children and adolescents are growing up with HIV. At the other end of the continuum, PHA are living long enough to encounter the challenges of aging. Despite this progress in treatment, HIV remains a significant health burden. PHA experience higher rates of non-AIDS-defining diseases; and some have to manage complex co-infections and co-morbidities. For some, HIV is an episodic disability, with periods of health being interrupted by unpredictable periods of ill health and disability. People continue to die from complications due to AIDS, some without ever having accessed treatment. Although treatment is widely available in Canada, treatment access and adherence continue to present challenges, particularly for certain marginalized populations.

Community involvement continues to be key, both to the prevention response and to the care, treatment, and support of PHA. Community engagement and social support networks help develop positive coping skills, help PHA with appropriate information and emotional support, and are key sources to helping build resilience.

The Canadian response to HIV/AIDS involves a wide array of organizations and communities, with people at risk of HIV infection and PHA significantly engaged. This report identifies numerous strategies, networks and organizations, both nationally and in provinces and territories across Canada, and over 150 community-based projects specifically addressing the needs of PHA. Researchers across the country are also active in addressing many issues that affect PHA, ranging from treatment to determinants of health.

Partnerships exist at all levels—between service providers and PHA, community-based organizations, national non-governmental organizations, governments at all levels, researchers, and healthcare providers. There is a widespread recognition that PHA must be involved in developing and implementing the policies, programs, and research that affect them, in order that these approaches are effective and address the realities of PHA experience.

This report acknowledges the crucial role that PHA play in HIV/AIDS leadership, research, policy and programs, prevention, and support. All stakeholders, with the central engagement of PHA, must continue to build on our past successes to prevent new infections and to improve the quality of life of those living with HIV.



## 7.1 REFERENCE

- (1) Public Health Agency of Canada. Summary: Estimates of HIV prevalence and incidence in Canada, 2011. Ottawa: Centre for Communicable Diseases and Infection Control, Public Health Agency of Canada; 2012.

# APPENDIX A

## 1) SEARCH TERMS

Note that words with an asterix (\*) are search terms with several possible endings.

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Access to care/barriers
Adherence
Adverse Events
Aging
Barriers
Co-infection
Co-morbidities
Depression
Disclosure
Discrimination
Disability
Episodic Disability
Family
Health Disparities
Health Services
Housing
Living with HIV
Mental Health
People Living with HIV
People Living with HIV/AIDS
Palliative Care
Parenting
Personal Health Practices
Side Effects
Social Networks
Social Support
Stigma
Resistance
Toxicity*
Treatment

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## 2) DATABASES SEARCHED

- CINAHL 2002-2009
- Current Contents 2002-2009
- Global Health 2002-2009
- PsycINFO 2002-2009
- Social Policy and Practice 2002-2009
- MEDLINE 2002-2009
- Scopus 2002-2008
- Social Services Abstracts 2002-2009
- Sociological Abstracts 2002-2009

## APPENDIX B

### RESEARCH PROJECTS FOCUSSING ON PEOPLE LIVING WITH HIV/AIDS

#### PROJECT R1:

**Title:** *1st Annual Symposium on HIV, Law and Human Rights: "From Evidence and Principle to Policy and Practice"*

**Principal Investigator:** Richard Elliot

**Abstract:** The Canadian HIV/AIDS Legal Network proposes to hold a one-and-a-half day educational symposium on HIV/AIDS, law and human rights that will engage multiple audiences. The aim of the symposium is to stimulate new learning and knowledge exchange between researchers, policy-makers, service providers, people living with HIV/AIDS (PHAs), legal professionals and ASOs/CBOs. The symposium will open on the evening of Friday, June 12th, 2009 with a keynote address by the Hon. Justice Edwin Cameron, a judge of the Constitutional Court of South Africa and an internationally renowned human rights advocate openly living with HIV. Over the course of the following day, four panel discussions and three skills-building workshops will bring together lawyers, judges, health researchers, ASOs/CBOs and PHAs to discuss and debate, from various perspectives, key legal developments related to HIV and relevant research, and their implications for policy and practice in four different areas: global access to AIDS medicines and Canada's Access to Medicines Regime; drug policy developments and the impact on HIV prevention and care among people who use drugs; prisoners' rights to information and services for HIV prevention and care; the criminalization of HIV transmission/exposure. All of these issues are ones on which there is a need for greater exchange between researchers, lawyers and policy-makers in order to advance policy that is evidence-based and human rights-based.

**Dates:** May 2009 – April 2010

**Funding Program:** Canadian Institutes of Health Research (CIHR) Meetings, Planning and Dissemination Grant: Knowledge Translation

**Source:** CIHR database

#### PROJECT R2:

**Title:** *2nd Annual Symposium on HIV, Law and Human Rights: "From Evidence and Principle to Policy & Practice"*

**Principal Investigator:** Richard Elliot

**Abstract:** The symposium will open on Thursday, June 10th, 2010 with a day-long skills-building workshop on media training focussed on the issue of the criminalization of HIV transmission and exposure. The following day, Friday June 11th, the Symposium program will consist of three plenary presentations that will bring together lawyers, judges, health researchers, students, ASOs/CBOs, and PHAs to discuss and debate, from various perspectives, key legal developments related to HIV and relevant research. Possible topics currently under discussion include, but are not limited to: criminalization and HIV non-disclosure; HIV-related travel restrictions and immigration policies; housing rights and HIV-related vulnerability; women's rights: an international and comparative assessment of legal issues; and developments in Canadian prostitution laws. The day will close with an evening lecture, open to the public, presented by a high-profile keynote speaker addressing the audience on an HIV-related legal/human rights issue. At the moment, we are approaching such potential speakers as Dr. Michel Kazatchkine (Executive Director of the Global Fund to Fight AIDS, Tuberculosis and Malaria); Dr. Mary Robinson, (past President of Ireland and former UN High Commissioner of Human Rights); Dr. Louise Arbour (former Justice of the Supreme Court of Canada and former UN High Commissioner for Human Rights); Justice Rosalie Abella of the Supreme Court of Canada. The evening will also be the occasion of announcing the Canadian and international recipients of the 2010 Awards for Action on HIV/AIDS and Human Rights, awarded jointly by the Legal Network and Human Rights Watch. A cocktail reception will conclude the evening. The first half of Saturday June 12th, 2010 will close the Symposium. There will be one final panel session, followed by the Legal Network's 2010 Annual General Meeting and closing remarks by a keynote speaker.

**Dates:** January 2010 – December 2010

**Funding Program:** CIHR Meetings, Planning and Dissemination Grant: Knowledge Translation

**Source:** CIHR database

**PROJECT R3:**

**Title:** *A collaborative approach to understanding and improving Aboriginal people's access to HIV services in Northern BC*

**Principal Investigator:** Dr. Lesley Cerny

**Abstract:** Scholars attribute the additional burden of illness among Aboriginal people to the legacy of colonialism and history of social marginalization. In a recent study Aboriginal women reported experiencing encounters with health providers as invalidating, which discouraged them from seeking health services. While colonialism continues to shape relationships between health providers and Aboriginal patients, we know little about how this legacy affects the delivery of HIV services. Specifically, how are differences in power experienced and negotiated in patient-provider relationships; how do Aboriginal people with HIV and their health providers experience the delivery of these services; and how can an understanding of Aboriginal people's experiences contribute to improvements in HIV policies and practices? This study uses ethnographic methods of participant observation, interviews and focus groups to examine these questions in the relationships between health providers and Aboriginal people with HIV. Patient-provider relationships will be observed during provision of HIV services. Parties will also be interviewed separately with attention to the experiences of Aboriginal women, youth and IV drug users. Participants will be engaged in discussing factors identified as barriers in accessing HIV services – to increase understanding between patients and providers. Development of a collaborative methodology will extend conventional approaches to participatory research by involving parties in analysis of data and in knowledge translation activities. Building on lived experiences of those most at risk for HIV, and those providing HIV services, this research will identify innovative new strategies for improving HIV policy and practice and for increasing access to HIV prevention, treatment and support services.

**Dates:** September 2007 – August 2012

**Funding Program:** CIHR Operating Grant

**Source:** The Canadian Association of HIV Research (CAHR) database

**PROJECT R4:**

**Title:** *A feasibility study of chemotherapy and mandatory combination antiretroviral therapy (cART) for management of acquired immunodeficiency syndrome (AIDS)-related lymphoma*

**Principal Investigators:** Dr. Kathleen I. Pritchard and Dr. Matthew C. Cheung

**Co-Investigators:** Dr. Kevin R. Imrie, Dr. Mona R. Loutfy, and Dr. Elizabeth J. Phillips

**Abstract:** People who live with human immunodeficiency virus (HIV) infection are at an increased risk of developing certain cancers, including lymphoma, a cancer of the immune system. Treatment for this HIV complication typically includes multiple anti-cancer drugs known as chemotherapy; however, the ideal combination of chemotherapy drugs is unknown. As well, although drugs that combat the HIV itself (antiretrovirals) are ultimately used in all patients, it is unclear whether these treatments should be given at the same time as chemotherapy or immediately after cancer treatment. Some experts advocate withholding anti-HIV drugs based on concerns about the ability of patients to consistently take these treatments while experiencing side effects of chemotherapy. Other experts argue that both the lymphoma and HIV may be more effectively controlled if anti-viral treatment is given at the same time as chemotherapy. This study aims to address the controversy of whether patients are able to consistently stay on their anti-viral drugs while receiving chemotherapy. Patients will receive a specific chemotherapy combination (EPOCH-R) and mandatory antiretroviral therapy to test the feasibility of co-administering these drugs, as measured by a patient's ability to take all prescribed doses. The overall benefit of the treatment strategy will be reflected by the response of the lymphoma to treatment. Finally, chemotherapy blood levels will be measured to determine whether combining the drug classes influence the way the body handles these treatments. If the anti-virals can be safely given during chemotherapy, this trial will re-define practice for physicians who currently withhold these therapies due to concerns of non-adherence. This study will also provide important information on drug class interactions for currently used chemotherapies and antiretrovirals. The ultimate goal is to define the best treatment combination for patients with HIV infection and lymphoma.

**Dates:** April 2006 – March 2010

**Funding Program:** CIHR – Operating Grant

**Source:** CIHR database



**PROJECT R5:**

**Title:** *A gathering of support: Developing an Aboriginal grassroots research network on HIV/AIDS*

**Principal Investigators:** Margaret L. Akan and Carrie A. Bourassa

**Co-Investigators:** Roxanne Boekelder, Mary R. Hampton, Ron S. Horsefall, Randy Jackson, and Kim McKay-McNabb

**Abstract:** All Nations Hope AIDS Network is the only Aboriginal AIDS Service Organization in the province of Saskatchewan; yet, Saskatchewan has one of the highest urban Aboriginal populations in Canada. Within this urban Aboriginal population rates of HIV/AIDS are significant, 48.9% of positive HIV test reports in 2004-2005 are of Aboriginal ancestry. (Saskatchewan Health, 2005). Some research has been done to identify the population size and demographics of this group, but no long-term, comprehensive studies have been undertaken at this time. Further, these data do not offer guidance in terms of programming and outreach, and also do not highlight, explore, or speculate on the relationships between substance use and HIV/AIDS. Given the incidence and prevalence of substance use within the province an informal network has been working collaboratively to determine how they might best unite their efforts to address local issues, and this group is interested in moving forward with a community-based research approach to more closely examine Aboriginal peoples' experiences with substance use and HIV/AIDS in Saskatchewan. Presently, there are some informal networks developing that include members from academic institutions, health service providers, AIDS service organizations, and Aboriginal people living with HIV/AIDS (APHAs). Currently, it seems appropriate to attempt to bring these informal networks together to determine if it is possible to formalize partnerships and begin working toward establishing a research direction and approach to explore and identify better ways of addressing the issues. However, at this time, no formal partnerships or commitments have been established and, therefore, the purpose of this development application is to facilitate the establishment of the formal partnerships necessary to develop a community-based research project, which addresses community identified needs as they relate to Aboriginal people, substance use, and HIV/AIDS.

**Dates:** April 2008 – March 2009

**Funding Program:** HIV/AIDS Community-Based Research Program – Aboriginal – Catalyst Grant

**Source:** CIHR database

**PROJECT R6:**

**Title:** *A qualitative investigation of the social, structural and environmental determinants of highly active antiretroviral therapy access, discontinuation and adherence among injection drug users*

**Principal Investigator:** Andrea B. Krusi

**Co-Investigator:** Thomas H. Kerr

**Abstract:** Recent advances in HIV/AIDS treatment have given rise to a remarkable increase in life expectancy and quality of life for people living with HIV. Unfortunately, individuals with a history of drug use have not benefited from these advances to the same extent as other people living with HIV/AIDS. Previous research has found fewer HIV-positive drug users are accessing HIV treatment compared to other HIV-positive individuals. Furthermore, approximately half of the drug users who start HIV treatment do not follow through with it and among those drug users who remain on treatment, 60% do not follow the treatment as prescribed by their doctor. To date, research on factors influencing HIV treatment access and maintenance among individuals with a history of drug use has focused mainly on risk factors that are related to a person's behaviour or to their psychological state. Examples of risk factors for reduced therapeutic success of HIV treatment that have been identified previously include, continued substance use, depression and anxiety. To date, a more complete understanding of the broader influences on access to and maintenance of HIV/AIDS treatment among drug users, such as stigma and discrimination, housing stability and the way healthcare services are organized, is still sorely lacking. In order to gain a better understanding of these broader social and structural influences on HIV treatment among drug users, we will systematically analyze the perspectives of HIV-positive drug users and service providers on the challenges of accessing and maintaining HIV treatment. The ultimate goal is that findings of the proposed study will contribute to the implementation of policies and programs that support drug users' access to HIV treatment and care.

**Dates:** September 2009 – August 2012

**Funding Program:** CIHR Frederick Banting and Charles Best Canada Graduate Scholarships – Doctoral Award

**Source:** CIHR database

**PROJECT R7:**

**Title:** *A Small-Group Intervention to Reduce HIV Sexual Transmission Risk Behaviour Among HIV-Positive Men Who Have Sex With Men*

**Principal Investigators:** Trevor A. Hart and Barry D. Adam

**Co-investigators:** Herbert Co, David E. Hoe, Robert C. Leahy, Mona R. Loutfy, Robert A. MacKay, and Eleanor Maticka-Tyndale

**Abstract:** The primary objective of this project is to develop, implement, and provide an evaluation of an HIV prevention program for HIV-positive gay and bisexual men in a sexual health and community-based research framework. This collaboration between the Positive Prevention Working Group and researchers comes at a time when HIV rates have begun to rise among men who have sex with men, and when rates of unprotected sex have been rising among HIV-positive men. The project will build on evidence-based HIV prevention programs reported in the research literature, consult with leading developers and practitioners of prevention programs directed toward HIV-positive men across North America, and engage local men to find the kind of program they would find attractive and effective. A small-scale series of workshops will be mounted for four groups of a dozen men who have a recent history of unprotected sex. Workshop participants will subsequently be followed to discover the degree to which the intervention has a sustained effect on risk behaviour. Findings from this study will provide the foundation for a subsequent effective, evidence-based, large-scale intervention.

**Dates:** April 2009 – March 2011

**Funding Program:** CIHR HIV/AIDS Community-Based Research Program – General – Operating Grant

**Source:** CIHR database

**PROJECT R8:**

**Title:** *A Smoking Cessation Program for PHAs: Pharmacologic, Immunologic, Cardiovascular and Socio-Behavioural Outcomes*

**Principal Investigators:** Paul MacPherson and Louise Balfour

**Co-Investigators:** Gary Garber, William Cameron, Jonathan Angel,

Craig Lee, Curtis Cooper, Giorgio Tasca, Charles LaPorte, Kimberley Corace, Daniella Sandre, Andrew Pike, and Robert Reid

**Abstract:** New treatments for HIV have generated both new hope and new challenges for people living with HIV (PHAs). Cardiovascular disease (CVD) has now replaced AIDS as the leading cause of morbidity and mortality among PHAs. Even after controlling for a history of pre-existing disease, cigarette smoking is still the most significant predictor of CVD among PHAs. These results are of great concern given that an alarming proportion of PHAs (40%-70%) smoke cigarettes, three times higher than in the general Canadian population (19%). Despite these very high rates of smoking, smoking cessation programs are rarely delivered in routine HIV clinical care. Our goal is to develop, implement, and evaluate the first "HIV Quit Smoking Program" specifically tailored to the unique needs of PHAs. The University of Ottawa Heart Institute (UOHI) has developed a smoking cessation program widely recognized for its national standard of excellence ("Ottawa Model for Smoking Cessation"; Reid, Pipe, et al, 2003). Our HIV Quit Smoking Program builds upon the success of the Ottawa Model by tailoring it to the unique needs of PHAs. In particular, depression, which occurs in 40%-60% of PHAs, needs to be addressed in order to optimize smoking cessation efforts in PHAs. Further, key issues such as changes in immune system functioning, and side-effects of antiretroviral medications (ART) also need to be assessed and monitored among PHAs who quit smoking. The HIV Quit Smoking Program combines the Ottawa Model smoking cessation strategies (nicotine replacement therapy and behavioural strategies for

managing nicotine cravings), with treatment of depression, immune system monitoring, and assessment of ART side effects. The synergy between the smoking cessation experts at UOHI and the Behavioural and Infectious Diseases Specialists from the Ottawa Hospital Immunodeficiency Clinic provide the combined expertise to ensure successful development and implementation of this much needed and innovative HIV Quit Smoking Program. A standardized treatment manual is currently being developed in both English and French that outlines the process of delivering the HIV Quit Smoking Program. The goal is to disseminate this manual to HIV outpatient clinics and primary care facilities across Canada so that the HIV Quit Smoking Program becomes part of standard of care for HIV+ individuals.

Dates: 2009-2010

**Funding Program:** Grants Awarded, Cycle 22 (2009-2010), Canadian Foundation for AIDS Research (CANFAR)

Source: CANFAR database

## PROJECT R9:

**Title:** *A Study of an HPV VLP Vaccine in a Cohort of HIV-Positive Girls and Women*

Principal Investigator: Deborah M. Money

**Co-Investigators:** Sean A. Bitnun, H  l  ne Cot  , Fran  ois Cout  e, Simon R. Dobson, John C. Forbes, Marina B. Klein, Tobias R. Kollman, Mel Krajden, Mona R. Loutfy, Gina S. Ogilvie, Martin Petric, Neora Pick, Janet M. Raboud, Anita R. Rachlis, Fiona M. Smail. Gavin C. Stuart, Julianne E. Van Schalkwyk; Sharon L. Walmsley; and Wendy L. Wobeser

**Abstract:** In 2006, the first vaccine to protect against Human Papillomavirus (HPV) was approved in Canada. This vaccine protects against the virus (HPV) which is the known cause of cervical cancer and genital warts. HIV positive women have higher rates of HPV infection which progresses faster in them to cervical cancer. While HPV vaccine has been well studied in healthy young women, it is not known how well it will work in girls or women with HIV infection. This study will evaluate the HPV vaccine response in HIV positive females from across Canada providing important data on immune responses, side effects and long-term protection against HPV in this group of women. This data is necessary to inform appropriate vaccination programs in Canada for this vulnerable group. In turn, the information from this study will also be valuable towards implementing HPV vaccine programs in the developing world where HIV infection is widespread. Although, most cases of cervical cancer in Canada are prevented by early detection via Pap smear screening, this is not the case in the developing world where access to Pap screening is limited. This vaccine has great promise to prevent both HPV infection and its serious consequences in Canada and can be life saving on a much larger scale in the developing world where cervical cancer is a leading cause of death among women.

**Dates:** April 2008 – March 2013

Funding Program: CIHR – Operating Grant

Source: CIHR database

**PROJECT R10:**

**Title:** *A systematic review of evidence linking sexual violence and HIV/AIDS*

**Principal Investigator:** Beverley J. Shea

**Co-investigators:** Neil Andersson, Candyce Hamel, Ari Ho-Foster, Tara Horvath, Gail Kennedy, Jessie McGowan, Deb Milne; Steven P. Mitchell, and George A. Wells

**Abstract:** Despite the growing knowledge of evidence on HIV/AIDS very little is known about the relationship between interventions for the prevention of sexual violence and HIV/AIDS. Individuals who are HIV+ report experiencing violence directly attributable to their being sero-positive. To date there is no published high quality systematic review summarizing this body of knowledge. This project will 1) systematically review and meta-analyze all studies conducted on interventions for the prevention of sexual violence and HIV/AIDS, 2) translate the findings and develop recommendations for their use by integrating decision makers into the review process and 3) develop materials based on the findings for policy making and for front line HIV/AIDS and sexual violence prevention. Research Plan: The title for this review is registered with the Cochrane Review Group on HIV/AIDS of the Cochrane Collaboration. We will follow the methods established by the Cochrane Collaborative Review Group on HIV Infection and provided by *Cochrane Collaboration Handbook for Systematic Reviews of Interventions*. A protocol for the review will be submitted defining a priori the search strategy and data sources, the selection criteria, the methods of analysis. Integrated throughout the research, beginning with formulating the research problem, are decision makers from the Public Health Agency of Canada and the Canadian Aboriginal AIDS Network who will: help shape the review by providing guidance on the policy relevance, political context of the review, the inclusion criteria, and prioritizing outcomes for analysis; assist with interpreting the findings for use by addressing the strength and the applicability of the evidence, considerations such as costs and current practice, and clarification of any trade-offs between the expected benefits, harm and cost of intervention; develop and implement an end-of-grant translation plan to ensure the findings are accessible and useful.

**Dates:** October 2008 – September 2009

**Funding Program:** CIHR Knowledge Synthesis Grant

**Source:** CIHR database

**PROJECT R11:**

**Title:** *Adherence to HAART in HIV populations: A meta analysis*

**Principal Investigator:** Dr. Edward J. Mills

**Co-investigator:** Dr. Curtis L. Cooper

**Abstract:** Highly active antiretroviral therapy (HAART) has dramatically affected the course of HIV disease, producing reductions in AIDS-related morbidity and mortality. HAART has, however, been described as the most rigorously demanding oral medication regimen ever offered. Treatment often requires that patients take numerous pills several times a day, and medications are often taken at odd intervals in accordance with strict dietary guidelines. Furthermore, side effects are common and often severe. Optimism concerning HAART has been tempered by concerns that viral suppression requires high levels of medication adherence and that drug-resistant strains of HIV may develop and be transmitted when adherence is suboptimal. Accurate assessment of medication adherence is therefore critical to the assessment of clinical efficacy, side effects and risks associated with HAART. Presently, there is no “gold standard” for assessing adherence, and while several measures are in use, each measures only a subset of adherence behaviours. Our previous work comparing adherence to HAART therapy in Sub-Saharan Africa to a relatively wealthier North American setting found adherence in Sub-Saharan Africa to be statistically superior to North America – a finding at odds with popular beliefs and important to many agencies mandated to fight HIV. We propose to conduct a series of meta-analyses examining adherence within specific populations, including: gay males; intravenous drug users; Aboriginal groups in developed nations and immigrant populations. This analysis will require extensive systematic searching and advanced meta-analytic techniques. The findings of this meta-analysis will be shared with policy makers in HIV and will have had profound effects on antiretroviral delivery and management in the developing world.

**Dates:** February 2008 – January 2009

**Funding Program:** CIHR – Operating Grant

**Source:** CAHR database



**PROJECT R12:**

**Title:** *Adolescents infected through vertical transmission: analysis of their developmental trajectory*

**Principal Investigator:** Mylène Fernet

**Abstract:** The profile of the pediatric epidemic has changed and is now characterized by the emergence of a high number of young people who have lived with HIV infection since birth; some are on the threshold of adolescence while others have reached the age of majority. Although many studies have been conducted in the adult HIV population, few have examined the situation of pre-adolescents and adolescents infected at birth through vertical transmission (Battles and Wiener, 2002; Fielden, 2005; Mialky, Vagnoni and Rutsein, 2001). As they enter adolescence, these young people are faced with the question of disclosing their HIV status (Fielden, 2005), along with the various issues associated with treatment management and the many changes that accompany puberty (Fielden, 2005; Hoffman, Futterman and Myerson, 1999; Trocmé et al., 2002). **Results:** An initial study funded by the CIHR (2004-2006) recruited from among the CMIS mother-child cohort at CHU Sainte-Justine a total of 30 pre-adolescents and adolescents who were infected at birth (participation rate of more 88%) and identified the key areas in which child development appears to have been comprised. **Objectives:** The purpose of this renewal application is to illustrate the developmental trajectory of adolescents in the following areas: (1) health management and modes of treatment appropriation (side effects, treatment compliance, etc.); (2) the types of interactions adolescents establish with their environment, particularly with respect to disclosure of their HIV status; (3) the feelings of isolation that are frequently associated with a burdensome secret that is difficult to share; and (4) adolescents' relationships with others and with their sexuality, as well as the prevention issues with which they are faced. **Research plan:** This qualitative study is informed by the theory of symbolic interactionism (Blumer, 1969; Le Breton, 2004). It involves conducting a second qualitative data collection exercise with the same 30 youths (15 girls and 15 boys, average age 14.5 years) 24 months after the first series of interviews. Non-directive individual interviews of approximately two hours duration will be

conducted at the CMIS, CHU Ste-Justine. An interview grid derived from that of the Children's and Women's Health Centre of British Columbia (2000) and informed by the interview data obtained in the course of the first study will be used. Once it has been matched on a case-by-case basis with the first set of interviews, the data collected in the present study will be subjected to chronological analysis (Miles and Huberman, 2005), with an emphasis on grounded theory procedures (Fernet, 2005). **Benefits:** Given the scarcity of Canadian studies that deal with these issues and the specificity of a study that examines the first generation of adolescents to have lived with HIV infection from birth, this study clearly addresses an immediate need and will contribute to the advancement of knowledge in this area. The study will begin by establishing the developmental characteristics of adolescents living with a chronic disease that affects not only their health but also their personal and sexual interactions. From a methodological standpoint, this study is highly innovative in that it proposes to qualitatively analyse the developmental trajectories of these adolescents from a chronological (longitudinal) perspective. To our knowledge, only one quantitative longitudinal study has focused on this unique population. The results of this study will be used to establish an education and prevention program that takes into account the developmental issues facing these adolescents; they may also serve as a model for studies and intervention programs in other places where vertical transmission is still taking place, both in Canada and in Europe.

**Dates:** January 2007 – January 2009

**Funding Program:** Fonds Québécois de la Recherche sur la Société et la Culture (FQRSC) Operating grant and Fonds de la recherche en santé du Québec (FRSQ) operating grant

**Source:** Ontario HIV Treatment Network (OHTN) database

**PROJECT R13:**

**Title:** *Advancing HIV services research: Expanding Andersen's health service utilization framework*

**Principal Investigator:** Dr. Catherine Anne Worthington

**Abstract:** HIV services research and evaluation have shown that in order to be effective, HIV services need to be tailored to the specific contexts, cultures and locales of populations infected and at risk for infection to HIV through collaborative research endeavours, particularly since many of these populations are vulnerable or marginalized. The goal of this five-year program of research, supported by a CIHR New Investigator Award, is to conduct a series of collaborative and interdisciplinary research projects to improve HIV health services for specific groups. Two projects focus on services for those living with HIV, and two projects focus on services for vulnerable populations. The first project (funded by CIHR for 2003-2005) will provide rehabilitation and HIV professionals with information on the ways in which rehabilitation services could improve health care for those living with HIV. The second project (funded by SSHRC for 2003-2006) will provide HIV clinicians with information on ways to improve clinical research practices for HIV patients. The third research project (submitted to CIHR) will provide information to Aboriginal and HIV service providers on the knowledge, attitudes, experiences, and beliefs of Ontario Aboriginal women about HIV and HIV risks to assist in services development for this vulnerable population. The fourth research project will provide a team of HIV and street youth agencies with information on the spectrum of street-youth in Calgary, their HIV and health risks, strengths, coping mechanisms, and service needs. All of these projects are collaborative in nature with direct participation of service providers and/or members of the populations under study to ensure knowledge exchange and timely uptake of research results.

**Dates:** July 2005 – June 2010

**Funding Program:** CIHR Operating Grant

**Source:** CAHR database

**PROJECT R14:**

**Title:** *AHFMR Population Health Investigator: HIV Services Research*

**Principal Investigator:** Dr. Catherine Anne Worthington

**Abstract:** The goal of this three year program of research, supported by an AHFMR Population Health Investigator salary award, is to conduct a series of collaborative and interdisciplinary research projects to improve HIV health services for specific groups. One study will provide a team of HIV and street youth agencies with information on the spectrum of street youth in Calgary, their HIV and health risks, strengths, coping mechanisms, and service needs. The second will investigate HIV prevention and care needs of newcomers to Calgary from HIV endemic countries in sub-Saharan Africa. Both studies are collaborative in nature with direct participation of service providers and members of the populations under study to ensure knowledge exchange and timely uptake of research results.

**Dates:** July 2005 – June 2017

**Funding Program:** Alberta Heritage Foundation for Medical Research (AHFMR) Career Scientist Award

**Source:** CAHR database

**PROJECT R15:**

**Title:** *AIDS Committee of Durham Region KTE Day*

**Principal Investigator:** Peter Richtig

**Abstract:** Not available

**Date:** 2009

**Funding Program:** n/a

**Source:** OHTN database

**PROJECT R16:**

**Title:** *AIDS in the 21st century or efforts at decoding a pandemic*

**Principal Investigator:** Jason T Szabo

**Co-investigators:** Didier Fassin and Norbert J. Gilmore

**Abstract:** In recent memory, few illnesses have enjoyed as high a profile as AIDS. Even as scientists and clinicians have struggled to understand this disease, social scientists have explored its personal, social, economic, and political impact on different communities and societies. Yet probably because of the complexity and breadth of AIDS, there have been no recent comprehensive studies of its history. My clinical experience and historical training have led me to want write a series of papers exploring the relationships between the AIDS pandemic and the social and scientific structures of the late twentieth century. Among the topics that will be addressed are: the history of antiviral drug development, marketing, and distribution; the responses of different constituencies to dying AIDS patients; the complex and evolving relationship between public health initiatives and AIDS; and finally, the decisive role that AIDS has played in the creation of a modern discourse on health rights and the development of trans-national activist communities. Examining what we have already 'been through' will permit better understanding of medicine while helping us judge what strategies have best dealt with this devastating problem.

**Dates:** April 2006 – March 2009

**Funding Program:** CIHR Fellowships in Priority Announcement: In the Area of Health Services/Population Health HIV/AIDS Research

**Source:** CIHR database

**PROJECT R17:**

**Title:** *Alcohol Use by Aboriginal Persons Living with HIV/AIDS and its Association with Access to Care and Treatment*

**Principal Investigators:** Renée Masching and Colleen A. Dell

**Co-Principal Investigators:** John Egan; Nancy Gros-Louis, David L. Lee, Tracey Prentice, and Lyanna Storm

**Abstract:** This proposal has been written to support the Canadian Aboriginal AIDS Network's (CAAN) comprehensive research agenda which includes inquiring into health service delivery merits and issues regarding Aboriginal people with HIV/AIDS (APHAs) who use alcohol or are perceived to be using alcohol. Since 1997, CAAN has completed several research projects, many of which have been funded by the CIHR. In *Canadian Aboriginal People Living with HIV/AIDS: Care, Treatment and Support Issues* (Jackson & Reimer, 2005), prejudice was found to be prevalent among primary healthcare providers where APHAs are concerned. Recommendations by APHA participants point directly to ways in which access to and delivery of services can be improved. Therefore, the purpose of this grant proposal is to undertake research to determine the association between alcohol use and access to services from the perspectives of Aboriginal persons living with HIV/AIDS and service providers using a mixed methodology approach. In turn, these research findings, analysis and conclusions will be used to influence health service delivery including cultural competency training for healthcare practitioners.

**Dates:** April 2008 – March 2011

**Funding Program:** CIHR HIV/AIDS Community-Based Research Program – Aboriginal – Operating Grant

**Source:** CIHR database

**PROJECT R18:**

**Title:** *An IHPREG Pilot Study: Feasibility of the Ontario HIV Pre-conception Cohort Study*

**Principal Investigator:** Mona R. Loutfy

**Co-investigators:** Jonathan B. Angel, Ahmed M. Bayoumi, Sean A. Bitnun, Jason C. Brophy, Adriana Carvalhal, Saara Greene, Shari L Margolese, Khatundi I. Masinde, Kellie E. Murphy, Trent S Newmeyer, Janet M. Raboud, Kenneth L. Rosenthal, Lena Serghides, Fiona M Smail, and Mark H. Yudin

**Abstract:** The decrease in death rates due to HIV drug therapy has led to decreases in transmission of HIV from mother to child. In addition, the increasing proportion of HIV-positive Canadians being women of child-bearing age, have led many HIV-positive Canadians to consider planning pregnancies. As a result, increasing pregnancies amongst HIV-positive women lends itself to a tremendous opportunity for multiple areas of research in all the stages of pregnancy including in labour and delivery and after childbirth to accompany the research before the childbirth stage. One of the main goals of this catalyst grant is to develop a research project of HIV-positive individuals and couples who are planning pregnancies in Ontario and to test the research documents and feasibility. The other main goal of this catalyst grant is to foster and form the team which will involve: 1) organizing regular group meetings, finalizing terms of reference, preparing a summary of meeting discussions, creating newsletters, as well as assisting team researchers to communicate with study sites and the community; and 2) creating a community advisory board that will advise on the various team research projects. The proposed research project is directly aligned with two of the CIHR HIV/AIDS Research Initiative's priorities: 1) health systems, services and policy; and 2) resilience, vulnerability and determinants of health. The project is also aligned with the Initiative's Health Service and Population Health Funding Stream as it seeks to: 1) assess and maximize the fertility health services for HIV-positive individuals living in Ontario, 2) inform policy in the area of fertility and HIV, 3) assess the population of HIV-positive individuals interested in planning pregnancies and 4) build capacity in the area of fertility research, service and health promotion; all aimed to improve Ontarians' lives and care.

**Dates:** March 2010 – February 2011

**Funding Program:** Catalyst Grant: Infection and Immunity – HIV/AIDS Research Initiative – Health Services/Population Health Stream

**Source:** CIHR database

**PROJECT R19**

**Title:** *BC Centre for Excellence in HIV/AIDS*

**Principal Investigator:** Julio Montaner

**Abstract:** Not available.

**Dates:** 2009-2010

**Funding Program:** CIHR Knowledge Translation Award

**Source:** BC Centre for Excellence (BCCfE) database

**PROJECT R20:**

**Title:** *Chronological analysis of the affective/sexual trajectories of adolescents living with HIV/AIDS since birth*

**Principal Investigator:** Kimberly H.Y. Wong

**Abstract:** Not available.

**Dates:** 2008

**Funding Program:** Canada Graduate Scholarships Program – Master's Awards

**Source:** Social Sciences and Humanities Research Council of Canada (SSHRC)



**PROJECT R21:**

**Title:** *Angiogenesis and adverse pregnancy outcomes in women with HIV, a pilot study*

**Principal Investigator:** Lena Serghides

**Co-investigators:** Mona R. Loutfy, Kellie E. Murphy, and Mark H. Yudin

**Abstract:** With HIV increasingly becoming a manageable chronic disease, having a family has become a possibility and an issue of great importance to HIV-positive women. However, HIV-positive women have a higher risk for having pregnancy complications including pre-term labour and low birth weight babies, both of which can endanger the health of the baby. Very little research has focused on understanding why this is so. Our research will try to determine if HIV infection affects the development of the placenta and the blood supply system to the baby. We will do this by monitoring the levels of certain factors called angiogenic factors that are involved in the development of blood vessels. Our work may be useful in developing diagnostic tests to identify women that are at risk of developing pregnancy complications early in their pregnancy, so they can receive appropriate attention to ensure the best outcome for the baby.

**Dates:** 2009 and March 2010 – February 2011

**Funding Program:** Catalyst Grant: Infection and Immunity – New Investigator Catalyst Grant

**Source:** CIHR database

**PROJECT R22:**

**Title:** *Assessing the impact of food insecurity and malnutrition on HIV treatment outcomes*

**Principal Investigator:** Aranka Anema

**Co-investigators:** Julio S. Montaner and Robert S. Hogg

**Abstract:** Current HIV treatment, known as antiretroviral therapy, has successfully reduced illness and death among HIV-infected individuals for over one decade. However, an increasing body of evidence suggests that food insecurity and malnutrition may have a significant adverse impact on HIV patient treatment outcomes. Few studies have been conducted on this topic worldwide. In order to ensure that patient outcomes are optimized in Canada and internationally, there is an urgent need to understand the effect of food insecurity and malnutrition on HIV progression and mortality. The British Columbia Centre for Excellence in HIV/AIDS (BC-CfE) is one of Canada's leading clinical, laboratory and epidemiological research centres. It manages the procurement and distribution of anti-HIV drugs for all HIV-positive people in the province. The proposed research aims to assess the impact of food insecurity and malnutrition on survival, immunological status and virological change among patients receiving HIV treatment in BC. The research will draw upon the BC-CfE's expertise in molecular biology, clinical care, statistic and epidemiological analysis. It will be conducted in close collaboration with HIV-related community-based organizations. Findings from this study will be widely disseminated to academic audiences through publication in peer-reviewed journals; to clinical and policy audiences through publication in the BC-CfE's monthly newsletter; and to community groups through stakeholder meetings. Study findings from the proposed project will be relevant to public health managers and clinicians throughout Canada. It will contribute to the Canadian government's aim of promoting evidence-based medicine and of providing optimal treatment and support to people living with HIV/AIDS.

**Dates:** May 2009 – August 2012

**Funding Program:** CIHR Vanier Canada Graduate Scholarships

**Source:** CIHR Database

**PROJECT R23:**

**Title:** *Assessment of pain, pain-related treatment needs and barriers to care among individuals living with HIV/AIDS*

**Principal Investigator:** Dr. Lorraine Overduin

**Abstract:** Not available.

**Dates:** March 2008 – October 2008

**Funding Program:** Ontario HIV Treatment Network

**Source:** CAHR database

**PROJECT R24:**

**Title:** *Best Practices in the Meaningful Involvement of People with HIV/AIDS who are Users of Illicit Drugs*

**Principal Investigators:** Barbara L Paterson, Julie A. Dingwell, Monique Y. Fong, and Lois A. Jackson

**Co-investigators:** Richard Elliott; Leslie A. Jeffrey, Ralf Jurgens, Joannah M. Lang, Gayle M. MacDonald, and Christine Porter

**Abstract:** Meaningful involvement is the inclusion of service users in the development, adoption and/or evaluation of programs and policies in non-profit community organizations that serve them. Governments and community organizations alike have acknowledged that people with HIV/AIDS who use illicit drugs (henceforth called “the population of interest”) have a great deal to contribute to the planning, adoption and evaluation of programs, research and policies that affect them; however, in much of Canada, this rhetoric has not achieved practical application, largely because there is a lack of evidence to guide such involvement. The seed grant will support the team of academic and community researchers in developing a proposal for future submission to CIHR as a community-based research project to answer the following research question: What can we learn from recent and emerging community practice within a small city of rural Atlantic Canada, and from the insights of service users and providers, about effective strategies to ensure the meaningful involvement of people with HIV/AIDS and users of illicit drugs in community organizations that serve them? The setting of the research will be the “community” of HIV/AIDS community organizations in Atlantic Canada.

**Dates:** November 2008 – October 2011

**Funding Program:** CIHR HIV/AIDS Community-Based Research Program – General – Catalyst Grant

**Source:** CIHR database

**PROJECT R25:**

**Title:** *Building International Research Partnerships in HIV & Rehabilitation: Bridging Practice and Research*

**Principal Investigators:** Kelly K. O'Brien and Patricia E. Solomon

**Co-investigators:** William J. Chegwidden, Chloë M. Orkin, Catherine A. Worthington, and Elisse Zack

**Abstract:** Our goal for this proposed meeting is to develop an international collaborative research agenda that will address research priorities in HIV and rehabilitation by establishing sustainable partnerships with researchers, clinicians, and community organizations in Canada and the United Kingdom (UK). Specific objectives for the three-day meeting are: 1) To facilitate knowledge transfer and exchange (KTE) among researchers and clinicians on HIV and rehabilitation research, clinical practice, and service delivery in Canada and the UK; 2) To determine the cross applicability (e.g. similarities and differences) of research and clinical practice in HIV and rehabilitation and formulate recommendations to advance programs and policies to enhance care, treatment and support for people living with HIV in the UK and Canada; 3) To develop a plan for a collaborative international research proposal that will address at least one of the six research priorities in HIV and rehabilitation for adults living with HIV recently identified by a national scoping study; and 4) To develop a collaborative research team of UK and Canadian researchers, clinicians, policy makers, and people living with HIV that will generate an international HIV and rehabilitation research agenda. This will be a sustainable collaboration that will build on existing areas of expertise and formally enhance linkages between UK and Canadian researchers termed the Canada-UK HIV and Rehabilitation Research Collaborative.

**Dates:** May 2009 – April 2010

**Funding Program:** CIHR Meetings, Planning and Dissemination Grant: Knowledge Translation

**Source:** CIHR database

**PROJECT R26:**

**Title:** *Building Partnerships and Increasing Community Capacity for Conducting HIV/AIDS, Health and Housing Instability*

**Principal Investigators:** Saara Greene and Clemon George

**Co-investigators:** Steve Byers, David C. Este, Josephine B. Etowa, Jacqueline C. Gahagan, Winston C. Husbands, Stephen W. Hwang, Randy Jackson, Jay Koornstra, Erica S. Lawson, Jessica F. Leech, Laverne E Monette, Sean B. Rourke, Ruthann Tucker, and Catherine A. Worthington

**Abstract:** The proposed partnership is aimed at building strong and sustainable relationships between academics, community based researchers, health and social services, and community members who have a shared interest in the health and well-being of people living with HIV/AIDS from African and Caribbean communities in Canada. This partnership will succeed in building the research capacity of our community partners, advisory committee and peer researchers from African and Caribbean communities. We also aim to build partnerships that reflect a shared commitment to applied research and to increase the research capacity of the African and Caribbean HIV positive community in Canada. To this end, this project will lead to the development of a research plan and proposal in the area of HIV/AIDS, health and housing instability in Canada's African and Caribbean Communities. The partnership will enable us to highlight the housing experiences and needs of African and Caribbean communities and to address specific concerns including: high rates of housing instability; stigma and racial discrimination; and barriers to health and social services for PHAs who lack supportive and/or stable housing. Moreover, the research partnership will also support a process of identifying those communities within the larger African and Caribbean communities (e.g. women, families, MSM) who are the greatest risk of homelessness and housing instability.

**Dates:** April 2008 – March 2009

**Funding Program:** CIHR HIV/AIDS Community-Based Research Program – General – Catalyst Grant

**Source:** CIHR database

**PROJECT R27:**

**Title:** *Capacity Building through Enhanced Operating Grants in HIV/AIDS*

**Principal Investigator:** Robert S. Hogg

**Co-investigators:** Thomas H. Kerr, Julio S. Montane, and Evan Wood

**Abstract:** The primary objective is to establish a new population-based cohort of 500 HIV-infected men and women accessing antiretroviral therapy via the BC HIV/AIDS Drug Treatment Program in order to evaluate the impact of supportive health service (like methadone treatment, MAT/ DOT, physician care, pharmacy supervision, and addiction services) and ancillary services (quarterly CD4 and viral load test, and drug resistance testing as required) on adherence and response to antiretroviral therapy.

**Dates:** July 2006 – March 2009

**Funding Program:** CIHR Capacity Building through Enhanced Operating Grants in HIV/AIDS

**Source:** CIHR database

**PROJECT R28:**

**Title:** *Care and Management of Persons Living with HIV*

**Principal Investigator:** Dr. Sharon Walmsley

**Abstract:** My focus on research includes:

1. optimal use of ARV
2. coinfections with herpes and HIV
3. adverse effects of ARV therapy, primarily lipodystrophy
4. bone disease and HIV
5. HIV and women, including HPV, fertility, pregnancy, response to therapy

**Dates:** April 2006 – March 2011

**Funding Program:** OHTN

**Source:** CAHR database

**PROJECT R29:**

**Title:** *CIHR Centre for REACH in HIV/AIDS (Research Evidence into Action for Community Health) / Centre des IRSC d'action sur le VIH/sida (Mise en pratique des résultats de la recherche en santé communautaire)*

**Principal Investigators:** Sean B. Rourke, Barry D. Adam, Ahmed M. Bayoumi, Jacqueline C. Gahagan, Robert S. Hogg, Ana Johnson, Rosemary J. Jolly, Susan A. Kirkland, Marina B. Klein, Gerry J. Mugford, Eric Mykhalovskiy, Stephanie A. Nixon, Michael Orsini, Joanne Otis, and Janice L. Ristock.

**Co-investigators:** Chris P. Archibald, Jean Bacon, Louise C. Balfour, Greta R. Bauer, Martin Blais, David Brennan, Donna E. Bulman, Roy Cain, John Cairney, Peter C. Coyte, Natasha S. Crowcroft, Margaret C. Dykeman, Laurie Edmiston, Richard Elliott, Sarah Flicker, Sandra L. Gardner, Saara Greene, Gregory E. Harris, Trevor A. Hart, Winston C. Husbands, Lois A. Jackson, Randy Jackson, Michel R. Joffres, Barbara L. Johnston, Jeff Karabanow, Rupert Kaul, Rick A. Kennedy, Jay Koornstra, Hartmut Krentz, Lynne E. Leonard, Alan T. Li, Mona R. Loutfy, Jo-Ann M. MacDonald, Victor J. Maddalena, Muhammad Mamdani, Frank McGee, Caroline Miller, Edward J. Mills, Margaret E. Millson, Nicole Mittman, Samuel Noh, Kelly K. O'Brien, Patricia O'Campo, John D. O'Neil, Cynthia K. Patton, Anita R. Rachlis, Kate Shannon, Paul A. Shuper, Ingrid S. Sketris, Michael Sobata, Carol J. Strike, Wangari E. Tharao, Robb Travers, and Ruthann Tucker.

**Abstract:** The proposed CIHR Centre for REACH in HIV/AIDS is a collaborative, national partnership among leading health researchers in Canada in a wide array of disciplines from over 20 academic institutions, people living with HIV, front-line service providers, knowledge translation and exchange (KTE) specialists, and federal, provincial and regional policy makers. Our vision is to bring together critical practice, research, and policy skills as well as the lived experience of people with HIV to enhance the health of individuals and communities

disproportionately affected by HIV. Our mission is to provide the core infrastructure support required to: engage community, policy-makers and researchers in interdisciplinary teams; break down geographical, theoretical, and conceptual barriers; and solve problems in the use, uptake and implementation of research evidence. Our work will strengthen policy, programs and practices, and make a measurable difference in the health and well being of people with HIV and communities most vulnerable to HIV. Using an interdisciplinary approach and working collaboratively at the intersections of social science, population health and health services research, the Centre will use an interdisciplinary approach to focus on three thematic areas: (1) Understanding the problems and factors driving the epidemic by reaching beyond individual behaviour to explore the impact of broader structural and cultural factors as well as the social determinants of health (i.e., poverty, stigma, discrimination, racism and gender inequality) on risk, resilience, behaviour and access to health services within communities; (2) Finding innovative and practical solutions by taking an integrated approach to prevention and treatment, developing evidence-based interventions and strategies; and (3) Moving research evidence into action by developing effective KTE strategies, relationships and networks and having a measurable impact on policy and practice.

**Dates:** June 2009 – May 2014

**Funding Program:** CIHR HIV/AIDS Population Health and Health Services

**Source:** CIHR database



**PROJECT R30:**

**Title:** *CIHR Clinical Trials Network in HIV/AIDS*

**Principal Investigators:** Martin T. Schechter, Aslam H. Anis, and Julio S. Montaner

**Co-investigators:** Jonathan B. Angel, D. W. Cameron, Curtis L. Cooper, Michael J. Gill, Marianne Harris, Marina B. Klein, Richard R. Lalonde, Mona R. Loutfy, Jean-Pierre Routy, Rafick-Pierre Sekaly, Mark A. Wainberg, and Sharon L. Walmsley

**Abstract:** For nearly two decades, the Canadian HIV Trials Network (CTN) has been central to Canada's research response to HIV/AIDS. The CTN is proud to have created an organization that encourages and facilitates high quality investigator-driven research, while linking or connecting resources and expertise from across Canada. And the need for reliable and well-structured trials has not diminished in the current context. While research alone has tremendous value, its worth compounds when it translates into new knowledge, better treatments and improved services and public policies. The CTN has developed a plan for its next funding cycle (2008-2013) that includes five strategic priorities and the actions needed to realize them. Critiques from past external reviews, recommendations from the CTN's operational review conducted in 2006, and ideas garnered from CIHR's RFA planning session in May in Ottawa, have all been taken into consideration in setting the Network's 5-year agenda. These five strategic priorities create a framework for action and continuous improvement: 1. Deliver on the value of a Canadian clinical trials network for HIV/AIDS research. 2. Ensure the CTN is a high-performance, service-oriented and accountable organization that supports researchers and scientific excellence. 3. Enable scientific excellence by facilitating HIV/AIDS clinical trials in Canada and beyond. 4. Translate and transfer scientific knowledge into action. 5. Position the CTN to be an integral player in *The Federal Initiative to Address HIV/AIDS in Canada* (FI).

**Dates:** April 2008 – March 2013

**Funding Program:** CIHR Clinical Trials Network in HIV/AIDS

**Source:** CIHR database

**PROJECT R31:**

**Title:** *CIHR Team Grant in Co-occurring polysubstance abuse, psychosis and viral infection*

**Principal Investigator:** William G. Honer

**Co-investigators:** Alasdair M Barr, Reinhard M. Krausz, Julio S. Montaner, and Allen E. Thornton

**Abstract:** Polysubstance abuse and serious mental illnesses such as psychosis are linked with high prevalence rates for hepatitis C virus (HCV) and human immunodeficiency virus (HIV). This proposal concerns the opportunity to shape the future of clinical research in these co-occurring disorders by changing the paradigm of research. We propose a fully integrated, life history strategy for simultaneous investigation of polysubstance abuse, psychosis, and viral infections. This approach will emphasize assessment of risk factors related to good or poor outcomes for co-occurring disorders' resolution versus persistence of psychosis, and the extent of adherence with highly active antiretroviral treatment for reduction of HIV load. The results of the project will have significant implications for the delivery of health services to those affected by polysubstance abuse, psychosis, and viral infection.

**Dates:** July 2008 – June 2009

**Funding Program:** CIHR Team Grant: Substance Abuse Prevention and Treatment – LOI

**Source:** CIHR database

**PROJECT R32:**

**Title:** *CIHR Team in HIV therapy and aging*

**Principal Investigators:** Dr. Hélène Côté, Dr. David Burdge, Dr. Peter Lansdorp, and Dr. Deborah Money

**Co-investigators:** Dr. Ariane Alimenti, Dr. Marianne Harris, and Dr. Patricia Janssen

**Abstract:** Globally, there are ~18 million women living with HIV. The vast majority of these women are of child-bearing age and ~3 million give birth annually. Treatment of HIV-infected pregnant women with antiretrovirals (ARV) reduces the rate of perinatal transmission from ~25% to <1% and is critical for the health of women who are at risk for serious opportunistic infections and/or death. Current treatment guidelines recommend combination ARV therapy for all pregnant women infected with HIV. The international community is rapidly scaling up the accessibility of ARVs in the developing world and millions of infants will be soon born having had in utero ARV exposure. While it is clear that ARVs are very effective at preventing HIV transmission, very little is known about the potential adverse effects of exposing developing fetuses and infants to these drugs. HIV ARVs may have an adverse effect on the developing embryo, fetus or infant. Any potential effects of the drugs are expected to be greatest when exposure occurs during rapid development and growth. Consequently, it is of particular importance to investigate the impacts of ARV on these children. In humans, we already know that HIV ARV can cause DNA molecular changes that are strikingly similar to those occurring with aging, and that are associated with genetic diseases or conditions whose prevalence increases with age, such as degenerative illnesses and heart diseases. The goal of this Emerging Team proposal is to develop a research program focused on the potential effect of HIV ARVs in modulating aging-related biological phenomena in the pediatric population, namely HIV-uninfected infants exposed to HIV drugs perinatally (before and after birth) and of HIV-infected children receiving ARV therapy. To our knowledge, ours is the only group in Canada working on issues related to the toxicity of perinatal and pediatric HIV ARV exposure and is uniquely positioned to undertake the research program supported by this Team grant.

**Dates:** October 2007 – September 2012

**Funding Program:** CIHR Operating Grant

**Source:** CIHR database

**PROJECT R33:**

**Title:** *CIHR Team in HIV Treatment Outcomes: The Canadian Observational Cohort (CANOC) Collaboration*

**Principal Investigators:** Robert S. Hogg, Marina B. Klein, Nimâ N. Machouf, Sean B. Rourke, and Christos M. Tsoukas

**Co-investigators:** Gloria R. Aykroyd, Louise C. Balfour, Ahmed M. Bayoumi, John Cairney, Liviana Calzavara, Curtis L. Cooper, Kevin A. Gough, Silvia A. Guillemi, Richard P. Harrigan, Marianne Harris, George E. Hatzakis, Donald L. Kilby, Viviane D. Lima, Mona R. Loutfy, Edward J. Mills, Margaret E. Millson, Julio S. Montaner, David M. Moore, Janet M. Raboud, Anita R. Rachlis, Stanley E. Read, Irving E. Salit, Marek J. Smieja, Benoit Trottier, Sharon L. Walmsley, and Wendy L. Wobeser

**Abstract:** Our application for an emerging team grant proposes an integrated research, mentoring, education and knowledge translation program to undertake policy-relevant research regarding treatment and management practices for person with HIV/AIDS in Canada. This program will evaluate the impact of antiretroviral care on the health and well-being of persons infected with HIV/AIDS in various regions of Canada, will assist in the training of new health practitioners and researchers, and will disseminate research findings in ways that will improve current practice guidelines for treatment and care. Through these three objectives, we hope to foster research collaborations between interested Canadian researchers, to enhance existing research and training opportunities for graduate students, post-doctoral fellows and clinicians in the country, and to inform clinicians and persons living with HIV/AIDS in all regions of the country about our findings that may affect current treatment and management practices.

**Dates:** October 2007 – September 2012

**Funding Program:** CIHR Emerging Team Grant Program – HIV/AIDS

**Source:** CIHR database

**PROJECT R34**

**Title:** *CIHR Team in HIV/HCV Co-infection*

**Principal Investigators:** Dr. Babita Agrawal, Dr. Rakesh Kumar, and Dr. Christopher Richardson

**Co-investigators:** Dr. Christopher Powell and Dr. D. Lorne J. Tyrrell

**Abstract:** Human immunodeficiency virus (HIV) causes devastating viral infection culminating in acquired immune deficiency syndrome (AIDS). Despite significant progress in treatment and prevention initiatives, the worldwide incidence of HIV infection continues to increase. Among HIV infected people, hepatitis C virus (HCV) frequently causes co-infection due to shared routes of transmission. The implications of HIV-HCV co-infection are severe on the health, quality of life, and treatment options leading to high mortality of the afflicted patients. This research proposal outlines new approaches to the study of this very important issue in HIV/AIDS. The focus of this proposal is to understand complexity of mechanisms underlying the disease, study immunological and neurological interactions in HIV-HCV co-infection, develop novel animal models to study the pathogenesis in co-infections, and investigate novel preventive and therapeutic strategies to improve the treatment and quality of life, and increase the life expectancy of HIV infected people in Canada and worldwide. The innovative animal models will provide an opportunity for Canadian scientists to make unique contributions to the study of these diseases and to collaborate with leading scientists worldwide. This project will also contribute significantly to the knowledge and the development of immunotherapy and vaccine candidates for the treatment of HIV-HCV infection. Our multidisciplinary approach combining various expertises will increase the potential for success in fighting this dreaded disease.

**Dates:** October 2007 – September 2012

**Funding Program:** CIHR Operating Grant

**Source:** CAHR database

**PROJECT R35:**

**Title:** *CIHR Team in the Study of Acute HIV Infection in Gay Men*

**Principal Investigators:** Michael L. Rekart and Babak Pourbohloul

**Co-investigators:** Daniel Coombs, Benedikt Fischer, Mark P. Gilbert, Mel Krajden, Gina S. Ogilvie, Valencia Remple, and Terrence A. Trussler

**Abstract:** People newly infected with HIV are at their most infectious phase but mostly unaware of their infection status at this time. This is because routine tests for HIV infection are unable to identify persons in this phase as being infected. Fortunately, new laboratory testing methods can now identify HIV infection at a much earlier stage. This makes it possible to offer programs to these early infected individuals, including support to prevent transmission of HIV to others. An exciting new team of researchers has been formed to work with the gay community in British Columbia to strengthen prevention programs for persons with new infections from this community. The team members are from the biomedical sciences, public health, the social sciences, and researchers based in the community itself. The program will investigate gay men's understanding of HIV testing, their motivations and challenges in taking an HIV test, and the impacts of new testing technologies that are able to identify very infectious persons, on their testing practices. This information will be used to design messages to encourage gay men in BC to be tested for HIV. People diagnosed with early HIV infection will be offered enhanced prevention programs, which will be designed with gay community organizations and prevention experts. Gay men identified with early infections will also be interviewed to better understand their needs to fine tune the prevention programs. An important aspect of this program will be to investigate how to follow up with the sexual partners of those infected in the most efficient manner so that these partners can be offered access to prevention and follow up programs as soon as possible. A key aspect of the research will involve the evaluation of these new programs so that they can be continually improved. The results of this research program will also be used to promote similar programs for people with new HIV infections from other communities in BC and Canada.

**Dates:** October 2007 – September 2012

**Funding Program:** CIHR Emerging Team Grant Program – HIV/AIDS

**Source:** CIHR database

**PROJECT R36:**

**Title:** *Community-University Exposition*

**Principal Investigator:** Budd L. Hall

**Abstract:** CUexpo 2008 is a gathering of community and university researchers who work together in a partnership mode. The May 4-7 event will be the largest such gathering in Canadian history. The conference brings together interdisciplinary and multi-sectoral teams together working on complex health, social, sustainability and economic issues. One of the CUexpo core sponsors is the Community-Campus partnerships for Health. Community Research teams will be presenting on the themes of HIV/AIDS, Health, Housing and Homelessness, Social Determinants of Health, Population Health and related areas. The focus is on the process of partnership development, ethics, methods and knowledge synthesis and dissemination.

**Dates:** May 2008 – April 2009

**Funding Program:** CIHR Meetings, Planning and Dissemination Grant: Partnerships and Citizen Engagement

**Source:** CIHR database

**PROJECT R37:**

**Title:** *Comprehensive intervention strategies with young HIV-positive women in Canada: individual, social, and cultural factors that make sexual health promotion programs successful*

**Principal Investigator:** Sarah J. Fielden

**Co-investigators:** Jean A. Shoveller and Joanne Otis

**Abstract:** Despite extensive global efforts to combat HIV/AIDS through prevention, treatment, and care services, HIV infection rates continue to rise and approximately 25% of new infections are among young people. Young women are especially vulnerable to infection due to developmental, biological, social, and cultural factors contributing to the feminization of the pandemic. Research that extends beyond behavioural models of sexual health promotion is urgently needed to help curb the spread of HIV and provide support and care for those already living with HIV/AIDS. This proposed research is Pan-Canadian and aims to both develop and evaluate innovative sexual health interventions with HIV-positive young women. Given evidence of the multiplicity of factors impacting on health and wellness outcomes for women living with HIV, the objectives of the study include examining social and community influences. As a qualitative program of research, this work will enhance the understanding of developing successful interventions with groups of marginalized young women through using qualitative and community-based methodologies. This will involve combining various qualitative methods including naturalistic observation and in-depth interviews with young women and other key stakeholders such as family members and service providers. It will use intervention mapping, a step-wise systematic method of determining relevant stakeholders, community needs, program directions, and evaluation. The proposed research explores and addresses support and service needs of young women living with HIV in various geographic and cultural communities as it relates to their sexual health. In addition to the development of theoretically and empirically-based interventions, the project will serve to illicit cultural knowledge including understandings about the daily experiences of these young women in relation to their medical institutions, community-based services, and family systems.

**Dates:** June 2009 – May 2012

**Funding Program:** CIHR Fellowships in Priority Announcement: In the Area of Health Services/Population Health HIV/AIDS Research

**Source:** CIHR database

**PROJECT R38:**

**Title:** *Conceptualizing HIV-related stigma within communities of gay and bisexual men*

**Principal Investigator:** Dr. Marney McDiarmid

**Abstract:** Not available.

**Dates:** June 2008 – May 2010

**Funding Program:** Ontario HIV Treatment Network (OHTN) Student Award

**Source:** CAHR

**PROJECT R39:**

**Title:** *Contextual factors affecting HIV/AIDS treatment and prevention amongst recent immigrants from endemic countries*

**Principal Investigator:** Tam T. Donnelly

**Co-investigators:** Katharina A. Kovacs Burns, Daniel W. Lai, Paul Schnee, and Catherine A. Worthington

**Abstract:** Over the past few years, Alberta has had an increase in the number of immigrants with HIV or AIDS, who came from countries with high numbers of people with HIV/AIDS. We need to find ways to help these people take care of their health and HIV/AIDS, as well as stop the spread of HIV. The purpose of this study is to (a) find out how recent immigrants living in small towns in Alberta seek help to manage their HIV/AIDS, prevent the spread of HIV, and deal with social stigma; and (b) find out how to be effective in meeting the needs of recent immigrants living with HIV/AIDS, and in promoting the use of HIV prevention activities. There are five questions which this study will ask related to the purpose, as well as to what kinds of things influence how recent immigrants access health care and social support services, and what or who encourages them to seek the right kinds of help for their HIV/AIDS and prevent its spread. We will address these research questions from both the immigrant and the healthcare provider's perspectives using interviews. We want to recommend ways to strengthen Alberta's health delivery system and create supportive environments for recent immigrants to seek care and to prevent HIV/AIDS.

**Dates:** April 2007 – March 2009

**Funding Program:** CIHR Operating Grant

**Source:** CIHR database

**PROJECT R40:**

**Title:** *Cordon sanitaire or healthy policy?: Documenting and evaluating impacts of Canada's HIV screening of immigrants and refugees as a population health intervention strategy*

**Principal Investigator:** Laura M. Bisaillon

**Co-investigators:** Ronald Labonté and Dave Holmes

**Abstract:** That Canada's mandatory HIV testing of immigrant applicants and refugees is problematic from ethical, moral, human rights, health equity, and immigration law perspectives is supported by a burgeoning literature. Like Canada, the U.K., Australia and New Zealand introduced mandatory HIV testing of newcomers after 2000. The preliminary literature review shows that none of these countries has evaluated the impacts of mandatory HIV testing from the points of view of those tested. The central research question is: What are the impacts of the mandatory HIV screening policy that applies to all immigrant applicants and refugees to Canada since 2002? This project will 1) generate a new knowledge base on, and systematically document, the implications of testing on immigrants and refugees which has never been done before so as to inform and improve Canadian health policy decision-making; and 2) to assess the implications of mandatory HIV testing as a prerequisite for admission to Canada, setting these within broader discourses on social justice, political economy of health, globalization and human mobility, human security, and social and immigration policy. The preliminary groundwork for this bilingual research has been laid. This study is the first systematic documentation and critical appraisal of the consequences of the mandatory testing on immigrants to Canada and is directed to a range of audiences, including community, policy makers, researchers, educators, advocacy groups, and immigrants and refugees.

**Dates:** May 2005 – April 2011

**Funding Program:** CIHR Doctoral Research Award Area of Health Services/Pop. Health HIV/AIDS Research

**Source:** CIHR database



**PROJECT R41:**

**Title:** *Current and future burden of illness for treating HIV/AIDS in British Columbia*

**Principal Investigator:** Dr. Adrian Levy

**Co-Investigators:** Dr. Richard P. Harrigan, Dr. Robert Hogg, and Dr. Douglas James

**Abstract:** This research proposal aims to (a) estimate the current annual direct cost of treating HIV-infected persons in British Columbia (BC), (b) project this burden of illness over the patients' lifetime, and (c) develop a simulation model in which decision and health policy makers can estimate current and future annual treatment costs and evaluate the impact on costs of alternative prevention and treatment strategies. Since the advent of highly active antiretroviral therapy for treating HIV in 1996, persons infected with HIV/AIDS have experienced an increase in life expectancy. In addition, the incidence of new HIV cases in BC and throughout Canada has been stable or increasing for a number of years. Increasing life expectancy and increasing incidence each independently contribute to an increasing prevalence of HIV/AIDS in BC and Canada. With a growing prevalent population, there is a need among health planners for more accurate estimates of annual and lifetime direct medical costs for treating persons infected with HIV/AIDS. We propose to build a computer simulation tool that will compute estimates of these costs, as well as predict how they would change under various assumptions regarding treatment protocol, total number of persons infected, and demographic structure of the prevalent population. Our work will focus on Vancouver, BC, due to our access to high-quality population-based data from this area, as well as the fact that a disproportionately large number of Canadian persons infected with HIV/AIDS reside in Vancouver. However, our planning tool will be applicable to other jurisdictions with a single payer for health care.

**Dates:** October 2007 – September 2010

**Funding Program:** CIHR Operating Grant

**Source:** CAHR database

**PROJECT R42:**

**Title:** *Current issues facing the treatment of patients with non-B subtypes of HIV*

**Principal Investigator:** Vinh-Kim Nguyen

**Co-investigator:** Cécile L. Tremblay

**Abstract:** Millions of dollars are being poured into programs supporting the rapid scale-up of antiretroviral treatment (ART) in Africa. Yet, as this much needed support is dramatically increasing the number of people receiving life-saving treatment, substantial concern is emerging over the sustainability of such programs. One of the major reasons for this anxiety is the development of drug resistance that compromises treatment options for both individuals and populations. Over the course of the HIV/AIDS pandemic, HIV has evolved into various subtypes. One of the scientific community's greatest knowledge gaps around ART resistance is how the genetic variability of HIV may influence the development and transmission of resistant strains of the virus, especially in non sub-type B HIV strains. This is because most research on HIV resistance has occurred in North American and European settings where sub-type B is the predominant form of the virus, even though other subtypes, particularly C, are more prevalent in Africa. Various genetic subtypes of HIV may have differing resistance profiles, such that patients with certain subtypes may be more susceptible to developing drug resistance than patients of another subtype. Consequently, we increasingly feel that current prescribing practices may not be optimal for patients harbouring non-B strains. The objective of the meeting would be to review the evidence concerning ART resistance in non-B subtypes and to discuss ART treatment options with prescribing clinicians. As a result, we propose a workshop that will bring together expertise on non-B subtypes and ART resistance from three continents in order to consolidate our knowledge on the subject and identify priority research areas. A subsequent public talk will facilitate knowledge dissemination and translation by presenting the results of the workshop to practicing clinicians, researchers, and students.

**Dates:** September 2008 – August 2009

**Funding Program:** CIHR Meetings, Planning and Dissemination Grant – Planning Grant – Priority Announcement: Institute of Infection and Immunity

**Source:** CIHR database

**PROJECT R43:**

**Title:** *Desire, Place, Stigma, and Unsafe Sex: Understanding the Subculture of Men who use Gay Internet Cruise Sites*

**Principal Investigators:** Patrick O'Byrne and Dave Holmes

**Abstract:** In Canada, men who have sex with men (MSM) represent the largest proportion of new HIV infections, and sexual partnerships that are arranged via the Internet are described as contributing to this elevated infection rate. However, a review of the research that correlates the Internet and HIV-transmission revealed that it often excluded the perspective of MSM who live with HIV/AIDS (MSMHA). Consequently, many HIV advocacy groups have criticized researchers of further marginalizing an already stigmatized illness/group. In response to this, the first step of this project was to seek the guidance of Ontario's "Poz Prevention Group" in order to diminish these ethical/scientific issues. With such input, and the results of two previous CIHR funded studies in bathhouses and circuit parties, the objective of this project is to qualitatively explore the role and sequence of 'desire, place, stigma, and unsafe sex' as it relates to MSMHA who meet sexual partners via the Internet. The importance of this is that it incorporates the psychosocial nature of human sexuality by acknowledging that unsafe sexual practices are not always the outcome of simple decision-making processes that follow the rules of doing what is best for one's health. This research aims at exploring this sequence in an effort to gain a better understanding of the motivations of MSMHA so as to develop more culturally sensitive HIV prevention initiatives. In other words, the goal of this project is to better understand how desire helps guide the selection of specific sexual practices and places, and how this process is also guided by public and personal perceptions of stigma. Qualitative methods will be used to explore these four dimensions as they relate to MSMHA who arrange sexual contacts via the Internet. More specifically, this will involve analysis of the websites which are used to arrange sexual contacts, in addition to 45 in-depth qualitative interviews with men in Montréal, Ottawa, and Toronto.

**Dates:** March 2010 – February 2011

**Funding Program:** CIHR HIV/AIDS Bridge Funding – Biomedical/Clinical Stream

**Source:** CIHR database

**PROJECT R44:**

**Title:** *Development of a conceptual framework to enhance labour force participation for people living with HIV in Canada*

**Principal Investigator:** Catherine A Worthington

**Co-investigators:** Eileen J. McKee, Kelly K. O'Brien, and Elisse Zack

**Abstract:** Labour force participation and income support issues have been identified by people living with HIV (PHAs) and HIV specialists as one of the most pressing issues facing PHAs in Canada. While the links between health and labour force participation are complex, it is clear that labour force participation is an important social determinant of health. Labour force participation provides a means not only to income, but can also increase psychological health and quality of life through daily life structure and social linkages for adults living with HIV. However, barriers to work are numerous for PHAs, and development of labour force initiatives that promote increased opportunities for PHAs to participate in the labour force will require collaborative efforts of PHAs, rehabilitation healthcare professionals, policy makers, employers, and social program researchers. This study will lay the foundation for a planned program of research to develop and test a national labour force intervention for PHAs. The overall purpose of this study is to develop a conceptual framework of labour force participation for people living with HIV to inform the development of an innovative income support and labour force intervention aimed to enhance social participation for PHAs. To create this framework, we will conduct a literature (scoping) review of existing literature on return to work and labour force participation for PHAs, followed by a series of interviews and focus groups with PHAs, employers, insurers and policy makers to present findings from the literature, obtain data to develop a preliminary framework, attain feedback, and develop consensus on the conceptual framework. The results from this study will help shape the development of new programs and policies that will enhance the successful social participation for PHAs in Canada.

**Dates:** October 2007 – September 2009

**Funding Program:** CIHR Operating Grant – Priority Announcement: HIV/AIDS Research Initiative – Health Services/Population Health Stream

**Source:** CIHR database

**PROJECT R45:**

**Title:** *Development of new models for the delivery of antiretroviral therapy to injection drug users on the Downtown East Side of Vancouver.*

**Principal Investigator:** Dr. Haroutioun Krikor Tossonian

**Co-investigator:** Dr. Brian Conway

**Abstract:** The treatment of HIV-infected injection drug users (IDUs) presents multiple challenges, including problems of adherence to therapy and access to care. Adherence is predictive of successful virologic suppression by highly active antiretroviral therapy (HAART), and may be more difficult to achieve in IDUs. Directly observed therapy (DOT) is one strategy that has been proposed and implemented for increasing adherence to HAART and monitoring the multiple health issues associated with IDUs. However, the employment of certain strategies are still necessary a) to characterize patients that are not achieving virologic suppression, b) to improve the selection of patients entering treatment, c) to enhance the adherence of patients receiving treatment, and d) to demonstrate the long-term cost effectiveness of such strategies. By developing new models for the delivery of antiretroviral therapy to IDUs on the Downtown East Side of Vancouver, refinement and optimization of therapeutic approaches to HIV-infected IDUs enrolled in a methadone program could be achieved.

**Dates:** September 2005 – August 2008

**Funding Program:** CIHR Operating Grant

**Source:** CAHR

**PROJECT R46:**

**Title:** *Disability in the Context of HIV: Building a Foundation for an Instrument to Describe "Disability" Experienced by Adults Living with HIV*

**Principal Investigator:** Ms. Kelly O'Brien

**Co-investigators:** Dr. Aileen Mary Davis and Dr. Ahmed Mohamed Bayoumi

**Abstract:** Because of this, HIV may be considered a chronic disease containing fluctuating periods of wellness and illness. In addition, there may be a greater number of people living with the day-to-day health-related challenges of HIV and its treatments. A term that may be used to label these health-related challenges is "disability". Measuring the occurrence of "disability" with a questionnaire is important because it could promote a better understanding of these experiences, and help to improve the health of people living with HIV. But, healthcare providers currently cannot measure "disability" because the types of challenges that persons living with HIV experience are complex and not well understood. A better understanding of the meaning and experience of living with HIV is first needed to help healthcare providers know what type of questions should be included in a questionnaire to measure the health-related challenges of HIV. This study investigates the day-to-day health-related challenges (or "disability") that adults living with HIV face as a result of HIV and its associated treatments. Results of this study will include recommendations to help develop a questionnaire to measure these experiences. The experience of living with HIV will be investigated through focus groups and interviews with persons living with the disease. These results will be used to assess how well existing questionnaires used in the healthcare setting capture these experiences. Based on these results, recommendations will be made as to whether a new questionnaire needs to be developed, or whether an existing questionnaire can be modified so that healthcare providers can adequately measure "disability" for adults living with HIV.

**Dates:** September 2004 – May 2009 and September 2008 – August 2011

**Funding Program:** CIHR Operating Grant and Fellowships in Priority Announcement: In the Area of Health Services/ Population Health HIV/AIDS Research

**Source:** CAHR

**PROJECT R47:**

**Title:** *Double Discrimination: Refugees and Refugee claimants with AIDS/HIV+ in Canada*

**Principal Investigator:** Akm A. Ullah

**Co-investigators:** Ronald Labonté and Kevin Pottie

**Abstract:** Allowing HIV+ refugees to settle in Canada has become a concern amongst public health professionals and government officials, as it risks putting increasing strain on public health systems that are already under enormous pressure. These persons become 'refugees' within refugee communities, potentially facing a sort of double discrimination that can imperil their own and other people's health. At present, however, little is known empirically or even anecdotally about the extent of this risk. Primarily this research will seek to identify the ways in which refugee claimants may be discriminated against both generally and in relation to their known or feared HIV+ status, and their perceptions of and experienced health and social impacts of that discrimination. It will compare this experience against their descriptions of stigma faced in their countries of origin. Finally, it will attempt to determine the health care and treatment regimen for HIV/AIDS known to, and accessed by, refugee claimants in Canada, including treatments offered by their own ethnic communities; and their understanding of human rights relating to HIV/AIDS issues in Canada. The research questions and arguments will be addressed by applying appropriate research techniques (which would be determined after a reconnaissance or as research progresses). Anticipated methods include primary reliance on in-depth interviews, using ethnographic techniques to elicit refugee claimants' life histories (pre and post-migration). This research will be conducted in full partnerships with community organizations working with refugee claimants and HIV/AIDS in Ottawa and in Montréal. Extensive review of relevant and existing literature and databases to consider mortality morbidity will precede field research. This research will fill a significant vacuum in knowledge about the experiences in handling stigma, health regimen, and awareness on human rights issues about HIV/AIDS amongst Canadian refugee claimants.

**Dates:** September 2008 – August 2011

**Funding Program:** Fellowships in Priority Announcement: In the Area of Health Services/Population Health HIV/AIDS Research

**Source:** CIHR database

**PROJECT R48:**

**Title:** *Dynamic models incorporating drug resistance and compliance to describe long term therapy in HIV patients*

**Principal Investigator:** Line Labbé

**Abstract:** Not available.

**Dates:** July 2005 – June 2010

**Funding Program:** CIHR – Rx&D – HRF/CIHR Career Awards in Health Research

**Source:** CIHR database

**PROJECT R49:**

**Title:** *Employment and Health Outcomes in HIV/AIDS: A Prospective Mixed Methods Cohort Study*

**Principal Investigators:** Sean B. Rourke, Murray G. Jose, Alan T. Li, Lori Lucier, and Sergio Rueda

**Co-investigators:** Barry D. Adam, Jean Bacon, John Cairney, Winston C. Husbands, Margaret E. Millson, Nicole Mittmann, Kelly K. O'Brien, Anita R. Rachlis, Patricia E. Solomon; Robb Travers, and Michael G. Wilson

**Abstract:** With the significant improvements in survival and capacity to manage HIV-related complications with the availability of HAART, HIV/AIDS is increasingly being viewed as a chronic and long-term condition as opposed to a progressive terminal illness. Objectives: (1) What is the impact of employment on health-related quality of life? (2) Do differences (and changes) in impairments, activity limitations and in key social determinants of health predict employment stability? (3) How people living with HIV understand and perceive their disablement (impairments, activity limitations and participation restrictions) over time and how experiences with disablement influences employment trajectories and health-related quality of life over time. Methods: The proposed study will employ a mixed methods approach that combines quantitative and qualitative methods. The quantitative portion of the study consists of a prospective cohort design that will follow 500 people living with HIV in Ontario over two years with six-month data collection periods for a total of 5 visits. The qualitative portion of the study consists of a prospective qualitative study that will follow 30 people with HIV over 3 measurement times (separated by 6 months). Relevance: This project will provide critically needed data and human perspectives, which will inform both decision-makers by providing evidence for policy debates (e.g., how to create a more flexible / adaptable work environment) and front-line community-based agencies by helping them develop strategies and support services for people living with HIV who are in different employment situations.

**Dates:** April 2008 – March 2011

**Funding Program:** CIHR HIV/AIDS Community-Based Research Program – General – Operating Grant

**Source:** CIHR database

**PROJECT R50:**

**Title:** *Enhancing uptake and sustainability of HIV care and antiretroviral therapy among survival sex workers*

**Principal Investigator:** Dr. Mark W. Tyndall

**Co-investigators:** Ms. Vicki Bright, Dr. Kate Gibson, Mr. Francisco Ibanez-Carrasco, Dr. Thomas H. Kerr, Dr. Treena Rae Orchard, Ms. Anita Palepu, Dr. Cynthia Kay Patton, Ms. Kate Shannon, and Dr. Evan Wood

**Abstract:** The introduction of highly active antiretroviral therapy (HAART) has dramatically changed the clinical course of HIV infection for many thousands of Canadians. It has been nearly a decade since effective medications have been available, and current treatment is highly effective, well tolerated, and has manageable toxicities. The benefits of these impressive treatment gains however have not been shown among marginalized populations, including sex workers and illicit drug users, who increasingly are feeling the impact of HIV. The uneven distribution of antiretroviral therapy to eligible HIV positive people represents one of the largest disparities in Canadian health care. Although this situation presents a major challenge for health care providers and policy makers, it also provides an opportunity to develop, implement and evaluate a comprehensive program in HIV care and treatment that can greatly improve the health of this population and decrease HIV transmission. The lessons learned from this project have the potential to go beyond Vancouver's Downtown Eastside community, to become a model for other urban communities where HIV treatment is under-utilized.

**Dates:** July 2005 – March 2009

**Funding Program:** CIHR Operating Grant

**Source:** CAHR



**PROJECT R51:**

**Title:** *Environmental Scan of HIV+ Smokers in British Columbia*

**Principal Investigators:** J. Craig Phillips and John L. Oliffe

**Co-investigators:** Joan L Bottorff, Mary H. Ensom, Milan Khara, and Glyn A. Townson

**Abstract:** Smoking is common among persons living with HIV (PLWH) with estimates suggesting prevalence as high as 70%. New drug regimens have yielded significant health benefits for many PLWH, but those who smoke have increased risk for other serious complications. Significant knowledge gaps exist about the smoking patterns of PLWH and what might constitute effective targeted strategies for tobacco reduction (TR) among diverse sub-populations of PLWH. In British Columbia (BC), as in other settings, PLWH are a diverse group with complex psychosocial issues. However, few studies address tobacco related issues for PLWH who smoke or describe population specific TR interventions. Pathways to healthcare services for PLWH who smoke are also poorly understood, and consensus prevails among healthcare providers that TR efforts require focused attention. The purpose of the proposed catalyst grant is to conduct an environmental scan to better understand the distribution of various sub-populations in assessing the feasibility of accessing and supporting the TR efforts of PLWH who smoke and to describe the tobacco related issues for men and women living with HIV and their healthcare providers. Based on the findings drawn from our environmental scan, we will conduct qualitative interviews with a sample of men and women smokers with HIV to begin to understand some of the issues related to tobacco use that are influenced by the experience of HIV, gender differences and other social factors. The proposed study will provide a foundation on which to build and foster future efforts of a new investigative community team. Collectively, the team is ideally positioned to address TR among PLWH and the resources made available through the catalyst grant will enable us to more fully engage with the issues and develop plans for implementing targeted interventions in this setting in the future.

**Dates:** March 2010 – February 2011

**Funding Program:** CIHR HIV/AIDS Community-Based Research Program – General – Catalyst Grant

**Source:** CIHR

**PROJECT R52:**

**Title:** *Study of the culture of disclosure among women and men living with HIV/AIDS in media discourse in Quebec*

**Principal Investigator:** Maria Nengeh Mensah

**Abstract:** Not available.

**Dates:** 2008 and 2009

**Funding Program:** Program – Standard Research Grants

**Source:** SSHRC

**PROJECT R53:**

**Title:** Evaluation of “Pouvoir partager/Pouvoirs partagés,” a program run by and for women living with HIV that tackles the thorny issue of disclosure

**Principal Investigator:** Joanne Otis

**Co-investigators:** Françoise Coté; José Coté; Mylène Fernet, Maria Nengeh Mensah

**Abstract:** “Pouvoir Partager/Pouvoirs Partagés” (PP/PP) is an empowerment program that aims to give women living with HIV the resources to disclose their HIV-positive status in a variety of contexts. The program was developed and validated as a pilot project in 2006-2007 with the active participation of 26 women living with HIV and four workers in the Montreal area. The validation study demonstrated the relevance and usefulness of PP/PP, but also highlighted the importance of (1) consolidating the process whereby the workers and the women living with HIV take ownership of the program; (2) conducting a more convincing evaluation of the project's effects; and (3) providing written statements of the women's experiences with PP/PP. The purpose of this three-year study is to mobilize women living with HIV and the people working with them and to describe their trajectory of empowerment in the context of the PP/PP evaluation. The evaluation involves the following: (a) designing, implementing and evaluating provincial training for trainer/co-facilitator pairings; (b) introducing and evaluating PP/PP, which the pairs will have facilitated for 11 groups of 8 to 10 participants each; (c) organizing and carrying out knowledge-sharing activities (community forum and production of a collective work). The principles of Empowerment Evaluation are an inspiration for this study, which rests on the use of multiple data collection methods, both qualitative (coordinator's log, shared assessment groups, Web discussions, etc.) and quantitative (self-administered questionnaires). The purpose of this project is to help achieve the objectives of the fight against HIV that pertain to improving the quality of life of women living with HIV, as indicated in the Federal Initiative to Address HIV/AIDS in Canada.

**Dates:** April 2008 – March 2011

**Funding Program:** CIHR HIV/AIDS Community Based Research Program – General – Operating Grant

**Source:** CIHR database

**PROJECT R54:**

**Title:** Evaluation of the implementation of a community program aimed at improving the quality of life of Montreal-area women living with HIV

**Principal Investigator:** Sarine Lory Hovsepien

**Co-investigator:** Joanne Otis

**Abstract:** Antiretroviral treatments are increasing the life expectancy of people living with HIV infection, but quality of life remains a concern. The proposed project will evaluate the implementation in six organizations and communities of a community program aimed at helping women living with HIV to feel more in control of their lives. We will first evaluate the degree to which each intervention has been implemented by comparing the activities that are actually implemented to those that were originally proposed. Next, we will outline the contextual factors influencing the implementation of the program by observing community interest and involvement, the level of project appropriation by the community, and the dynamics between actors. This will be done by observing participants and workers, interviewing key contacts and consulting activity reports. We will then evaluate how variations in implementation influence effectiveness by comparing the degrees of implementation to the outcomes of each program. This will be measured by administering questionnaires to participants before and after the intervention. Finally, we will conduct quantitative and qualitative analyses to evaluate how contextual and implementation-related factors jointly influence the program's effectiveness. By evaluating the implementation of a community program aimed at helping women living with HIV feel more in control of their lives, we will be able to evaluate how effectively this program improves their quality of life and will gain a greater understanding of the conditions that yield positive results. This information is essential for directing the choice of environments and contexts in which similar community programs can be effectively implemented.

**Dates:** May 2006 – April 2009

**Funding Program:** CIHR Doctoral Research Awards

**Source:** CIHR database

**PROJECT R55:**

**Title:** *Evaluation of a tailored intervention program designed to optimize antiretroviral compliance in persons living with HIV*

**Principal Investigators:** José Côté and Gaston Godin

**Co-investigators:** John Cox, Yann-Gaël P. Guenheneuc, Richard R. Lalonde; Carmen G. Loiselle; Joanne Otis, Maria Pilar Ramirez Garcia, Cécile L. Tremblay

**Abstract:** While they cannot eradicate HIV, current viral therapies suppress viral replication and help maintain and improve immune response in infected persons. However, interruptions in treatment, even for short periods, can cause the virus to multiply and become drug-resistant, which is why treatment compliance needs to be optimal. Resistance reduces an individual's response to treatment and allows the disease to progress; resistance can also be transmitted to others and therefore constitutes a significant public health concern. The development of interventions to increase compliance with antiretroviral treatment has become a crucial objective in the fight against HIV. The goal of the proposed study is to evaluate the efficacy of information technology-supported tailored interventions in optimizing compliance with antiretroviral treatment and influencing immunological and virological markers. The innovative aspect of this study lies in the fact that it is designed to evaluate the efficacy of interventions that: are developed a priori, according to an intervention mapping approach that integrates research findings, theory and a significant community contribution; are tailored to individual needs; and offer follow-up that is additional and complementary to existing clinical follow up. While direct benefits are expected in terms of HIV client monitoring, the process is obviously applicable to other clienteles that follow complex drug regimens on a daily basis.

**Dates:** April 2007 – March 2011

**Funding Program:** CIHR Operating Grant

**Source:** CIHR database

**PROJECT R56:**

**Title:** *Evaluation of HIV Health Care providers in Canada: Has anything changed since the last decade or are we still judging?*

**Principal Investigator:** Elena Ivanova

**Co-investigator:** Kathryn D. Lafreniere

**Abstract:** Using the theoretical model of Self-Determination Theory (SDT), the study empirically examines the motivational basis of HIV-treatment adherence. Of interest are the following general research questions: Do people living with HIV/AIDS (PLWH) perceive to be stigmatized from healthcare professionals (i.e., doctors, nurses, dentists, dental technicians, etc.), whether PLWH perceive to be given choice over the HIV/AIDS medication prescribed, and lastly if the medical language that medical professionals speak is understood by most PLWH (health literacy levels) in southwestern Ontario (Windsor and Toronto). Seven AIDS service organizations (ASOs) have agreed to participate in this project by allowing me to recruit participants from their pool of clients. This study is currently in the data collection phase. Once completed, it will provide insight into the healthcare related experiences of people living with HIV/AIDS. The study findings may guide the development of much needed HIV-treatment adherence guidelines and recommendations.

**Dates:** April 2007 – March 2010

**Funding Program:** Frederick Banting and Charles Best Canada Graduate Scholarships – Master's Award

**Source:** CIHR database

**PROJECT R57:**

**Title:** *Examining the effectiveness of a case management intervention for improving the well being of women with HIV/AIDS: A community-based research approach*

**Principal Investigators:** Dr. Adriana Carvalhal and Ms. Louise Binder

**Co-investigators:** Ms. Danielle Layman-Pleet, Ms. Wangari E. Tharao, and Ms. Anna Van der Meulen

**Abstract:** Women represent one of the fastest growing groups of people infected with HIV in Canada. Women living with HIV/AIDS face not only a chronic illness and complex medical demands, but also extensive social challenges. Research on evidenced-based behavioural interventions designed specifically for women has been neglected so far in the literature. Objectives: (1) To determine whether 6 months of proactive strength-based case management is effective in increasing physical and mental health-related quality of life, compared to a 'usual care' general health promotion program, in women living with HIV; and (2) To evaluate whether the case management intervention decreases depression levels, improves coping skills, and increases social support. The proposed study will employ a mixed methods approach that combines quantitative and qualitative methods. Quantitative methods will be used to test the effectiveness of a proactive case management community-based intervention. One hundred and sixty participants will be randomized to one of two groups: (1) A proactive case management intervention ("wHEALTH") that will include bi-weekly one-hour individual sessions; and (2) A 'usual care' health promotion program that consists of bi-weekly one-hour group sessions. Measurement times include baseline, 1, 3, and 6 months; durability of the intervention will be assessed at 9 months. The primary outcome will be overall physical and mental health-related quality of life. The secondary outcomes include depression, social support, coping skills, and satisfaction with services. Qualitative methods consist of in-depth interviews, conducted with a subset of 40 participants, to probe the contextual factors related to the quantitative outcomes. This CBR study is a partnership between Voices of Positive Women, Women's Health in Women's Hands, and McMaster University. Our dissemination plan will ensure that outcomes of the study will be made available to CBAOs, policy makers, and women living with HIV/AIDS.

**Dates:** April 2007 – March 2010

**Funding Program:** CIHR Operating Grant

**Source:** CAHR database

**PROJECT R58:**

**Title:** *Maternity and antiretroviral treatment experiences among Aboriginal, Haitian, African and Quebec women living with HIV/AIDS*

**Principal Investigator:** Isabelle Toupin

**Co-investigator:** Joanne Otis and Mylène Fernet

**Abstract:** Few studies in Canada, and Quebec in particular, have focused on HIV-infected women's perceptions of antiretroviral treatments or looked at the impact of these treatments on women's day-to-day lives. Even fewer studies have been done on African, Haitian and Aboriginal women in a migratory context (Gallant, 2000; Lévy et al., 2000; Rogers et al., 2000; Sendi et al., 1999). The experience of maternity, which few studies have considered, seems key to constructing the relationship to HIV infection, treatment compliance and secondary prevention. Since there are few studies aimed at understanding the experiences of women living with HIV/AIDS who are receiving antiretroviral treatment, including their relationship to children (desire to have children, pregnancy, birth, maternity, vertical transmission), this study will help improve our currently limited knowledge. Once the study is completed, we will be able to launch secondary HIV/AIDS prevention strategies and will have a better understanding of the issues related to compliance with antiretroviral treatments within the ethnocultural communities studied in this project.

**Dates:** September 2006 – August 2009

**Funding Program:** CIHR Doctoral Research Award Area of Health Services/Pop. Health HIV/AIDS Research

**Source:** CIHR database

**PROJECT R59:**

**Title:** *Exploring Social Participation Among Adults Aging with HIV*

**Principal Investigator:** Patricia E. Solomon

**Co-investigators:** Kelly K O'Brien and Mary S Wilkins

**Abstract:** As HIV evolves into a chronic and episodic illness, people are living with HIV for longer. Older adults who have been living with HIV for many years encounter health related challenges of HIV and concurrent health conditions associated with aging. This qualitative study will develop a theoretical model that describes the experiences of aging from the perspective of older adults living with HIV. We will identify the challenges to social participation that older adults living with HIV experience and the strategies they use to manage these challenges and compare the experiences of aging among older men and women living with HIV. The findings of this research will assist in the development of gender and age specific social and health services to maximize participation of older adults living with HIV.

**Dates:** October 2009 – September 2012

**Funding Program:** Operating Grant –  
Priority Announcement: HIV/AIDS Research Initiative –  
Health Services/Population Health Stream

**Source:** CIHR database

**PROJECT R60:**

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

**Principal Investigator:** Dr. Thomas H. Kerr

**Co-investigators:** Dr. Cameron Duff, Dr. Julio Montaner, Dr. Jean Shoveller, Dr. William Small, Dr. Jo-Anne Stoltz, and Dr. Evan Wood

**Abstract:** The influence of environmental factors upon individual health has increasingly been recognized in public health research, particularly with regard to individuals who inject illicit drugs. The proposed research aims to identify social, structural and environmental influences which may exacerbate HIV risks, impede HIV prevention efforts and hinder access to HIV treatment among injection drug users in Vancouver. Ethnographic and qualitative research methods will be employed, including individual interviews and observational activities. By identifying factors which may mediate the success of current harm reduction programs among injection drug users, this research will allow future efforts to effectively target significant factors beyond the reach of individually focused behavioural interventions. The study will provide insight and evidence informing the development of interventions designed to modify ecological conditions which reduce individual ability to reduce HIV risks, employ prevention strategies and access care.

**Dates:** October 2006 – September 2009

**Funding Program:** CIHR Operating Grant

**Source:** CAHR database



**PROJECT R61:**

**Title:** *Family functioning in families living with HIV: vulnerabilities and resilience*

**Principal Investigator:** Mylène Fernet

**Co-investigators:** Martin Blais, Normand D. Lapointe, Joanne Otis, Johanne Samson

**Abstract:** This research project examines how families affected by HIV deal with HIV-related issues, including disclosure and the management of HIV infection. The investigators will meet with families affected by HIV across Quebec and will quantitatively analyse their functioning in order to identify factors of vulnerability and resilience. Once these findings have been collected, qualitative interviews will be conducted with the families in order to document mother-child communication dynamics through direct observation. The benefits of this project include the development of interventions that will support families living with HIV and help improve their quality of life.

**Dates:** March 2010 – February 2013

**Funding Program:** CIHR Operating Grant – Priority Announcement: HIV/AIDS Research Initiative – Health Services/Population Health Stream

**Source:** CIHR

**PROJECT R62:**

**Title:** *From System Fragmentation to System Synthesis: A Collaborative Approach to Increasing Access to Housing, Health and Social Services for People Living with HIV in Ontario*

**Principal Investigator:** Dr. Saara Greene

**Abstract:** The Families, HIV and Housing study is a community-based research study aimed at investigating the housing needs and experience of parents living with HIV/AIDS in Toronto. Our most recent analysis, based on 17 in-depth qualitative interviews with HIV-positive African and Caribbean mothers, argues that although HIV-positive mothers experience a number of shared housing-related issues and concerns, these challenges are exacerbated for HIV-positive mothers from African and Caribbean communities. This is due to the multiple systemic issues that marginalize these mothers as a result of their gender, immigration status, culture, and current social positioning as HIV positive women from racialized communities in Canada.

**Dates:** July 2007 – June 2010

**Funding Program:** Ontario HIV Treatment Network (OHTN) Operating Grant

**Source:** CAHR Database

**PROJECT R63:**

**Title:** *Gender and well-being in the households of persons receiving antiretroviral treatment*

**Principal Investigator:** Dr. Amy Kaler

**Co-investigators:** Dr. Sean B. Cash, Dr. Walter Kipp, Dr. Marty Luckert, and Dr. Duncan Saunders

**Abstract:** Not available.

**Dates:** January 2007 – December 2009

**Funding Program:** Social Sciences and Humanities Research Council (SSHRC) Operating Grant

**Source:** CAHR database

**PROJECT R64:**

**Title:** *Getting to the HAART of the matter: translating LISA findings into action*

**Principal Investigator:** Robert S. Hogg

**Co-investigators:** Aranka Anema, Julio S. Montaner, David M. Moore, Alexis Palmer, and Surita Parashar

**Abstract:** The LISA (Longitudinal Investigations into Supportive Ancillary Health Services) project has established an immensely rich resource that provides socio-demographic context to the clinical data collected on people living with HIV who access HAART through the Drug Treatment Program. We propose a variety of methods of knowledge translation in order to tailor messages to our diverse stakeholders (community members, participants, project managers, policy makers). Our first activity involves developing plain language summaries which will be created in collaboration with the communications firm, Kayro Edelman, and distributed to community partners and policy makers. For our second proposed activity, we will develop a website which will disseminate research results in both scientific and popular formats. Thirdly, we will involve community in round table discussions. Finally, arts-based activities, specifically a Photovoice project, will further engage participants, provide an alternative medium to disseminate our findings and capture the attention of policy makers. In addition, our proposal directly pertains to the CIHR HIV/AIDS Research Initiative's objectives. Our findings provide insight on the care and treatment services provided in the province of BC. The LISA data gives voice to positive individuals and illuminates the widespread inequities that persist in the realms of employment, housing and social exclusion/inclusion. These social determinants of health play a vital role in shaping health outcomes and quality of life. Our findings speak directly to the vast differences in vulnerability in Canadian society, as well as to the resilience of those affected by the disease. The study also suggests ways forward in improving supportive and auxiliary services. We would therefore like to be considered for funding from the HIV/AIDS Research Initiative for the implementation of our proposed activities.

**Dates:** January 2010 – December 2010

**Funding Program:** Meetings, Planning and Dissemination  
Grant: Knowledge Translation Supplement

**Source:** CIHR database

**PROJECT R65:**

**Title:** *Guidelines for the Determination of Medical Inadmissibility for Canadian Immigration Applicants with HIV/AIDS: Research Synthesis and Knowledge Dissemination*

**Principal Investigator:** Peter Coyte

**Abstract:** The *Canadian Immigration and Refugee Protection Act* of 2001 outlines conditions under which individuals may be granted or denied admission to Canada. The Act stipulates that applications for residence will be rejected if their health is expected to generate excessive demand on Canadian health or social services. The purpose of this paper is to derive a statistical definition of excessive demand and to apply that threshold to persons with HIV who are seeking admission to Canada. The paper demonstrates that the current threshold used by Citizenship and Immigration Canada is much lower than the thresholds that may be derived statistically.

**Dates:** 2008-present

**Funding Program:** OHTN Grant Board Directed

**Source:** OHTN database

**PROJECT R66:**

**Title:** *Health Care Experiences of HIV Positive Aboriginal Offenders Released into the Community*

**Principal Investigator:** Anthony V. De Padua

**Co-investigators:** Judith E. Mill

**Abstract:** The goal of the study is to identify the experiences of HIV Aboriginal positive offenders who have been released into the community. The HIV/AIDS epidemic is affecting Aboriginal people in all communities (rural, urban, reserve and prison). In the 2001 census Aboriginal people made up 3.3% of the Canadian population; however, between 1998 and 2003, 23% of individuals living with HIV were Aboriginal. The Correctional Service of Canada reported that within the prison system offenders have higher rates of HIV infection than the general public. Once an offender is released into the community, a lack of health care services can lead to a deterioration in health status and a missed opportunity to prevent the spread of HIV in the community. It is anticipated that the findings from this study will provide new knowledge that can assist nurses to provide culturally safe HIV care and support. Understanding the relationships between Aboriginal culture, offender subculture, and current healthcare practices will improve health care for this marginalized and vulnerable population. This research will address the limited knowledge on the healthcare needs of HIV sero-positive offenders and their experiences with nurses.

**Dates:** January 2009 – December 2009

**Funding Program:** Doctoral Research Award: HIV/AIDS Community-Based Research – Aboriginal Stream

**Source:** CIHR database

**PROJECT R67:**

**Title:** *Health: Culture and Gender as Determinants of Health for Aboriginal Women Living with HIV/AIDS*

**Principal Investigator:** Tracey Prentice

**Co-investigator:** Denise Spitzer

**Abstract:** Not available.

**Date:** 2010

**Funding Program:** OHTN Grant Studentship Award

**Source:** OHTN database

**PROJECT R68:**

**Title:** *Healthy deliberation: online decision-making and mobilization by HIV and AIDS patients*

**Principal Investigator:** Karen L. Smith

**Abstract:** Not available.

**Date:** 2008

**Funding Program:** Canada Graduate Scholarship – Doctoral Program

**Source:** OHTN database

**PROJECT R69:**

**Title:** *High-dimensional data analysis using probabilistic graphical models to infer the causal associations between clinical outcome and virus sequence evolution, drug resistance, and host genetic factors in the context of HIV-1-infected patients undergoing highly active antiretroviral therapy in British Columbia.*

**Principal Investigator:** Arthur F. Poon

**Co-investigator:** Richard P. Harrigan

**Abstract:** Highly-active antiretroviral therapy (HAART) is a critical resource for clinical management of individuals infected with HIV-1 and is primarily responsible for the decline in AIDS-related mortality in the past decade. However, HIV-1 rapidly acquires mutations that confer resistance to these antiretroviral drugs. The emergence of resistant variants of HIV-1 within patients undergoing HAART can significantly influence the rate of progression to AIDS, i.e., clinical outcome. My objective is to develop bioinformatic models to predict clinical outcome in HIV-1-infected patients from virus sequence data, patterns of drug therapy, and patient characteristics such as adherence and host genetic factors. As a complex characteristic of HIV-1, drug resistance requires the accumulation of multiple interdependent mutations that often interfere with the growth of the virus. Both the initial genetic composition of an HIV-1 population and the combinations of drugs used in therapy can influence which mutational pathway is taken to become resistant. Because mutational pathways may be associated with different costs to virus infectivity or replication, it is critical in modelling the evolution of drug resistance and clinical outcome to incorporate HIV-1 sequence variation. To accommodate the complexity of this problem, I will employ probabilistic graphical models (PGMs), a branch of bioinformatics that provides a compact framework for modelling complex dynamic systems with many interacting factors. These models will be developed and implemented at the BC Centre for Excellence in HIV/AIDS, which oversees one of the longest followed and best-studied HIV treatment-based cohorts in the world, and maintains an extensive database integrating treatment, clinical, and genetic information. The end product of this project will provide comprehensive patient-specific guidelines to optimize the clinical management of HIV-1 infections.

**Dates:** July 2008 – August 2010

**Funding Program:** Fellowships – Priority Announcement: Award in the Area of Biomedical / Clinical HIV/AIDS research

**Source:** CIHR database

**PROJECT R70:**

**Title:** *HIV and hepatitis C transmission networks in a cohort of injection drug users in Vancouver's downtown eastside: How structure and context matter*

**Principal Investigator:** Ms. Sheila P. McCarthy

**Co-investigator:** Dr. David M. Patrick

**Abstract:** HIV/AIDS has been described as an epidemic in our Aboriginal communities and we must focus on our communities to start our healing journey. *Life Experiences of Aboriginal Families and HIV/AIDS: A Qualitative Inquiry* has been guided by my motivation to assist to create a better understanding of HIV/AIDS with our Aboriginal communities. The proposed research will build on my years of experience as a First Nations researcher working with the community to address the needs of Aboriginal families living with HIV/AIDS. In Aboriginal communities, it is common for the family constellation to be comprised of immediate, extended and adopted family members and that is the concept of families that will be used in the study. Conducting research with Aboriginal families and HIV/AIDS is a sensitive topic that requires establishing relationships of trust with Aboriginal families. The proposed qualitative study will use grounded theory methods to analyze in-depth interviews with Aboriginal families living with HIV/AIDS. Results will enhance our understanding of culturally specific healthcare needs of Aboriginal families. The goal of this research is to contribute to our limited knowledge of appropriate prevention of this growing epidemic. My collaboration with local, provincial and national Aboriginal AIDS networks will ensure utilization of my findings.

**Dates:** September 2005 – August 2008

**Funding Program:** CIHR Student Award

**Source:** CAHR database

**PROJECT R71:**

**Title:** *HIV Health Services Research: Efficacy, Equity, Access and Quality of Life*

**Principal Investigator:** Dr. Ahmed Bayoumi

**Abstract:** Not available.

**Dates:** April 2006 – March 2009

**Funding Program:** Ontario HIV Treatment Network (OHTN) Career Scientist Award

**Source:** CAHR database

**PROJECT R72:**

**Title:** *HIV Knowledge Production and Management for Improvement of Health Services in Rural Manitoba*

**Principal Investigators:** Carla Pindera, Marissa Becker, and Ken Kasper

**Abstract:** HIV prevention and care are important to improving the health and wellbeing of vulnerable populations. However, there are important knowledge gaps related to strategies for achieving the best possible outcomes in prevention and care. In Manitoba, the overall numbers of new HIV diagnosis has increased in the last few years. In the last few years, we have also learned that more people are testing for HIV in rural and Northern areas, most of the time accessing care when very ill. This suggests that some individuals, particularly among the vulnerable and remote populations, are often not accessing care or able to access care, and when they do, they are often presenting late. The University of Manitoba Health Sciences Centre and Nine Circles Community Health Centre with regional partners have begun a process of examination of the knowledge gaps in rural and Northern areas in the province. The overall purpose of the two meetings is to facilitate discussion that can inform further knowledge exchange and research agenda concerning the provision of care in rural and northern regions in Canada. The main objectives of the meetings are (1) to present an update of the Manitoba HIV Program; (2) present and discuss research findings and evidence that supports the development of the Manitoba HIV Program; (3) gain an understanding of the HIV related issues faced in the Region, including current knowledge and resources and the gaps in these areas; discuss strategies to address gaps and shortcomings in relation to HIV primary care, treatment and support, including ways to strengthen the communication and collaboration across Regions. Through interactive sessions we aim to develop a research and projects to begin evaluating the gaps and needs identified by the regions. A report from the workshops will be shared with the other regions in the province as a template for strengthening regional partnerships and HIV program development.

**Dates:** January 2010 – December 2010

**Funding Program:** CIHR Meetings, Planning and Dissemination Grant – Planning Grant – Priority Announcement: Institute of Infection and Immunity

**Source:** CIHR database

**PROJECT R73:**

**Title:** *HIV Positive Women's Reproductive Decisions: A Longitudinal Assessment of Social and Psychological Contributors to Fertility*

**Principal Investigator:** Anne Wagner

**Co-investigator:** Trevor A. Hart

**Abstract:** Women of childbearing age are the fastest growing group in Canada acquiring the HIV virus. Because of recent medical developments, the risk of transmission from mother to child has been reduced drastically. The reduced risk of transmission speaks to pregnancy being a less risky option for HIV+ women with appropriate medical care and assistance from the healthcare system (as reproductive aid is necessary to prevent transmission to a partner). HIV+ women have been found to desire to have children at similar rates as HIV-negative women, however their actual pregnancy outcomes have not yet been examined. The current study will examine what proportion of HIV+ women who intend to have children become pregnant over a two-year period, and will compare this group to a matched HIV-negative group of women. The study will also examine HIV stigma, social support, psychological distress and healthcare barriers as predictors of fertility intentions and pregnancy.

**Dates:** September 2009 – August 2012

**Funding Program:** CIHR Frederick Banting and Charles Best Canada Graduate Scholarships – Doctoral Award

**Source:** CIHR database

**PROJECT R74:**

**Title:** *HIV Positive Women's Reproductive Decisions: Social and Psychological Contributors and their Implications for Health Care Delivery*

**Principal Investigator:** Anne Wagner

**Co-investigator:** Trevor A. Hart

**Abstract:** Not available.

**Dates:** September 2008 – August 2009

**Funding Program:** CIHR Canada Graduate Scholarships Master's Awards

**Source:** CIHR database



**PROJECT R75:**

**Title:** *HIV, Health care utilization, and bias in a sample of gay, bisexual, and other MSM*

**Principal Investigator:** Todd Coleman

**Co-investigator:** Greta Bauer

**Abstract:** Not available.

**Date:** 2010

**Funding Program:** OHTN Grant Studentship Award

**Source:** OHTN database

**PROJECT R76:**

**Title:** *HIV/AIDS experience of Alberta women who are from countries where HIV is endemic*

**Principal Investigator:** Dr. Aniela Dela Cruz

**Abstract:** The purpose of this study is to explore and understand the experiences of HIV positive Alberta women who are from Sub-Saharan African countries where HIV is endemic. The objectives of this study are: to understand how women experience their HIV diagnosis, treatment and support in their community; and to understand how women's HIV illness impacts their social and familial relationships. There are a number of women from Sub-Saharan African countries living and working in Alberta who may be infected with or affected by HIV. The literature shows relatively few studies which explore HIV/AIDS among immigrants to Canada from Sub-Saharan Africa. With evidence showing increased number of positive HIV tests and AIDS diagnoses in Sub-Saharan African Canadians, there is still little known of the contextual factors that contribute to this problem, or the experiences of women who are HIV positive and who are living outside of large metropolitan communities. In 2005, there were fifteen documented studies or reports completed in Canada which are specific to HIV and AIDS among people from African and Caribbean countries; all have been completed in Eastern Canada and in larger metropolitan centers such as Toronto or Montréal. Further, there are no completed studies or studies in progress that explore or document the experiences of Alberta women from Sub-Saharan African countries who are infected with or affected by HIV.

**Dates:** May 2007 – April 2010

**Funding Program:** CIHR Student Award

**Source:** CAHR database

**PROJECT R77:**

**Title:** *HIV/AIDS, Gender-based Violence and Masculinities Workshop*

**Principal Investigator:** Stevenson Fergus

**Abstract:** The "HIV/AIDS, Gender-based Violence and Masculinities Workshop" is a three-day, scientific and educational workshop scheduled to take place in August 2009. This workshop, building upon an existing HIV/AIDS and gender-based violence (GBV) training session, will bring together relevant international and national stakeholders for whom the dual epidemics of HIV/AIDS and GBV are central. While showcasing Canadian expertise on the global HIV/AIDS pandemic, the workshop will provide a forum for knowledge exchange, information sharing, reflection, and priority-setting concerning the HIV/AIDS and GBV epidemics. The workshop has been designed to provide rigorous training and networking opportunities for the next generation of HIV/AIDS researchers. Finally, this workshop will facilitate the involvement of international and national experts in creating links between the global HIV/AIDS and GBV epidemics and the experience of sub-Saharan African immigrants to Canada.

**Dates:** September 2008 – August 2009

**Funding Program:** CIHR Meetings, Planning and Dissemination Grant – Planning Grant – Priority Announcement: Institute of Infection and Immunity

**Source:** CIHR database

**PROJECT R78:**

**Title:** *HIV/AIDS, Maternal Health and Motherhood: Health-Related Behaviours, Programming Implications and Narrative Constructions*

**Principal Investigator:** Pamela J. Downe

**Co-investigators:** Sylvia Abonyi, Karen Lawson, and Jennifer Poudrier

**Abstract:** This three-year, community-based research will identify and analyze the interrelationship between women's experiences with motherhood and Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome (HIV/AIDS). In 2006 AIDS Saskatoon identified mothers as a significant and growing constituency among those who access their services but for whom no programs were specifically designed. Twenty-one months of community-based collaboration with 17 organizations and university researchers led to the development of three research objectives: (1) To identify the interrelationship between motherhood and HIV/AIDS; (2) To assess how motherhood affects health-related behaviours of women accessing the services of AIDS Saskatoon; (3) To determine and build capacity to enhance the HIV/AIDS-related services that are identified positively by research participants. Adopting a narrative-based approach, this research is participatory in design and will be guided by AIDS Saskatoon and a 14-member Community Advisory Committee. This project will involve the participation of Aboriginal and non-Aboriginal women who identify as mothers in two sets of interviews, a photovoice project, a two-phase programming analysis, and focus groups. Given that the increasing rates of HIV/AIDS among women are occurring primarily in those of childbearing age and that fewer than 4% of the organizations registered with the Canadian AIDS Society offer maternal health programs, this research will have far-reaching significance to the health and well being of Aboriginal and non-Aboriginal women who have children and who are living with, affected by, and/or vulnerable to HIV/AIDS.

**Dates:** April 2008 – March 2011

**Funding Program:** CIHR HIV/AIDS Community-Based Research Program – General – Operating Grant

**Source:** CIHR database

**PROJECT R79:**

**Title:** *HIV/Antiretroviral Update*

**Principal Investigator:** Julio S Montaner

**Abstract:** On Monday, May 25th, 2009 the BC Centre for Excellence in HIV/AIDS (BC-CfE) will hold the day-long HIV/Antiretroviral Update at the Sheraton Wall Centre Hotel in Vancouver. This free biannual Update presents the latest information on highly active antiretroviral therapy (HAART) for HIV-infected patients and discusses the challenges and benefits of HAART for various population groups. The BC-CfE is committed to working with physicians, nurses, pharmacists and other healthcare providers to link affected individuals with appropriate care, treatment and support and to help reduce the incidence of new HIV infections. Knowledge transfer through continuing medical education to healthcare providers is one of the main ways in which the BC-CfE is helping to achieve its prevention and treatment goals. The BC-CfE would like to engage as many physicians and other healthcare providers as possible, especially those with HIV positive patients (including newly diagnosed patients and patients at risk for acquiring HIV) or simply with an interest in HIV. Notice of the Update has been sent to current ARV-prescribing physicians listed in the Centre's registries, published in our newsletter, and posted on the BC-CfE website. For those who are unable to attend the event in Vancouver, it is live-streamed over the Internet on the website. The event is also archived on our website, so physicians and others can access the talks at a later date. This event is accredited by the College of Family Physicians of Canada so attendees can receive continuing medical education (CME) credits.

**Dates:** May 2009 – April 2010

**Funding Program:** CIHR Meetings, Planning and Dissemination Grant – Planning Grant – Priority Announcement: Institute of Infection and Immunity

**Source:** CIHR database

**PROJECT R80:**

**Title:** *HIV-Organ Transplantation Information Exchange Conference*

**Principal Investigator:** Curtis L. Cooper

**Co-investigator:** Edward J. Mills

**Abstract:** This meeting will provide HIV/AIDS care physicians, organ transplantation specialists, other HIV care providers, researchers, ethicists, decision makers and HIV community members an opportunity to discuss issues associated with HIV/AIDS and liver transplantation. Knowledge exchanged will focus on a meta-analysis and systematic review of liver transplantation in HIV conducted by the lead investigators. This meeting will provide opportunities for peer to peer information exchange with the goal of achieving clarity regarding the science and policy of liver transplantation in those living with HIV/AIDS in Canada. This proposed meeting is relevant to the CIHR HIV/AIDS Research Initiative as it addresses therapy for HIV/AIDS infected Canadians, and Liver Transplantation in HIV as a global health challenge. The outcome of this research and knowledge dissemination will affect health systems, services and policy as access to this procedure is made available to Canadians with HIV. In addition, this research is related to HCV/HIV co-infection which is a CIHR HIV/AIDS Research Initiative priority.

**Dates:** January 2010 – December 2010

**Funding Program:** CIHR Meetings, Planning and Dissemination Grant – Planning Grant – Priority Announcement: Institute of Infection and Immunity

**Source:** CIHR database

**PROJECT R81:**

**Title:** *HIV-Related Cognitive Impairment in the HAART Era: A Pilot Project*

**Principal Investigator:** Neora Pick

**Co-investigators:** David R. Burdge, Eliana Castillo, Hélène Côté; Wendy J. Loken, and Allen E. Thornton

**Abstract:** The lives of people living with HIV have changed greatly over the last 20 years, and the drugs used to treat HIV are helping people to live longer lives. Changes in health that normally happen with aging are starting to be seen in people living with HIV, and some doctors think that these changes are happening at younger ages than for people without HIV. Some of the things that people living with HIV report frequently include lower ability to concentrate, pay attention and remember things. This kind of an effect can make it harder for people to remember to take their medications every day as well as caring for themselves and their families. Since HIV medications lower the amount of HIV virus in the body, forgetting to take them can also have negative effects on their length and quality of life. Not very much is known yet about exactly how HIV drugs affect a person's thinking and memory, and what possible effects this could have on the normal aging process. Even less is known about these effects in women, as most studies have been done with men. Around the world, women represent half of people living with HIV, and we believe it is very important to understand these effects in women. Our team would like to offer a short group of memory and thinking tests. This will help us to know if there is a problem that affects their daily function, and will be the first step towards looking at possible ways to help women cope with it. We believe this information will help to understand more about this new and serious issue. We also believe it is very important to start looking at this right now because in the next 6 years more than 50% of the people living with HIV in North America are going to be older than 50 years of age. This information will however help all HIV positive people regardless of where they live.

**Dates:** March 2010 – February 2011

**Funding Program:** CIHR Catalyst Grant: Infection and Immunity – New Investigator Catalyst Grant

**Source:** CIHR database

**PROJECT R82:**

**Title:** *Housing and Health: Impact of Housing on People Living with HIV/AIDS Symposium*

**Principal Investigator:** Charlotte R. McKay

**Abstract:** Alberta Community Council on HIV (ACCH) is a coordinated, community based response to HIV that includes HIV prevention, education, outreach and harm reduction programs, care and support as well as palliative and transitional housing for people living with HIV/AIDS. "The Housing and Health: Impact of Housing on People Living with HIV/AIDS Symposium", organized by ACCH, will bring together stakeholders from different sectors (HIV, community, housing, government and academia) from Alberta, the Prairies and the rest of Canada. The focus of the Symposium will be on knowledge exchange and identifying research gaps and/or research priorities in order to influence development of a housing strategy specific to people living with HIV/AIDS. Utilizing current initiatives (such as "The Housing and Health Research to Action Symposium"), the Symposium will establish a strong provincial/regional/national link that will significantly contribute to the development of the national HIV/AIDS housing collation. It will play an important role in building a strong national response to the issue of housing for individuals living with HIV/AIDS.

**Dates:** September 2008 – August 2009

**Funding Program:** Meetings, Planning and Dissemination  
**Grant:** Knowledge Translation

**Source:** CIHR database

**PROJECT R83:**

**Title:** *If hepatitis C virus (HCV) is an opportunistic infection, why has HAART not led to dramatic improvements in liver disease among HIV-HCV co-infected persons?*

**Principal Investigator:** Marina B. Klein

**Co-investigators:** Brian Conway, Curtis L. Cooper, Pierre Côté, John Cox, Michael J. Gill, Shariq Haider, Mario A. Ostrowski, Danielle Rouleau, Samy Suissa, Sharon L. Walmsley, and David K. Wong

**Abstract:** An increasing number of people are infected with both Hepatitis C (HCV) and HIV. HIV appears to make HCV related liver disease progress more rapidly. Liver disease is now one of the leading causes of death in HIV-HCV-infected persons. By restoring the immune system, it was expected that effective anti-HIV treatments would lead to improved liver health. However, it remains unclear why liver disease continues to be such a large problem in co-infection. We propose to study how HIV therapy impacts HCV related liver disease. We will study 950 HIV-HCV infected persons from across Canada over five years. We will look at social and biologic factors that may contribute to liver disease and evaluate non-invasive methods to measure liver health. We will also examine the immune function of participants receiving HIV therapies compared to those not treated. This work will allow a greater understanding of how these two viruses interact to cause disease and will provide insights into to how best to design therapies so that in the future, HIV-HCV infected individuals may be able to derive benefits from the treatment advances being realized for HIV infection.

**Dates:** April 2006 – March 2009

**Funding Program:** CIHR Operating Grant

**Source:** CIHR database



**PROJECT R84:**

**Title:** *Impact of Food Security on Health Outcomes in People Living with HIV Across Canada*

**Principal Investigators:** Ruthann Tucker and Robert S. Hogg

**Co-investigators:** Aranka Anema, Tsegaye M. Bekele, Sarah J. Fielden, Jennifer E. Jones, Murray G. Jose, Rick A. Kennedy, Marina B. Klein, Christiana Miewald, Kenneth M. Monteith, Sean B. Rourke, and David Swan

**Abstract:** The Principal Aims of the proposed study are to examine and isolate the primary causes, context-specific risk factors (social, economic, and environmental) and the access barriers affecting food insecurity at the individual and population levels, and how food insecurity affects the clinical course of HIV disease, health outcomes and health-related quality of life, and survival. To achieve these aims, we have assembled an expert community-academic team from Ontario, BC and Quebec that is well positioned to conduct this CBR initiative, and to mobilize the critical research evidence generated to inform and influence: (1) best practices in food and support programs and services in the community; and (2) policies that limit the availability and access to appropriate food sources and nutrition for people living with HIV in Canada. This will be the first time in the history and evolution of the CIHR HIV/AIDS CBR program that clinical and community cohort data from three major regions in Canada will be brought together to address the health needs of people living with HIV/AIDS. Major Objectives: (1) To assess the prevalence of general and various sub-types of food insecurity (i.e. food insufficiency, poor food quality/diversity, and range of methods of food acquisition) among individuals with HIV in BC, ON and QC; (2) To examine the socio-demographic and determinants of health correlates of general food insecurity and sub-types of food insecurity among individuals with HIV in BC, ON and QC; (3) To examine whether having adequate, appropriate and stable food security is associated with improved access to medical care among individuals with HIV in BC, ON and QC; and (4) To examine the clinical and health-related quality of life outcomes and survival benefits associated with having adequate, appropriate and stable food security and access to food programs in individuals with HIV in BC, ON and QC.

**Dates:** April 2006 – March 2009

**Funding Program:** CIHR Operating Grant

**Source:** CIHR database

**PROJECT R85:**

**Title:** *Impacts of criminal prosecutions for HIV exposure and transmission on people living with HIV*

**Principal Investigator:** Dr. Barry Adam

**Abstract:** In the contemporary context of a rising number of prosecutions of HIV transmission following the 1998 *Cuerrier* decision by the Supreme Court of Canada, this project examines how people living with HIV perceive the law and the legal obligation to disclose serostatus to prospective sexual partners. There is a dearth of evidence as to the impact of criminal law, even as public policy is evolving through decisions by police investigators, prosecutors, and courts. The research investigates how HIV-positive people have been advised of legal developments by AIDS service organizations, health providers, and other relevant agencies. It also investigates: (a) how legal proceedings and press coverage of legal proceedings affect understanding of rights and responsibilities of self to others concerning transmission, stigmatization, and vulnerability to prosecution; (b) how legal proceedings affect decisions to test for HIV; (c) how legal proceedings affect disclosure practices of self and sexual partners; and (d) how they affect safer sex practices of self and others. By elucidating the social impacts of public policy being created through court decisions, this project seeks to contribute towards a better understanding of: (a) ways in which criminal prosecution for HIV non-disclosure to sexual partners affect HIV prevention efforts in various ways, beneficially or adversely; (b) ways in which HIV prevention might be made more effective without resorting to the criminal justice system; (c) alternative trajectories to that which leads to criminal prosecution; and (d) best practices for the appropriate articulation of public health measures with the criminal justice system.

**Dates:** April 2008 – March 2011

**Funding Program:** Ontario HIV Treatment Network (OHTN) – Operating Grant

**Source:** CAHR database



**PROJECT R86:**

**Title:** *Informal social supports, caregiving and HIV/AIDS: A community-based study*

**Principal Investigators:** Dr. Carla Pindera and Dr. Javier Mignone

**Co-investigators:** Dr. Margaret Akan, Dr. Lawrence J. Elliot, Dr. Carol D. Harvey, and Dr. Christine N. Smith

**Abstract:** In Manitoba and Saskatchewan, increasing rates of HIV indicate a need for coordinated prevention and support programs. The increasing number of people living with HIV leads to increased reliance on formal community services as well as informal caregiving networks to cope with the illness. The proposed community-based research study will focus on the practical and research needs related to optimizing the care and social support systems for people living with HIV/AIDS in Manitoba and Saskatchewan. The project's goal is to increase understanding of the reality of those providing (informal) care, as well as those receiving it. This knowledge will assist in improving the quality of life of people living with HIV/AIDS and their informal caregivers (i.e. partners, family and friends). Research questions will be addressed through a combination of qualitative methods with research tools designed in collaboration with community members, i.e., people living with HIV and their caregivers. A range of participatory data collection tools will be utilized including literature review, photovoice and individual in-depth interviews. Findings will be organized and disseminated in ways which will be of most benefit and use to the community and community partners offering HIV care, treatment and support.

**Dates:** April 2007 – March 2010

**Funding Program:** CIHR Operating Grant

**Source:** CAHR database

**PROJECT R87:**

**Title:** *Innovative approaches for diagnosing tuberculosis in the era of HIV*

**Principal Investigator:** Madhukar Pai

**Co-investigators:** Peter Daley, Nandini Dendukuri, Keertan Dheda, Christina A. Greenaway, and Richard Menzies

**Abstract:** Tuberculosis (TB) is an infectious disease of great global importance. Each year, 8-9 million people develop tuberculosis, and a further 2 million will die from TB each year. TB is the leading cause of death among people living with HIV infection. Identifying and diagnosing cases of active TB, particularly in HIV infected individuals is critical for TB control programs here in Canada and around the world. However, existing tests for TB are decades old, and use imperfect technologies. Improved diagnostic tests are urgently needed to control the TB epidemic. The proposed research involves evaluating the accuracy of new and innovative tools for diagnosing TB in both HIV infected and non-infected persons in 3 countries with varying levels of HIV and TB in the community. These countries include: Canada (low levels of TB and HIV), India (high levels of TB and intermediate levels of HIV) and South Africa (high levels of TB and HIV). In addition to examining test accuracy, we are interested in evaluating whether feasibility and test characteristics differ among those with and without HIV infection. Lastly, we will examine the cost effectiveness of the new tests in the 3 different countries. The study results will be helpful in guiding evidence-based decisions for global TB control. The project will also result in sustained and balanced collaborative relationships between researchers in Canada and India/Africa in order to promote the assessment and application of innovative technologies in the setting where they are needed most.

**Dates:** October 2008 – September 2011

**Funding Program:** CIHR Operating Grant

**Source:** CIHR database

**PROJECT R88:**

**Title:** *Ontario HIV Treatment Network – Interdisciplinary Centre for Community-Based IMPACTS on HIV Policy*

**Principal Investigators:** Sean B. Rourke and Barry D. Adam

**Co-investigators:** Jean Bacon, Ahmed M. Bayoumi, Laurie Edmiston, Jacqueline C. Gahagan, Robert S. Hogg, Rosemary J. Jolly, Susan A. Kirkland, Frank McGee, Gerry J. Mugford, Eric Mykhalovskiy, Stephanie A. Nixon, and Michael Orsini

**Abstract:** The front-line organizations that deliver HIV prevention and support programs, community-based AIDS service organizations and public health units are under increasing pressure to demonstrate that their programs and interventions are evidence-based, effective and affordable. The proposed Interdisciplinary Centre for Community-Based IMPACTS on HIV Policy will bring together: researchers from a wide variety of disciplines; people living with HIV; front-line service providers; federal, provincial and regional policy makers; and organizations with a mandate for KTE. It will provide infrastructure support to enable social science researchers, the HIV community and policy makers to design and evaluate community and public health interventions for HIV prevention, care, treatment and support. In terms of approach, the Centre will support the outcomes-based evaluation that characterizes HIV social and behavioural intervention research in the US, but it will go beyond that to understand and address the political, social, economic, health policy, health services and other social and structural determinants that enhance or limit the effectiveness of a variety of interventions. The Centre's goal is to enhance the health and well-being of people living with and at risk of HIV and contribute to healthy public policy. By building on existing regional networks of researchers and service providers, the Centre will provide a powerful national platform for interdisciplinary research on population health, health services and community-based and public health interventions, and knowledge translation. The Centre's objectives are to: (1) Build capacity for interdisciplinary population health and health services research; (2) Support population health and health services research in HIV/AIDS; (3) Support adoption of evidence informed, community-based/public health interventions; and (4) Translate and evaluate research into action to influence healthy public policy.

**Dates:** September 2008 – December 2008

**Funding Program:** CIHR HIV/AIDS Population Health and Health Services – LOI

**Source:** CIHR database

**PROJECT R89:**

**Title:** *Investigating and addressing barriers to human immunodeficiency virus (HIV) and hepatitis C virus (HCV) care among injection drug users*

**Principal Investigator:** Dr. Evan Wood

**Co-investigators:** Dr. Thomas H. Kerr, Dr. Julio Montaner, Dr. Anita Palepu, Dr. Jo-Anne M. Stoltz, Dr. Mark W. Tyndall, Dr. Richard P. Harrigan, and Dr. Robert Stephen Hogg

**Abstract:** Since its introduction in the mid-1990s, the benefits of antiretroviral therapy for the treatment of HIV disease have been well established. New antiretroviral regimens have resulted in marked improvements in HIV-related morbidity and mortality among persons on antiretroviral therapy, particularly gay and bisexual males. Although the side effects of HIV treatment present challenges, disease progression and AIDS deaths have become so rare among persons on antiretroviral therapy that, in many areas of the world, HIV infection is increasingly being viewed as a chronic and manageable illness. These findings have emerged amidst increasingly urgent concerns regarding inequitable access to antiretroviral therapy among those infected during the later stages of the HIV epidemic in North America, particularly HIV-infected illicit injection drug users (IDUs). IDUs suffering from HIV-infection are at immediate risk of declining health and avoidable mortality due to limited access to antiretroviral therapy and retention in medical care, and, in turn, contribute to substantial healthcare expenditures when opportunistic infections result in lengthy hospitalizations. This proposal will support the development of an interdisciplinary research program, based around a new prospective cohort study of HIV-infected IDUs, that will identify barriers and facilitators of AIDS care among this extremely vulnerable population.

**Dates:** April 2006 – March 2011

**Funding Program:** CIHR Operating Grant

**Source:** CAHR database

**PROJECT R90:**

**Title:** *Investigations into clinical outcomes and adverse events among HIV infected individuals receiving antiretroviral therapy*

**Principal Investigator:** Dr. Janet Raboud

**Abstract:** Not available.

**Dates:** April 2005 – March 2009

**Funding Program:** Ontario HIV Treatment Network (OHTN) Career Scientist Award

**Source:** CAHR database

**PROJECT R91:**

**Title:** *Involving heterosexual HIV-positive men in identifying their health care, support, and research needs and priorities*

**Principal Investigator:** Mona R. Loutfy

**Co-investigators:** Tony Antoniou, Richard H. Glazier, and Carol J. Strike

**Abstract:** Heterosexual men living with the human immunodeficiency virus (HIV) have been under-represented in the HIV literature since the origins of the epidemic in the 1980s. Several potential reasons exist for the exclusion of heterosexual men from the HIV research culture. In comparison with women and gay men living with HIV, heterosexual men lack a readily identifiable community to which they belong, thereby being rendered largely invisible in the context of the broader epidemic. In addition, the targeting of HIV-related media towards the gay community may reinforce stereotypes about the nature of the HIV-positive demographic and promote feelings of stigmatization among heterosexual men living with the disease. Finally, there has not been a sustained effort by researchers and care providers to engage HIV-positive heterosexual men. As a result, virtually nothing is known about the lived experience of being an HIV-positive heterosexual man in Canada. In addition, there are no data describing the health care and support needs of this population, and whether perceived gaps in required services for these patients exist. We therefore propose to develop the first large program of research describing the health care and social support needs of HIV-positive heterosexual men. The proposed research involves the use of focus groups with HIV-positive heterosexual men to identify perceived gaps in health care, research and social support needs. A community advisory board including individual men living with HIV and providers from various AIDS service organizations will be established to strengthen community-academic research, knowledge transfer and exchange partnerships. We believe that by fostering dialogue between academic researchers, heterosexual men with HIV and service providers, a productive partnership can be nurtured that will ultimately inform the development of policies and strategies directed at identifying and meeting the needs of these patients.

**Dates:** September 2009 – August 2011

**Funding Program:** CIHR HIV/AIDS Community Based Research Program – General – Operating Grant

**Source:** CIHR database

**PROJECT R92:**

**Title:** *Involving Ontario HIV-positive women and their providers in determining their research needs and priorities*

**Principal Investigators:** Dr. Mona Loutfy and Dr. Wangari Tharao

**Co-investigators:** Dr. Louise Binder, Dr. Trevor Hart, Dr. Danielle Layman-Pleet, Dr. Lynne Leonard, and Dr. Janet Raboud

**Abstract:** Historically, there has been a deficiency in collaboration and lack of trust between academic researchers and community groups. Accordingly, there is a need for better communication and for increased input from community members and affected individuals into what research questions should be addressed. This is particularly important in the field of women and HIV/AIDS as women are continuously underrepresented in many decision-making and study design processes and the majority of research done to date has focused on male populations. This project aims to determine what research topics interest Ontario women living with HIV/AIDS and to strengthen community-academic research, knowledge transfer and exchange partnerships. A Community Advisory Board will be formed and HIV-positive women and their service providers will be asked to participate in interviews, focus groups and surveys to generate qualitative and quantitative data.

**Dates:** March 2007 – September 2009

**Funding Program:** CIHR Operating Grant

**Source:** CAHR database

**PROJECT R93:**

**Title:** *Knowledge, action, and transformation in HIV/AIDS care: Exploring the role of community-based organizations in evidence-based change*

**Principal Investigator:** Eric Mykhalovskiy

**Abstract:** Not available.

**Dates:** September 2006 – June 2009

**Funding Program:** CIHR IHSPR, KT New Investigator (HIV/AIDS) – Health Services/Population Health

**Source:** CIHR database

**PROJECT R94:**

**Title:** *Lipodystrophy, stigmatization and identity: A study of the identity transformation process in women living with HIV/AIDS*

**Principal Investigator:** Mrs. Marilou Gagnon

**Abstract:** The introduction of Highly Active Antiretroviral Therapy (HAART) in 1996 transformed the prognostic of people living with HIV/AIDS. This therapeutic innovation led to a dramatic decrease in morbidity and mortality rates in the HIV population. However, we are now confronted with the new face of the HIV epidemic in regards to the daily management of a disease that contains a strong social, psychological, emotional and physical burden. What is emerging from the literature and the clinical settings is that HIV-positive individuals experience the oppressiveness of a new reality, one that captures the chronicity of HIV and the concurrent re-emergence of bodily manifestations of the disease. Recent data demonstrate that people living with HIV/AIDS are willing to forego up to 15 years of life expectancy to avoid HAART-related body shape changes. This Canadian study reports the consequences of an insidious process that thrives from the physical manifestations of lipodystrophy. A number of cross-sectional studies report a high prevalence rate of lipodystrophy in people living with HIV/AIDS, reaching 80% in some population. However, few studies have examined the biophysical, psychological, emotional, sexual and social burden of this metabolic complication. Qualitative studies report that lipodystrophy contains a strong social component. Morphological manifestations of this syndrome become the source of a multidimensional stigmatization process. This social dynamic suggests that lipodystrophy not only transforms the body, but also the identity of people living with HIV/AIDS. The present grounded theory study aims at exploring this phenomenon in women living with HIV/AIDS. The main research goals will be to understand the experience of HIV-positive women who live with a disfigured body and to describe the identity transformation process that is indirectly induced by highly active antiretroviral therapy (HAART).

**Dates:** May 2007 – April 2010

**Funding Program:** CIHR Student Award

**Source:** CAHR database

**PROJECT R95:**

**Title:** *Liver transplant outcomes for HIV/HCV co-infected patients: A guideline development for Canada*

**Principal Investigator:** Edward J Mills

**Co-investigators:** Prosanto K. Chaudhury, Curtis L. Cooper, and Julio S. Montaner

**Abstract:** Liver transplantation is a life saving procedure. Advances in new medicines and in the dosing of these medicines have improved outcomes for transplant patients. However, because of possible drug toxicity and little known efficacy, patients that have a co-infection with HIV and hepatitis C are rarely offered transplants. We aim to determine the evidence for clinical effectiveness and complications from transplants in co-infected individuals as determined by survival, HIV disease progression and developments of cancer. Our study will be a large scale data synthesis of cohort studies in order to determine rates of death, AIDS and cancers at 1, 3 and 4 years post-transplant.

**Dates:** March 2010 – February 2011

**Funding Program:** CIHR Catalyst Grant: Infection and Immunity – PHAC-CAID/CIHR Hepatitis C Research Initiative – Psychosocial/Behavioural/Epidemiology Stream

**Source:** CIHR database

**PROJECT R96:**

**Title:** *Longitudinal impact of adherence on HIV/AIDS disease progression: Implications for treatment interventions*

**Principal Investigator:** Dr. Viviane Lima

**Abstract:** Since the introduction of highly active antiretroviral therapy (HAART) in the mid-1990s to treat HIV/AIDS infected individuals, we have seen an increased benefit associated with this therapy in improving survival and quality of life among individuals living with this disease. The success of HAART has been accompanied by difficult challenges, with the inability of HIV/AIDS patients to fully adhere to the prescribed therapy being the biggest barrier to the success of HAART. Therefore, we propose to identify and assess the merit of competing therapy-management interventions to improve patient adherence and care, and minimize the progression of HIV/AIDS to advanced disease stages or ultimately mortality. The overall goal of this study is to identify and assess the effectiveness of competing treatment-management interventions to improve adherence over a person's treatment history, in order to prevent or reduce the following disease outcomes: therapeutic failure, development of HIV drug resistance, AIDS and death. (1) We propose building a mathematical model for HIV/AIDS progression to develop future adherence recommendations that are more effective in preventing or reducing disease progression. (2) We hypothesize that each disease outcome requires a different, but sustained, high level of adherence for a person to avoid an adverse disease outcome. Given the significant impact of HIV/AIDS in the health of populations, the issues that will be dealt with in this study will be important for a better provision of patient care, in addition to directly addressing a large gap in this field of research.

**Dates:** June 2007 – May 2010

**Funding Program:** CIHR Operating Grant

**Source:** CAHR database



**PROJECT R97:**

**Title:** *Measuring the actual effect of adherence on virologic and resistance outcomes in HIV-infected injection drug users (IDUs): A longitudinal study*

**Principal Investigator:** Jesse D. Raffa

**Co-investigators:** Joel A. Dubin and Brian Conway

**Abstract:** In the past, medical studies have shown that in order for HIV-infected patients to have effective therapy, they'd be required to take 95% or more of their pills. Considering that HIV/AIDS is currently a life-long condition, this means meeting this threshold indefinitely. The previous studies were done using older drugs, which have now been shown to be much less effective than the drugs given to HIV-infected patients today. More recent studies have begun to cast some doubt on the 95% requirement, and this study will attempt to define new standards in a population of injection drug users receiving HIV therapy. Moreover, this study will examine if you were to miss a set percentage of doses, what would be the best way to miss them? For example, if we found out that the new requirement was 67%, would it be best to miss every third day, every third week, or every third month? This information would be useful in more effectively structuring programs at our own clinic, and would contribute to possible modifications to treatment for patients starting or continuing on therapy at large.

**Dates:** September 2006 – August 2009

**Funding Program:** CIHR Doctoral Research Award Area of Health Services/Pop. Health HIV/AIDS Research

**Source:** CIHR database

**PROJECT R98:**

**Title:** *Migratory workers and HIV/AIDS: Exploring the risks through partnership with community-based HIV/AIDS organizations*

**Principal Investigator:** Donna E. Bulman

**Co-investigators:** Michelle Boutcher, Catherine A. Donovan, Margaret C. Dykeman, Diana Gustafson, and Maria Mathews

**Abstract:** In many areas of the world, migratory workers are at high risk for acquiring HIV/AIDS as they may engage in risky behaviours when away from home for extended periods of time. These behaviours may include having multiple sexual partners and drug use. This places migratory workers at high risk of acquiring HIV/AIDS, sexually transmitted infections, and other diseases. When workers return to their home communities, they may place local people at risk of infectious diseases such as HIV/AIDS. The risk to local people may vary depending upon how frequently workers return to their local communities. Many young people who grow up in Newfoundland are forced to leave the province in order to find employment and escape poverty. It is currently unclear if the risky behaviours associated with migratory workers in other areas of the world apply locally. By talking with migratory workers, we will gain an increased understanding of current risk factors and how these factors are managed when workers return to their home communities within Newfoundland and Labrador. This project is being developed in conjunction with people who are members of the HIV/AIDS community. This includes HIV-positive people and staff, clients, and members of community-based HIV/AIDS organizations. The information gained will be useful to people in the community-based HIV/AIDS movement as it will help them to develop innovative HIV/AIDS prevention programs that meet the needs of migratory workers and their families, partners, and associates. It is anticipated this research project will lead to the development of a larger program of research examining not only the risky behaviours of migratory workers, but also the role of employers in promoting the health of their workers and that of the larger population.

**Dates:** April 2008 – March 2009

**Funding Program:** CIHR HIV/AIDS Community-Based Research Program – General – Catalyst Grant

**Source:** CIHR database

Source: CIHR database

**PROJECT R101:**

**Title:** *Model-based economic evaluation of hepatitis C treatment strategies in individuals co-infected with HIV in Canada*

**Principal Investigators:** Christopher T. Bauch and Murray D. Krahn

**Co-investigators:** Ahmed M. Bayoumi, Marina B. Klein, Hla Hla Thein, and David P. Wilson

**Abstract:** In Canada, the emergence of hepatitis C virus (HCV) in individuals infected with HIV is an increasingly significant problem. However, the future health and economic burden associated with this population is unknown. Hepatitis C affects approximately one in three of people living with HIV (and approximately one in ten of those infected with hepatitis C are also infected with HIV) in Canada. Injecting drug use is the most common way that people become infected by both HIV and HCV. Other populations that are affected by co-infection with HCV and HIV in Canada include Aboriginals and prisoners. Highly active antiretroviral HIV therapy (HAART) does not appear to significantly reduce HCV-related outcomes such as advanced scarring of the liver, liver failure, liver cancer, or other liver-related death. Furthermore, hepatitis C-related advanced scarring of the liver is found to be significantly associated with higher risk of developing AIDS-defining illness (2-3-fold), AIDS-related death, or hospitalization in HIV/HCV co-infected patients than in HIV mono-infected patients. Treatment for chronic HCV infection decreases the risk of these events, in particular, through prevention of progression to advanced scarring of the liver. The advances in HCV therapy and the improved cure rates (sustained virologic response rate of one in two to four treated) and tolerability make treatment a more feasible option for many co-infected patients. Current guidelines recommend that all HIV-infected patients with chronic HCV infection be considered as treatment candidates for HCV therapy. Despite this, very few co-infected individuals receive treatment for HCV, and thus its overall effectiveness on the natural history of HCV disease in these populations has been relatively small. This project aims to use simulation models to evaluate the health impact and cost-effectiveness of hepatitis C treatment strategies on the future burden of disease related to HIV and HCV co-infection in Canada.

**Dates:** March 2010 – February 2012

**Funding Program:** CIHR Operating Grant – Priority Announcement: HIV/AIDS Research Initiative – Health Services/Population Health Stream

**Source:** CIHR database

**PROJECT R102:**

**Title:** *Moving Evidence to Action: Developing an Action Plan to Address HIV & Hepatitis C in Atlantic Canada*

**Principal Investigators:** Susan A. Kirkland, and Margaret C. Dykeman, Jacqueline C. Gahagan, and Gerry J. Mugford

**Co-investigators:** Lois A. Jackson, Jo-Ann M. MacDonald, Kevork M. Peltekian, and Ingrid S. Sketris

**Abstract:** AIRN is a network of individuals and organizations working in the area of HIV/AIDS and Hepatitis C in the Atlantic Region. It includes a core group of researchers from a variety of disciplines based in four universities across Atlantic Canada (see list of Applicants), working in collaboration with other government and community-based stakeholders involved in HIV/AIDS and Hepatitis C (HCV). Funded by CIHR for four years (2005-2009), its goal is to share information and coordinate research efforts in order to shape policy and improve the quality of life of those affected by HIV and HCV. To date, AIRN has accomplished all of its key tasks. AIRN has been successful in developing a stakeholder network of over 200 individuals and organizations with an interest in HIV/AIDS and HCV, developing knowledge transfer and exchange mechanisms to share research, forming an Advisory Committee of policy makers and other stakeholders to support the movement of evidence into action, undertaking research in key areas with stakeholders, and building capacity within the region to undertake research (through the mentorship and provision of awards to students via a competitive process). AIRN proposes to bring its key stakeholders together to: – Review original vision, goals, objectives of AIRN as stated at its inception and re-affirm/re-fine for the future – Review AIRN work plan, activities and accomplishments over the past 4 years to determine status of completion – Review research undertaken by AIRN and its partners in the intervening time period – Review current policy issues and research priorities as identified by stakeholders (government, community, academic researchers, and individuals affected by HIV and HCV) in community consultations and regional workshops and by the AIRN environmental scan – Identify new activities, priorities and develop a plan of action for moving forward for the next 4-5 years.

**Dates:** September 2008 – August 2009

**Funding Program:** Meetings, Planning and Dissemination Grant – Planning Grant – Priority Announcement: Institute of Infection and Immunity

**Source:** CIHR database

**PROJECT R103:**

**Title:** *Multiplex screening assays for HIV and co-infections: will they benefit patients, providers and health care systems?*

**Principal Investigator:** Nitika Pai

**Co-investigators:** Mira Johri, Lawrence Joseph, Marina B. Klein, and Mark A Wainberg

**Abstract:** Targeted screening of at-risk individuals is a proven cost effective strategy. Vulnerable at-risk populations are difficult to follow up, so that regular screening for all co-infections and HIV is often not conducted in them. Due to the asymptomatic nature of early infections and the lack of regular testing, a vast majority of affected individuals are living with un-diagnosed infection. Early diagnosis and early treatment are proven to reduce morbidity and mortality, health care costs and transmission. Recently developed multiplex strategy makes it possible to inexpensively test individuals for several biomarkers for multiple infections with just a single drop of blood, with immediate results precluding the need for follow-up visits. Multiplo™ (MedMira Inc, Halifax, Canada), is one such multiplex point-of-care device that detects four infections (i.e., HIV, HBV, HCV and Syphilis) with a small 5 micro-litre finger stick blood sample in 5 minutes. In this proposal, we will investigate whether introducing Multiplo™ as a first line screening assay helps impact: a) healthcare management of patients; b) clinical decision making by providers; c) improve estimates of co-prevalence; and lastly, d) offer cost and time savings to the healthcare systems.

**Dates:** March 2010 – February 2011

**Funding Program:** HIV/AIDS Bridge Funding – Biomedical/Clinical Stream

**Source:** CIHR database

**PROJECT R104**

**Title:** *National Aboriginal Centre for HIV/AIDS Research*

**Principal Investigator:** Charlotte J. Loppie Reading

**Co-investigators:** J. K. Barlow, Roy Cain, Brenda D. Elias, Dionne Gesink Law, Robert S. Hogg, Judith E. Mill, John D. O'Neil, Barbara L. Paterson, Raven P. Sinclair, and Patricia M. Spittal

**Abstract:** The purpose of the proposed National Aboriginal Centre for HIV/AIDS Research (NACHAR) is to establish and sustain a national network that integrates advanced population health and health services and policy research, capacity-building and knowledge translation. NACHAR will involve trainees, researchers, Aboriginal communities and organizations, public and voluntary agencies, policy and health services professions and other stakeholders in the area of Aboriginal HIV/AIDS. NACHAR will foster research-community partnerships and support the mobilization of research knowledge translation (KT) and the establishment of multi-disciplinary, inter-sectoral teams that address the social, cultural and environmental determinants of Aboriginal HIV/AIDS, while addressing pressing health services concerns and public policy issues relevant to Aboriginal people living with or affected by HIV/AIDS.

**Dates:** September 2008-December 2008

**Funding Program:** CIHR HIV/AIDS Population Health and Health Services

**Source:** CIHR

**PROJECT R105:**

**Title:** *National HIV Pregnancy Planning Guidelines Development Team Meeting*

**Principal Investigators:** Mona Loutfy and Shari Margoless

**Co-investigator:** Mark L. Yudin

**Abstract:** Our primary objective is to link national experts in order to develop National HIV Pregnancy Planning Guidelines (NHPPG) to support HIV-positive individuals living in Canada with their fertility and pregnancy planning needs. There are four components to this project:

1) complete a review of available literature and current best worldwide practices on the topic and to share it with the stakeholders leading to knowledge exchange; 2) gather national experts in HIV and fertility along with other key stakeholders in order to develop a NHPPG Development Team that will guide the initiative; 3) organize ten teleconferences and two in-person workshops with the NHPPG Development Team members in order to develop and finalize the guidelines (4 teleconferences will be prior to the first in-person workshop and 6 will be afterwards); and 4) publish these guidelines in a peer-reviewed journal. The first in-person meeting was held to bring stakeholders together for the first time and was an official event of the Canadian Association of HIV Research (CAHR) Conference in Vancouver, April 22-23, 2009. The second in-person meeting will be held to finalize the guidelines. This proposal is specifically related to the request of funds to support the second in-person meeting of the NHPPG Development Team members to finalize the consensus on the NHPPG. The second in-person meeting will bring together, 40 Canadian experts including fertility and infectious disease experts, obstetricians, psychiatrists, policy experts and community representatives who have interest and knowledge in the fertility and pregnancy planning needs of HIV-positive Canadians. This meeting is essential to finalizing consensus on these guidelines. We are happy to be partnering with the CIHR Canadian HIV Trials Network (CTN) which has agreed to include our meeting as part of its bi-annual meeting to be held at Montréal's Queen Elizabeth Hotel from October 26-29, 2009.

**Dates:** September 2009 – August 2010

**Funding Program:** CIHR Meetings, Planning and Dissemination Grant – Planning Grant – Priority Announcement: Institute of Infection and Immunity; and OHTN Grant Workshop, Symposium and Conference Fund

**Source:** OHTN database

**PROJECT R106:**

**Title:** *National Housing and HIV/AIDS Research Summit IV*

**Principal Investigator:** Sean B. Rourke

**Co-investigators:** Jean Bacon, Frank McGee, and Ruthann Tucker

**Abstract:** The North American Housing and Health Research Summit IV Mobilizing Knowledge: Housing is Effective HIV Prevention and Care, June 3 to 5, 2009 in Washington, DC will bring together 300 researchers, policy experts, consumers and providers of housing and related services for people living with HIV from across North America. The Summit is an interdisciplinary, interactive forum for the presentation of research findings, coupled with dialogue on public policy implications and strategies. It will be preceded by a half-day training institute for consumers of HIV/AIDS housing and services to enhance their capacity to participate in the design, guidance and interpretation of research. In addition, the Summit call for abstracts will cover a range of topics relevant to HIV/AIDS housing policy, including, for the first time at Summit IV, international research to inform the development of culturally appropriate housing resources as a key element of global HIV prevention and care strategies. The explosive growth in the literature on HIV, housing and health outcomes has created an exciting opportunity for data driven policy change. Summit IV will provide a critical opportunity to work collectively with international partners to increase understanding of the role of housing in the prevention and treatment of illness, and to tie housing to other public priorities, including: healthcare access; addressing health disparities; successful re-entry from prison and jail; and the critical need for affordable housing for disabled persons and others on fixed incomes. The OHTN is co-sponsoring and co-planning the summit with the National AIDS Housing Coalition (NAHC), the founder of the Summit Series, and the Johns Hopkins Bloomberg School of Public Health. This is the first time a Canadian research group has been asked to collaborate in this event. Summit IV will be the first regional research and policy meeting of its kind.

**Dates:** January 2009 – December 2009

**Funding Program:** Meetings, Planning and Dissemination Grant: International

**Source:** CIHR database



**PROJECT R107:**

**Title:** *Novel Approaches to Studying Liver Fibrosis in HIV-Hepatitis C Co-infection: A Proteomics Discovery Programme*

**Principal Investigator:** Marina B Klein

**Co-investigators:** Momar Ndao and Brian J. Ward

**Abstract:** An increasing number of people are infected with both Hepatitis C (HCV) and HIV. HIV appears to make HCV related liver disease progress more rapidly. Liver disease is now one of the leading causes of death in HIV-HCV-infected persons. By restoring the immune system, it was expected that effective anti-HIV treatments would lead to improved liver health. However, it remains unclear why liver disease continues to be such a large problem in co-infection. Liver biopsies are currently the only way to follow liver disease progression in HCV. They are the main way of deciding who should receive HCV treatment and when. However, liver biopsies can be painful, costly and carry some risk. Non-invasive methods to measure liver health (referred to as biomarkers) could provide a safe alternative to monitor liver disease. We will use data and specimens from the patients participating in the Canadian HIV-HCV Cohort Study and compare them to individuals with HCV infection only. We will measure protein profiles from the blood to determine if that are particular patterns of proteins that are associated with various stages of liver disease and with HIV infection. Protein biomarkers identified as part of this study may be important in reducing need for liver biopsy, facilitating follow-up and timing of HCV treatment, and evaluating the impact of HIV and its treatment as well as other factors on liver disease. Finally, biomarkers may provide insights into to how best to follow patients so that in the future, HIV-HCV infected individuals may be able to derive benefits from the treatment advances being realized for HIV infection.

**Dates:** October 2008 – September 2011

**Funding Program:** Operating Grant – Priority Announcement: HIV/AIDS Research Initiative – Biomedical/Clinical Stream

**Source:** CIHR database

**PROJECT R108:**

**Title:** *Ontario HIV Pregnancy Planning Initiative: An Evidence-Based Province-Wide Multi-Disciplinary Program Assisting People Living with HIV with Fertility and Pregnancy Planning*

**Principal Investigator:** Mona Loutfy

**Abstract:** The *Ontario HIV Pregnancy Planning Initiative* (OHPPI) is designed to champion a collaborative program that guides and assists all people living with HIV (PLWHIV) in Ontario with their pregnancy planning and fertility needs in a holistic, ethical, supportive and medically sound manner. This project is Phase 2 of a multi-phase program and was specifically aimed at addressing the gap between the need for HIV pregnancy planning and fertility resources and services in Ontario and the availability of such services and to build the capacity of a number of provincial community members who played the roles of co-principal investigator, co-investigators, coordinator and peer research assistants (PRAs).

OHPPI is a solid example of community-based research (CBR) in action. Through the development of our community advisory board (CAB); the establishment of a province wide multidisciplinary expert list and the implementation of focus groups we have successfully engaged relevant healthcare providers, community members, policy makers, academic researchers and PLWHIV. These activities have led to an increased understanding of the barriers faced by all parties in both the provision of and access to such services and have created a dialogue between stakeholders such as fertility and infectious diseases specialists who have previously been disconnected.

Through the development and focus group testing of a program implementation plan which includes pamphlets, workshops, a network list and clinical guidelines, we have established the most effective ways in which to conduct knowledge translation and exchange (KTE) activities amongst a variety of stakeholders. These results provide an evidence base from which to conduct subsequent phases of OHPPI including future KTE activities such as dissemination of the workshops, pamphlets, guidelines and network list and the creation of a website dedicated to HIV pregnancy planning.

We have established important relationships with the Canadian Fertility and Andrology Society, the Society of Obstetricians and Gynecologists of Canada and Assisted Human Reproduction Canada have significant implications

to the development and implementation of policy surrounding access to HIV pregnancy planning and fertility services for PLWHIV in Ontario and across Canada.

Our innovative capacity-building approach to this project has resulted in a unique method of applying CBR in which we not only trained community leaders, including PLWHIV as PRAs but also as active principal and co – investigators. We have implemented the principle of the Greater Involvement of PLWHIV (GIPA) through significant involvement of PLWHIV in all phases of this project including development of the research question and study tools, implementation of the study, analysis of the results and in knowledge transfer and exchange activities. In order to build capacity of PLWHIV and community team members, teaching seminars were developed and executed regarding scientific community-based research including the definition of research, planning and execution of a project and analyzing and communicating results.

We have achieved success in conducting KTE activities in 2010 through presentations at the XVIII International AIDS Conference in Vienna and at the AIDS Committee of Toronto Research Day. Abstracts have also been accepted for presentation at the Canadian Fertility and Andrology Society annual conference which takes place in October 2010 and the Innovations in Gender, Sex and Health Research Conference scheduled for November 2010. Additionally, abstracts have been submitted to the OHTN research conference and preparation of a manuscript is underway.

**Date:** 2009

**Funding Program:** OHTN Grant CBR Capacity Building

**Source:** OHTN database

## PROJECT R109:

**Title:** *Optimizing effective treatment strategies for antiretroviral therapy in vulnerable groups in Vancouver's downtown eastside: a mathematical modelling study*

**Principal Investigator:** Kathleen N. Deering

**Co-investigator:** Mark W. Tyndall

**Abstract:** Within a cohort of female sex workers (FSWs) in Vancouver's Downtown Eastside (DTES), we aim to: 1) understand transmission dynamics of human immunodeficiency virus (HIV) through both sexual and drug injection routes; and 2) determine optimal treatment strategies for effective delivery of highly active antiretroviral treatment (HAART). We will answer the following research questions: 1) which characteristics of FSWs contribute to sustaining the HIV epidemic; and 2) what are the optimal treatment strategies for HAART on a population level in Vancouver's DTES? Results from this project will help direct scarce public health resources to have the greatest impact on reducing the severity of the HIV epidemic in the DTES, and help direct HIV/AIDS policy in Vancouver and similar areas. Methods: Transmission dynamics models, which account for infection biology, behavioural and demographic characteristics of the population and describe the spread of infection over time, will be used to compare treatment strategies for HAART under different assumptions for transmission reduction, HIV risk behaviour change and uptake and adherence to HAART. A series of ongoing cohort studies (BC Centre for Excellence in HIV/AIDS) will provide strong data to parameterize and build models. Multivariate statistical methods will be used to understand which parameters are the most important and explain heterogeneity in model results. Outcome of project: The following data will be collected from modeling simulations to evaluate treatment strategies under different treatment strategy assumptions (i.e. potential impact 5, 10, 15 years after HAART is introduced, versus no HAART): incidence of HAART-resistant HIV; numbers of new infections averted (acquired and transmitted); changes in HIV prevalence. Results from this analysis will provide valuable HIV treatment and care recommendations that will help maximize use of HAART among the most marginalized groups in the DTES and Canada.

**Dates:** May 2005 – April 2011

**Funding Program:** CIHR Doctoral Research Award Area of Health Services/Pop. Health HIV/AIDS Research

**Source:** CIHR database

Source: CIHR database

**PROJECT R113:**

**Title:** Profile and modelling of risk-taking related to HIV and STIs in young Quebeckers of Haitian origin

**Principal Investigator:** Marianne Beaulieu

**Co-investigators:** Clément Dassa and Louise Potvin

**Abstract:** The incidence of heterosexually-transmitted HIV infection continues to increase among Canadian women. Therefore, it is important to examine the quality of life of this growing vulnerable population. A variety of factors appear to play a role in the quality of life of women living with HIV, including coping strategies and social support. The objectives of this project are therefore to (1) quantitatively study the relationships between coping strategies, social support and the quality of life of women living with HIV; (2) qualitatively document coping strategies, social support and the quality of life of women living with HIV; and (3) disseminate and share the results with partners from community organizations. A path analysis will be conducted with a sample of women living with HIV (n=225) (Otis, Godin et al, 2004) to test the mediating effect of social support on the relationship between coping strategies and quality of life. After these relationships have been modelled, 10 women with HIV will be invited to three meetings, one every three months, for semi-structured interviews that will document the same aspects. Once the interviews have been completed, the women will be invited to discuss and review the exploratory model as part of a discussion group. Achieving the proposed objectives will increase our knowledge of the quality of life of women living with HIV and improve the services offered, which will help provide psychosocial and support services that are adapted to the needs of Quebec women living with HIV. Above all, women living with HIV will be involved in the research phases; this will promote their active participation and the dissemination of research results and will strengthen their capacities and those of community groups. Since the community groups will be actively involved in the research process, they will be able to work on improving the programs offered to enhance the quality of life of women living with HIV.

**Dates:** September 2008 – August 2011

**Funding Program:** Bourse de recherche au doctorat: VIH/sida Recherche communautaire – volet général

**PROJECT R114:**

**Title:** *Positive Spaces, Healthy Places – Phase IV: Monitoring and Evaluation to Understand the Health Effects of Housing Status in HIV/AIDS*

**Principal Investigators:** Sean B. Rourke, Saara Greene, and Ruthann Tucker

**Co-investigators:** Jean Bacon, Anne Bowlby, Steve Byers, James R. Dunn, Stephen W. Hwang, Jay Koornstra, Frank McGee, Laverne E. Monette, and Michael Sobata

**Abstract:** The knowledge gained from recent HIV, housing and health research initiatives has the potential to change the housing landscape for people living with HIV and AIDS (and communities at risk), and improve their health and reduce the risk of HIV transmission. *Positive Spaces, Healthy Places*, funded by CIHR, is the first longitudinal community-based research initiative in Canada to examine housing, health and HIV. As part of our original CIHR study, we recruited and followed more than 600 people living with HIV over the course of 1 year to assess their housing status and the impact of housing instability on health and health-related quality of life. Our main findings so far demonstrate that participants face significant housing instability, considerable disadvantages in housing opportunities and support services, and substantial financial risks and discrimination that varied by geographical region. These findings also reinforce the notion that a number of preventable determinants of health are increasing the health risks of people with HIV while negatively affecting access to care. For Phase IV, we will collect ongoing quantitative data in a longitudinal, province-wide study design in which people living with HIV will be followed for up to 3 additional years. Changes in housing status will be observed, along with factors that play a role in these changes (e.g., social determinants of health, access to health services) and health outcomes and survival resulting from these changes. Our project team has already developed strategic partnerships with HIV service providers, housing providers and policy makers within and outside Ontario, and has had considerable success in KTE. With these partnerships and policy, program and community links, we are well positioned to ensure that our community-based research work can inform housing policies and programs that may lead to improved health outcomes and health-related quality of life for people living with HIV/AIDS.

**Dates:** January 2009 – March 2012

**Funding Program:** CIHR HIV/AIDS Community-Based Research Program – General – Operating Grant

**Source:** CIHR database



**PROJECT R115:**

**Title:** *Predictors of antiretroviral pharmacokinetics in HIV-infected women with virologic suppression on combination antiretroviral therapy*

**Principal Investigator:** Dr. Mona R. Loutfy

**Co-investigators:** Dr. David Burdge, Dr. Elizabeth Phillips, Dr. Janet Raboud, Dr. Anita Rachlis, Dr. Alice Tseng, and Dr. Sharon Walmsley

**Abstract:** Women constitute the fastest rising population group at risk for infection with HIV and AIDS in Canada. Women now constitute approximately 20% of cases in Canada. This alarming statistic is compounded by the fact that women have been routinely underrepresented in both clinical trials assessing antiretroviral (ARV) therapy and clinical HIV studies in general. There are a few particular areas of HIV research in women which are crucial to their care and quality of life that have been under-evaluated. Two of the most important areas are: 1. How ARV therapy requirements and responses differ in women from men; and 2. ARV adverse events (AEs) and how they differ in women from men. Many small studies have suggested that HIV-infected women taking ARV treatment have more adverse events (AEs) than men. The occurrence and management of AEs is currently the most important issue in the treatment of HIV. Understanding the differences of AEs in HIV-infected women is critical and has yet to be evaluated within a large cohort. Some studies have found that ARV drug levels are higher in women and that these higher drug levels are associated with the increased toxicity. The objective of this study is to assess ARV pharmacokinetics (Cmin and Cmax) in HIV-infected women and to determine if they are higher as compared to the mean drug levels in the historical general population (which is primarily men); as well as to assess if ARV drug levels, particularly Cmin, are associated with body weight in women; and if higher ARV drug levels, particularly Cmax, are associated with higher frequency and severity of adverse events. If funded, this study will be the largest study done assessing ARV pharmacokinetics in HIV-infected women.

**Dates:** April 2006 – February 2013 and October 2008 – September 2009

**Funding Program:** CIHR Operating Grant and HIV/AIDS Bridge Funding – Biomedical/Clinical Stream

**Source:** CAHR database

**PROJECT R116:**

**Title:** *Preference Measures for HIV Antiretroviral Decision Making*

**Principal Investigator:** Ahmed M. Bayoumi

**Co-investigators:** Tony Antoniou, Jeffrey S. Hoch, Laura Park-Wyllie, Carol J. Strike, and Nathan A. Taback

**Abstract:** HIV antiretroviral therapy is often associated with difficult trade-offs. While these medications can improve survival and well being, they are also associated with potentially troubling side-effects, challenges for long-term use, and considerable costs. Individual patients need to understand these competing demands to make clear decisions that are commensurate with their own values. Researchers and decision makers also need to understand these trade-offs to be able to interpret the results of clinical trials and economic analyses correctly. One method of assessing such trade-offs, based in economic theory, asks participants to consider what they might be willing to forego (such as time) or accept (such as a risk of death) in return for improved health. Such methods have become standard in health economics, but are prone to well known error and biases. An alternative method seeks to understand what is important to individuals by asking them to consider trade-offs between health states, defined by a set of attributes. Our study will compare and contrast these methods. We will use both qualitative interviews and quantitative statistical methods to analyze the results. We will assess which methods are most helpful to individuals, comparing results between methods, examine biases in each method, explore whether one set of scores can predict another, and examine how such results can be used in real-world applications such as decision aids, clinical trials, and health economics studies. Thus, our results promise to be helpful to individuals living with HIV, clinicians, and policy makers.

**Dates:** October 2008 – September 2010

**Funding Program:** CIHR Operating Grant

**Source:** CIHR database



**PROJECT R117:**

**Title:** *International meeting on youth and HIV: consolidating alliances*

**Principal Investigators:** Hélène Sylvain and José Coté

**Co-investigators:** Philippe E. Delmas and Eliana Galano

**Abstract:** Researchers from three countries (Canada, France and Brazil) are set to establish new research partnerships in the area of youth and HIV. In addition to the funding already being requested in France (ANRS) and Brazil (CCC) for a research project on the life experience and treatment compliance behaviours of youth living with HIV in Sao Paulo, Brazil, the Canadian funding application is designed to extend beyond the project itself and to help organize a meeting that will further consolidate this emerging team of researchers and collaborators. Canada's contribution will also go toward a review of recent research and an examination of the projects currently being carried out by this group of researchers. Finally, the proposed gathering will also serve to promote the implementation of an action plan to establish international research programming that will focus, among other things, on the development and evaluation of innovative interventions to help this highly vulnerable group, namely HIV-positive youth. This application for financial support for a scientific meeting exceeds the standard \$10,000 normally requested since it involves the participation of foreign researchers who will be travelling from France and Brazil. Since funding applications have been submitted to the other two countries, obtaining CIHR funding would represent a significant Canadian contribution, as well as an important step toward the consolidation of international cooperation in research on youth and HIV.

**Dates:** January 2010 – December 2010

**Funding Program:** CIHR Meetings, Planning and Dissemination Grant – Planning Grant – Priority Announcement: Institute of Infection and Immunity

**Source:** CIHR database

**PROJECT R118:**

**Title:** *Reproductive trends among HIV-positive women in British Columbia's HAART era: Examining the interplay between pregnancy antiretroviral adherence and HIV disease progression*

**Principal Investigator:** Angela Kaida

**Abstract:** A growing proportion of new HIV infections, both locally and globally, are among women of childbearing age, and heterosexual contact is an increasingly important risk of HIV transmission. While it is clear that HIV-positive women continue to desire children, become pregnant, and give birth after knowing their HIV-positive status, the reproductive health concerns and rights of people living with and/or affected by HIV have received little attention. Highly active antiretroviral therapy (HAART), the standard of HIV treatment in BC, is reducing the health risks and barriers to reproduction for people living with HIV. With appropriate adherence to treatment, HAART increases life expectancy, decreases morbidity, and dramatically reduces the risks of HIV transmission from mother-to-child and to sero-discordant sexual partners. Angela Kaida's research seeks to describe the reproductive trends of HIV-positive women in BC's "HAART era" (roughly 1996 and onwards) and to investigate the complex interplay between pregnancy, antiretroviral adherence, and HIV disease progression. Owing to the structure of HIV-related services and population-level data capture methods, BC provides an entirely unique and highly valuable environment in which to investigate critical questions related to HIV, HAART, and pregnancy. Notably, no other jurisdiction in the world has published population level findings on this topic. This research will provide evidence to guide the development of effective and responsive reproductive and sexual health services and policies for HIV-positive women in BC and beyond. These services are intended to support the rights of HIV positive women to be sexually active and achieve their fertility goals, while minimizing associated risks to maternal, fetal, and partner health. The findings will contribute vital information to the development of provincial, national, and international guidelines that support reproductive decision making among HIV-affected couples and inform the use of antiretroviral therapy during pregnancy.

**Date:** 2009

**Funding Program:** 2009 Research Trainee Award, Post Doctoral Fellow

**Source:** Michael Smith Foundation for Health Research database

**PROJECT R119:**

**Title:** *Resilience: the effect of sexual and injecting risk behaviour on the health of Indigenous populations in Australia, Canada and New Zealand*

**Principal Investigators:** Dr. John Kaldor and Prof. Andrew Grulich

**Co-investigators:** Dr. Sandra Eades, Dr. Clive Aspin, Dr. Thomas Wong, Mr. Chris Lawrence, Dr. John Daniels, Mr. Kevin Barlow, Dr. Neil Andersson, Dr. Chris Archibald, Dr. Rhys Jones, Prof. Linda Smith, and Dr. Nigel Dickson

**Abstract:** HIV/AIDS has become one of the most important health problems in the world today. Like several other infectious diseases, it is mainly spread by behaviours that most people consider to be part of their private lives, such as sexual intercourse and drug use. In many societies, the search for ways to prevent and treat these infections has been complicated by the fact that people find them embarrassing to discuss, or fear discrimination if they have them. While surveys of sexually transmitted infections have found high rates in some Indigenous communities in Australia, New Zealand and Canada, so far only Canada has seen increased rates of HIV/AIDS among Indigenous people. There is much we need to learn about prevention and treatment in Indigenous people. We are therefore proposing to set up collaborative studies in each of the three countries that will explore how Indigenous people are able to protect themselves against these infections. We are especially interested in finding out about their resiliency, the way in which they make use of their own and their communities' strengths to protect themselves and enhance their health and well-being. A good understanding of what resiliency is about will help us discover how Indigenous health programs can help all people in their communities to have the best chance of avoiding these infections, or getting the right kind of care, support and treatment if they do have one or more of these infections. The research will be done in full collaboration with Indigenous communities in every aspect, from planning through to regular reporting of results. The program will provide opportunities for Indigenous people in the three countries to develop and enhance research skills in this important area, and allow non-Indigenous people to share knowledge and experience with Indigenous communities.

**Dates:** July 2006 – May 2011

**Funding Program:** CIHROperating Grant

**Source:** CAHR

**PROJECT R120:**

**Title:** *Risking it: examining the experiences of gay/bi/queer transmen and HIV/AIDS*

**Principal Investigator:** Broden Giambrone

**Abstract:** Not available.

**Date:** 2009

**Funding Program:** Canada Graduate Scholarships Program – Masters Scholarships Program

**Source:** SSHRC database

**PROJECT R121:**

**Title:** *Role of Socio-Cultural Factors in Pregnancy Planning of Women Living with HIV*

**Principal Investigator:** Dr. Trent S. Newmeyer

**Co-investigators:** Dr. Mona Loutfy and Dr. Saara Greene

**Abstract:** Not available.

**Dates:**

**Funding Program:** Grants Awarded, Cycle 21 (2008-2009), CANFAR

**Source:** CANFAR database

**PROJECT R122**

**Title:** *Sexual Health Matters: Concerns of HIV+ Adolescents and Young Adults*

**Principal Investigator:** Tamara Landry

**Co-investigator:** William Fisher

**Abstract:** HIV+ youth face vulnerabilities such as stigma, emotional or sexual disturbance, compromised immune system, alcohol/substance use, and risk of sexually transmitted infections. A number of these vulnerabilities may be enhanced by the very act of self-disclosure of HIV. Few Canadian studies have explored HIV+ youths' experience with disclosure of HIV status, or compared the experience of youth infected at birth to youth infected during adolescence. In Canada, there are no existing health promotion guidelines or "disclosure scripts" on how to assist HIV+ youth to disclose (or not) their HIV status.

**Objectives:** This study explores a) the experience of disclosure of HIV+ status of a diverse group of Canadian HIV+ youth infected at birth or during adolescence, b) the impact of disclosure on their sexual health, and c) their access to available support services. It compares HIV disclosure experiences of HIV+ youth infected at birth or infected during adolescence to identify key distinctions. The results will provide evidence for educators and HIV+ youth to support safe and successful disclosure of HIV status.

**Methodology:** In June 2010, a youth advisory committee identified key themes, and helped develop interview questions. Up to forty HIV+ youth from London and Toronto, Ontario, 14-29 years of age, will be participating in in-depth interviews that commenced in August 2010 with ethics clearance from The University of Western Ontario. Using a phenomenological approach, data analysis will describe and catalogue the "lived experience" of the participants. Themes and patterns will be compared across all transcripts to describe individual and collective experiences.

**Relevance and Potential Impact:** This research is intended to advance knowledge to help create and implement education, support and prevention programs tailored specifically to the sexual health and health status disclosure concerns of HIV+ youth, as well as minimize the risk of HIV transmission and protect the health of HIV+ and HIV- individuals. Education programs designed with the assistance of HIV+ youth can help to facilitate an approach to disclosure with which they can feel comfortable to discuss their health status with healthcare providers, intimate friends and partners.

**Date:** 2010

**Funding Program:** OHTN Grant Studentship Award

**Source:** OHTN database

**PROJECT R123:**

**Title:** *Sexual violence, HIV/AIDS and Aboriginal women*

**Principal Investigators:** Mr. J. K. Barlow and Dr. Charlotte J. Loppie

**Co-investigators:** Dr. Gail Valaskakis and Dr. Cornelia Wieman

**Abstract:** Using a combined visual/in-depth interview methodology, the Canadian Aboriginal AIDS Network will focus attention on the issue of sexual violence in the context of HIV/AIDS service provision. This exploration will ask the following research questions: (1) How do women represent and then interpret the impact of sexual violence on their lives in the context of HIV/AIDS through visual means? Visual methodology is a unique approach to research often used to explore difficult concepts that people may be unable to verbalize. (2) How does gender, culture and HIV/AIDS status manifest itself for Aboriginal women when accessing services? (3) What cultural tools or methods are being utilized by Aboriginal women living with HIV/AIDS to manage their health? (4) What policy/program implications arise when considering issues of sexual violence, gender, culture and HIV/AIDS?

**Dates:** April 2006 – March 2009

**Funding Program:** CIHR – Operating Grant

**Source:** CAHR database

**PROJECT R124:**

**Title:** *Social anxiety as a risk factor for HIV transmission risk behaviour among HIV-seropositive and HIV-seronegative men who have sex with men: Mechanisms of action*

**Principal Investigator:** Dr. Trevor Adam Hart

**Co-investigator:** Dr. Ted Myers

**Abstract:** As persons with HIV and AIDS live longer and fuller lives as a result of advances in medical treatment, there is increasing need for systemic research on risk behaviours in HIV-seropositive and HIV-seronegative persons. Guided by previous research documenting associations between social anxiety and unprotected intercourse among samples of adolescent men who have sex with men (MSM) and HIV-positive adult MSM in the United States, this study examines how social anxiety may lead to risky sexual behaviour among adult HIV-positive and HIV-negative MSM in Ontario. Participants will complete brief semi-structured interviews and self-report measures assessing social anxiety, mood problems, alcohol and drug use, attitudes regarding HIV/AIDS, and sexual behaviour. This study will provide information to help healthcare providers improve health care and to prevent HIV and AIDS among men who have sex with men and other populations at higher risk for HIV and AIDS-related problems.

**Dates:** October 2005 – June 2011 and October 2005 – June 2009

**Funding Program:** CIHR Operating Grant

**Source:** CAHR database

**PROJECT R125:**

**Title:** *Socio-ecological analysis of HIV/AIDS treatment-related behaviours & health outcomes in an era of HAART: Considering individuals in the context of their communities*

**Principal Investigator:** Angela K. KAIDA

**Abstract:** Women infected with human immunodeficiency virus (HIV), the causative agent of acquired immunodeficiency syndrome (AIDS), can transmit the virus to their infant during pregnancy and around childbirth. It is thought that maternal immune responses play a role in protecting the child against infection. However, the means by which this protection is effected are not known. As well, antiretroviral medications can protect the child from acquiring HIV from his mother, but does at the same time reduce the amounts of trained immune cells responsible for host protection. Hence, the objective of this proposal is to better our understanding of the connectedness between HIV-1, maternal immunity and regimens of antiviral medication, in order to perfect the methods and protocols currently used to prevent transmission of HIV from mother-to-child. To do so, we will study immune responses and viral proteins in a group of pregnant HIV-infected women who were treated with different regimens of antiretroviral medication.

**Dates:** January 2006 – August 2009 and September 2006 – August 2009

**Funding Program:** Michael Smith Foundation for Health Research

Student award and CIHR – Doctoral Research Award Area of Health Services/Population Health HIV/AIDS Research

**Source:** CIHR database

**PROJECT R126:**

**Title:** *Studies of host factors and HIV-1 determinants during pregnancy*

**Principal Investigator:** Dr. Hugo Soudeyns

**Co-investigators:** Dr. Marc Boucher and Dr. Normand D. Lapointe

**Abstract:** Women infected with human immunodeficiency virus (HIV), the causative agent of acquired immunodeficiency syndrome (AIDS), can transmit the virus to their infant during pregnancy and around childbirth. It is thought that maternal immune responses play a role in protecting the child against infection. However, the means by which this protection is effected are not known. As well, antiretroviral medications can protect the child from acquiring HIV from his mother, but does at the same time reduce the amounts of trained immune cells responsible for host protection. Hence, the objective of this proposal is to better our understanding of the connectedness between HIV-1, maternal immunity and regimens of antiviral medication, in order to perfect the methods and protocols currently used to prevent transmission of HIV from mother-to-child. To do so, we will study immune responses and viral proteins in a group of pregnant HIV-infected women who were treated with different regimens of antiretroviral medication.

**Dates:** April 2005 – March 2009

**Funding Program:** CIHR Operating Grant

**Source:** CAHR database



**PROJECT R127:**

**Title:** *Systematic review of HIV transmission between serodiscordant couples where the HIV-positive partner has full viral suppression with antiretroviral therapy*

**Principal Investigators:** Mona R. Loutfy, Louise Binder, Shari L. Margolese, and Frank McGee

**Co-investigators:** Tony Antoniou, Paula A. Rochon, and Sergio Rueda

**Abstract:** The impact of antiretroviral therapy (ART) on the natural history of HIV infection is indisputable, with dramatic reductions in morbidity and mortality along with decreased rates of vertical transmission (from mother to child). An issue of increasing interest is the prevention of horizontal transmission of the virus from the infected partner in a serodiscordant couple to the non-infected partner. Currently, there are opposing viewpoints on prevention strategies on horizontal transmission which require a need for clarification of the research to guide policy on this issue. The first objective of this project is to conduct a scientifically rigorous systematic review of the risk of HIV transmission in serodiscordant couples where the HIV-positive partner has full plasma viral suppression while taking ART. The second objective of this project is to create effective knowledge translation resources to assist with counselling on the risk and prevention of HIV transmission in the discordant couple setting.

**Dates:** January 2010 – December 2010

**Funding Program:** CIHR Knowledge Synthesis Grant

**Source:** CIHR database

**PROJECT R128:**

**Title:** *Systematic review of the effects of stigma and discrimination on health in HIV/AIDS*

**Principal Investigators:** Dr. Sean B. Rourke, Dr. John Cairney, Dr. Randy Jackson, Dr. Rosemary Jolly, and Dr. Samuel Noh

**Co-investigators:** Dr. Barry D. Adam, Dr. Jean Bacon, Dr. Winston Husbands, Dr. Alan Li, Dr. Margaret Millson, Dr. Sarah Rubenstein, Dr. Sergio Rueda, Dr. Carol Strike, Dr. Wangari Tharao, Dr. Robb Travers, and Dr. Anna Van Der Meulen

**Abstract:** HIV/AIDS is increasingly being viewed as a chronic condition as opposed to a terminal illness. Research has shown that HIV-related stigma and discrimination are associated with poor physical and mental health. Objectives: (1) To conduct a quantitative and qualitative systematic review of the research literature on the effects of stigma and discrimination on the health and healthcare access/utilization of people living with HIV/AIDS; (2) To make the results of both reviews available to key stakeholders through a comprehensive knowledge translation strategy. Methods: A systematic search of electronic databases will be performed on journal articles published from January 1996 onward. Our search will include "grey" literature as well as contact with researchers in the field to solicit unpublished data. Two reviewers will independently perform the study selection, quality assessment, and data abstraction. We will report the study findings separately based on outcomes and will perform sensitivity analyses according to study design and quality. Knowledge Translation Plan: Our research team includes key stakeholder representatives who will be involved in all stages of the investigation which will ensure that existing knowledge regarding the effects of stigma and discrimination on health and access to care in people living with HIV/AIDS will be made available in useful forms to community-based AIDS service organizations, key policy makers, HIV physicians, and people living with HIV/AIDS.

**Dates:** February 2008 – January 2009

**Funding Program:** CIHR Operating Grant

**Source:** CAHR database

**PROJECT R129:**

**Title:** *The 2008 Ontario HIV Treatment Network Research Conference*

**Principal Investigator:** Sean B. Rourke

**Abstract:** The OHTN Research Conference is a unique opportunity for Canadian HIV investigators to showcase the most up-to-date and important advances in basic science, clinical, socio-behavioural, epidemiological and community-based research. In the ten years that this conference has been running, it has become a key yearly event for the HIV research field in Ontario and beyond. The conference program is designed to promote and support knowledge translation among all of our stakeholder groups, community members, researchers, policy makers and service providers – and consists of a variety of skills-building workshops, round table luncheon discussions, interactive panel presentations, video documentaries, debates, oral abstract presentations and guided poster tours. The theme of this year's conference is "A Decade of Discovery to Drive Policy and Care: Looking Back, Moving Forward." The 2008 OHTN Research Conference marks the OHTN's 10th anniversary, and we have designed a program to highlight advances in basic, clinical, socio-behavioural, epidemiology and community-based research, how these advances have led to important changes in policy and care for the Ontario community and beyond, and emerging directions in HIV research that can guide research investments over the next ten years. Attendance at our conference has increased each year; we anticipate that approximately 570 people will attend our 2008 conference from across Canada and around the world including: 200 HIV researchers, 270 community stakeholders, 60 government representatives and policy makers, 40 primary care physicians or other healthcare professionals. While the mandate of the OHTN is Ontario focused, the Conference is designed to showcase a diversity of research outcomes and partnerships, both Canadian and international. This year, we are pleased to be profiling leading Canadian researchers focused on national HIV issues.

**Dates:** September 2008 – August 2009 and  
September 2009 – August 2010

**Funding Program:** CIHR Meetings, Planning and Dissemination Grant – Planning Grant – Priority Announcement: Institute of Infection and Immunity

**Source:** CIHR database

**PROJECT R130:**

**Title:** *The African, Caribbean and Black Canadian HIV/AIDS Research Think Tank*

**Principal Investigator:** Wangari Tharao

**Abstract:** Not available.

**Date:** 2009

**Funding Program:** OHTN Grant Workshop, Symposium and Conference Fund

**Source:** OHTN database

**PROJECT R131:**

**Title:** *The Canadian HIV vascular study*

**Principal Investigator:** Marek J. Smieja

**Co-investigators:** Kevin A. Gough, Eva Lonn, Kenneth L. Rosenthal, Fiona M. Smaill, and Lehana Thabane

**Abstract:** Antiretroviral treatment for the human immunodeficiency virus (HIV) has greatly prolonged life expectancy of patients with advanced HIV infection. However, HIV treatment may cause a high blood cholesterol, high glucose, and changes in fat metabolism, and there is growing concern that these will lead to an increase in cardiovascular disease in HIV-positive patients. In this study, we propose investigating the progression of blood vessel thickening, in order to examine the relative contribution of various drug regimens, the immune system, and pre-existing cardiovascular risk factors in the genesis and progression of atherosclerosis in HIV-positive subjects. We have carefully assembled a cohort of 273 HIV-positive subjects in five Canadian centres who are under going baseline and 1-year high-resolution carotid artery ultrasound. We have standardized the technique, data collection, and blood collection. In the current submission, we propose a four-year follow-up study in which these subjects will continue with yearly carotid artery ultrasound. This study will examine the role of the immune system and immune reconstitution of macrophage/monocytes versus t-lymphocytes in the progression of atherosclerosis; the role of various drugs including zidovudine, stavudine, efavirenz, and the protease inhibitors; and the role of pre-existing cardiovascular risk factors such as smoking or hypertension. Lipids will be examined both as independent risk factors, and as part of the causal pathway for drug-induced atherosclerosis. The study should yield important data on progression of cardiovascular disease among HIV-positive subjects; and examine some of the putative pathways, including lipid and immunologic pathways.

**Dates:** April 2005 – March 2010 and September 2006 – August 2011

**Funding Program:** CHIR Operating Grant and CIHR New Investigator

**Source:** CIHR database

**PROJECT R132:**

**Title:** *The Cedar Project: Exploring HIV and Hepatitis C Vulnerabilities among Young Aboriginal Drug Users in Three Canadian Cities*

**Principal Investigator:** Patricia M Spittal

**Co-Investigators:** Martin T. Schechter, Catherine P. Baylis, Russell C. Callaghan, Wayne M. Christian, Kevin J. Craib, Patricia A. Janssen, Reinhard M. Krausz, Caroline Miller, Akm Moniruzzaman, Eugenia Oviedo-Joekes, Chris G. Richardson, Christopher H. Sherlock, and Eric M. Yoshida

**Abstract:** During the past decade, the number of Aboriginal people diagnosed with HIV in Canada has grown more than any other ethnicity. Although Aboriginal people comprise only 4% of BC's population, they represent more than 13% of all positive tests. Whereas the majority of infections are related to injection drug use, factors that explain elevated risk and transmission of HIV among Aboriginal young people who use illicit drugs are not well understood. The Cedar Project is an observational study addressing HIV and HCV related vulnerabilities of Aboriginal young people living in Vancouver, Kamloops and Prince George, BC. We have recently identified concerning rates of both HCV and HIV infection, transition to injection and crystal methamphetamine use. Having an established cohort designed and implemented with Aboriginal partners and investigators now allows us the opportunity to expand our work to include identification of resiliency and protective factors from the perspectives of Aboriginal young people and focus in particular on a case management intervention aimed at increasing utilization of HIV care among HIV positive Cedar participants.

**Dates:** April 2009 – March 2012

**Funding Program:** CIHR Operating Grant

**Source:** BCCfE

**PROJECT R133:**

**Title:** *The epidemiology of sexually transmitted infections and blood borne pathogens in an inmate population*

**Principal Investigators:** Dr. Carole Beaudoin and Dr. John Wylie

**Co-investigators:** Dr. Magdy Dawood, Dr. Trina Larsen, Dr. Marilyn Sloane, Dr. Paul Van Caeseele, and Dr. Michelyn Wood

**Abstract:** The aim of this study is to inform effective and innovative prevention efforts in reducing the transmission of sexually transmitted infections (STI) and blood borne pathogens (BBP) among an inmate population. The need to identify and quantify STI and BBP prevalence and related risk behaviours among individuals incarcerated in correctional facilities is necessary to inform prevention and harm reduction activities. As such, this study will engage in a collaborative research project between the University of Manitoba, the provincial health and justice ministries in Manitoba (Manitoba Health and Manitoba Justice, respectively), and the Public Health Agency of Canada to assess within an inmate population: (a) the seroprevalence of HIV, Hepatitis C, gonorrhea, chlamydia, and syphilis; (b) the behaviours engaged in by inmates which may put them at risk for transmission of an STI/BBP; (c) the knowledge (or lack thereof) of disease risk behaviours; and (d) the social and environmental barriers to disease prevention that exist within a correctional setting. To this end, seroprevalence screening for gonorrhea, chlamydia, syphilis, Hepatitis C, and HIV in addition to in-depth interviews will be conducted with 400 incarcerated study participants over a six-month period. In addition to conference presentations and peer reviewed publications, knowledge translation of the behavioural risks and the social and environmental influences on those risks will be conducted with local community organizations that support prevention, harm reduction and health services, and with both federal and provincial health and corrections departments to support the development of evidence-based policy and programs.

**Dates:** November 2007 – October 2009

**Funding Program:** CIHR Operating Grant

**Source:** CAHR database

**PROJECT R134:**

**Title:** *The impact of actual or perceived HIV status on refugee determination*

**Principal Investigator:** Kristi H. Kenyon

**Abstract:** Not available.

**Date:** 2008

**Funding Program:** Canada Graduate Scholarship – Doctoral Program

**Source:** SSHRC database

**PROJECT R135:**

**Title:** *The impact of antiretroviral care on the health and well being of persons infected with HIV/AIDS*

**Principal Investigator:** Robert S. Hogg

**Co-investigators:** Thomas H. Kerr, Julio S. Montaner, and Evan Wood

**Abstract:** The primary objective is to establish a new population-based cohort of 500 HIV infected men and women accessing antiretroviral therapy via the BC HIV/AIDS Drug Treatment Program in order to evaluate the impact of supportive health services (like methadone treatment, MAT/ DOT, physician care, pharmacy supervision, and addiction services) and ancillary services (quarterly CD4 and viral load test, and drug resistance testing as required) on adherence and response to antiretroviral therapy.

**Dates:** July 2006 – March 2009

**Funding Program:** CIHR Capacity Building through Enhanced Operating Grants in HIV/AIDS

**Source:** CIHR database

**PROJECT R136:**

**Title:** *The lived experiences of health and well-being among Aboriginal people living with HIV/AIDS: Beyond a deficiency model*

**Principal Investigator:** Dr. Tracey Prentice

**Abstract:** In partnership with the Canadian Aboriginal AIDS Network (CAAN) and its member organizations, this community-based participatory research (CBPR) project will focus on the 'health' of Aboriginal people living with HIV/AIDS (APHAs). The study responds to published commentaries from Indigenous/Aboriginal researchers and CAAN research with Aboriginal women that highlights the need for stories and images of health and wellness among APHAs. The predominance of the 'deficit model' and the focus on pathogenesis (the origins of illness) in Aboriginal HIV/AIDS research has created an overall picture of suffering, disease, and dysfunction in Aboriginal and APHA communities that is neither a true or complete representation of the APHA experience. Such representations are misleading, disempowering, and demotivating. The proposed research seeks to counterbalance the above by exploring the lived experience of health and well-being among APHAs through community-led focus groups and participant observation at formal and informal gatherings of APHAs. The specific research questions this project will address are: (1) How do APHAs understand and experience health and wellness in the context of living with HIV/AIDS? (2) What factors contribute to health and wellness among APHAs? (3) What role, if any, does culture play in the way APHAs understand and experience health and wellness? (4) What role, if any, does sex and/or gender play in the way APHAs understand and experience health and wellness? Consistent with principles of CBPR and ownership, control, access and possession (OCAP), community-led focus groups will provide opportunities for capacity building and facilitate community ownership and leadership in this research. In addition, partnering with CAAN and its member groups at local and provincial levels will ensure that findings from this research are fully utilized and contribute to the development of more responsive and culturally appropriate supports and services.

**Dates:** September 2007 – August 2010

**Funding Program:** CIHR Student Award

**Source:** CAHR database

**PROJECT R137:**

**Title:** *The makings and meanings of men who have sex with men: a study in race, gender, sexuality and citizenship*

**Principal Investigator:** Andil Gosine

**Abstract:** Not available.

**Date:** 2008

**Funding Program:** Standard Research Grants Program

**Source:** SSHRC

**PROJECT R138:**

**Title:** *The quality of life in older adults coping with HIV/AIDS in Canada*

**Principal Investigator:** Patricia A. Khokher

**Abstract:** Not available.

**Dates:** February 2008 – February 2010

**Funding Program:** CHSRF/CIHR Fellowships

**Source:** CIHR database



**PROJECT R139:**

**Title:** *Towards Evidence-informed Support Services for PHAs: A Scoping Review of Existing Research*

**Principal Investigators:** Winston C. Husbands, Sergio Rueda, and Michael G. Wilson

**Co-investigators:** Le-Ann Dolan, Angela Eady, Nicole R. Greenspan, and Rick A. Kennedy

**Abstract:** Since the introduction of HAART, people living with HIV/AIDS (PHAs) are now living longer. As a result, there is a growing need for support services and programs for PHAs in order to help increase their quality of life and functioning. Currently, services and programs in counselling and case management (CCM) and health promotion are offered by AIDS service organizations (ASOs) across the country, but research evidence to improve the content and quality of these services is limited. Access to current research is also a concern. This study will identify research evidence to improve support services by: 1. identifying all existing systematic reviews related to CCM and health promotion for PHAs; 2. assessing the quality and local applicability of the systematic reviews that are identified; 3. mapping the primary studies related to CCM and health promotion for PHAs; and 4. disseminating in user friendly formats the findings of our study to ASO decision-makers, researchers, and policy makers, including suggested strategies for addressing the identified knowledge gaps. In order to facilitate an evidence-informed approach for support services and programs in ASOs, we will use a comprehensive knowledge transfer strategy that consists of “push” efforts (e.g., publishing papers and fact sheets), “pull” efforts (e.g., providing a listing of identified systematic reviews on ACT’s and its partners’ websites with user-friendly summaries) and “exchange” efforts (e.g., hosting a series of forums held in various provinces that will include ASOs and decision-makers). PHAs are involved in the design, implementation and dissemination of this project.

**Dates:** November 2008 – October 2009

**Funding Program:** CIHR Knowledge Synthesis Grant

**Source:** CIHR database

**PROJECT R140:**

**Title:** *Trans PULSE project: Exploring HIV vulnerability in Ontario’s trans communities*

**Principal Investigators:** Dr. Greta Bauer and Dr. Robb Travers

**Co-investigators:** Dr. Rebecca Hammond, Dr. Michelle Hancock-Boyce, Dr. Matthias Kaay, Dr. Rupert Raj, Dr. Kyle Scanlon, and Dr. Anna Travers

**Abstract:** HIV does not affect all groups equally. Studies from across North America strongly suggest that trans communities have higher than expected rates of HIV. This is perhaps not surprising considering evidence that many trans people experience violence and discrimination, and are having difficulty accessing the most basic of services. These include employment, health care, and housing. It is critical to consider these broader factors when trying to understand HIV in marginalized groups such as Ontario’s trans communities. To address this, members of these communities – with partners from the Ontario HIV Treatment Network, Sherbourne Health Centre, The 519 Community Centre, The University of Western Ontario, and TGStation.com – have formed a community-based research project – The Trans PULSE Project. Trans PULSE will use a mix of qualitative and quantitative methods to provide the richest possible understanding of the ways that social marginalization may produce HIV vulnerability within trans communities and how social factors, such as healthcare access as well as the source and stability of one’s income, can affect quality of life for those trans people who live with HIV. This project addresses a significant lack of relevant information, and reflects a desire by community members to see HIV within a broader context of trans lives and experiences. The project is made up of an 8 person Investigators Committee, 5 of whom are trans, who have worked together in identifying research goals, designing the study, and increasing community involvement to ensure that this research is relevant to the needs of trans communities. Community soundings, wherein trans community members in three different Ontario communities discussed their experiences around health, health care, and HIV risk, have been important in shaping the research.

**Dates:** April 2007 – March 2010

**Funding Program:** CIHR Operating Grant

**Source:** CAHR database

**PROJECT R141:**

**Title:** *Trans PULSE Symposium: Building Our Communities*

**Principal Investigators:** Robb Travers and Greta R. Bauer

**Co-investigators:** Michelle J. Hancock-Boyce and Kyle A. Scanlon

**Abstract:** This request (please also consider for the CIHR HIV/AIDS Research Initiative Funding) is for the *Trans PULSE Symposium*, that brings together diverse decision makers including, transgender people, researchers, service providers and policy makers to discuss the quantitative data from the Trans PULSE survey, and to plan 'research to action' strategies. *Trans PULSE* is a CIHR-funded, community-based research project that responds to problems identified within transgender communities in Ontario regarding access to health and social services and the broader social determinants of health. It aims to understand the multifaceted ways in which social exclusion shape the provision of services for trans people, and adversely impact their health outcomes. The largest study of its kind in Canada to date, it fills a significant gap in knowledge. A major focus is better understanding HIV/AIDS risk factors as well as broader prevention, care and support issues. *Trans PULSE* data will contribute significantly to the prevention of acquisition and transmission of new infections by providing frameworks by which to better understand HIV vulnerability in these highly marginalized communities. It will inform interventions and standards of care for trans people affected by HIV, and will illuminate access barriers to health care and provide action strategies for overcoming them. This will ultimately improve quality of life and slow disease progression for trans people living with HIV. The *Trans PULSE Symposium* will provide a unique opportunity for stakeholders to share and understand *Trans PULSE* data, and to begin to apply knowledge associated with the various social determinants of health in building a sound theory of community-level HIV (and other health-related) vulnerability. Through their participation, this group of stakeholders will constitute the beginnings of a 'knowledge network' who work to create longer term changes in support of enhancing transgender health outcomes.

**Dates:** January 2010 – December 2010

**Funding Program:** CIHR Meetings, Planning and Dissemination Grant – Planning Grant – Priority Announcement: Institute of Infection and Immunity

**Source:** CIHR database

**PROJECT R142:**

**Title:** *Two-Spirit Women's experience of homophobia in the context of HIV/AIDS service provision*

**Principal Investigators:** Mr. Randy Jackson and Dr. Janice Ristock

**Co-investigators:** Dr. Shari Brotman, Dr. Laverne Monette, and Joyce Seto

**Abstract:** Adopting a community-based research design, the Canadian Aboriginal AIDS Network (CAAN) is pursuing a qualitative study of two-spirit women's experience of homophobia in the context of HIV/AIDS service provision. This study builds on a recent CAAN survey where trends are highlighted to asking more in-depth research questions: (1) When two-spirit women access care and homophobic discrimination is encountered, how do two-spirit women subjectively experience such situations? How do they understand the intersection between their identities as two-spirit, HIV/AIDS and as women? (2) What is the impact of homophobia and heterosexism in terms of access to HIV/AIDS services? In other words, how do two-spirit women respond and what are the reasons they provide that guide their decision-making process? (3) What are the best practice and policy features necessary to mitigate homophobia in service provision from this population's perspective? Underpinning the study, respecting principles of OCAP is essential to maximizing any potential benefit.

**Dates:** April 2006 – March 2009

**Funding Program:** CIHR Operating Grant

**Source:** CAHR database

**PROJECT R143:**

**Title:** *Understanding the HIV-Related Transitions of Families Living with HIV*

**Principal Investigator:** Orville Browne

**Abstract:** Not available.

**Date:** 2009

**Funding Program:** OHTN Research Operating Grant

**Source:** OHTN database

**PROJECT R144:**

**Title:** *Understanding virological and host determinants of HIV disease progression in a cohort of slow progressors*

**Principal Investigators:** Cécile L. Tremblay and Nicole F. Bernard

**Co-investigators:** Jonathan B. Angel, Jean-Guy Baril, Pierre Côté, Alexandra De Pokomandy, Michael J. Gill, Marianne Harris, Colin Kovacs, Mona R. Loutfy, Julio S. Montaner, Anita R. Rachlis, Jean-Pierre Routy, Benoit Trottier, and Christos M. Tsoukas

**Abstract:** A certain number of patients, very few, infected with HIV are able to control the virus with no anti-HIV medication. This group of rare patients has been identified as "long term non-progressors" and may have special mechanisms that enables them to control the virus on their own. Learning more about such mechanisms may be very important to help designing vaccines and/or new therapies or prevention strategies for HIV. We will be recruiting HIV-1 infected subjects who are long term non-progressors and patients who have a normal disease progression, to study how various factors such as the type of virus they are infected with, their immune system, or their cells, help them to control the infection. In addition, we want to determine the long-term clinical and psychological natural history of the infection for such patients and evaluate whether superinfection may alter their disease progression.

**Dates:** April 2009 – March 2014

**Funding Program:** CIHR Operating Grant

**Source:** CIHR database

**PROJECT R145:**

**Title:** *Understanding vulnerability: a cultural analysis of HIV/AIDS*

**Principal Investigator:** Sarah Sanford

**Abstract:** Not available.

**Date:** 2008

**Funding Program:** Canada Graduate Scholarship – Doctoral Program

**Source:** SSHRC

**PROJECT R146:**

**Title:** *Women and HIV in Canada*

**Principal Investigator:** Janelle D. Hippe

**Abstract:** Not available.

**Dates:** 2008 and 2009

**Funding Program:** Canada Graduate Scholarship – Doctoral

**Source:** SSHRC database

**PROJECT R147:**

**Title:** *Workshop and Guidelines on Cardiovascular Risk in HIV Patients*

**Principal Investigators:** Astha Ramaiya and Marek J. Smieja

**Abstract:** Antiretroviral treatment greatly prolongs the life expectancy of human immunodeficiency virus (HIV)-infected people, but drug-induced hyperlipidemia and other metabolic abnormalities may predispose them to cardiovascular (CV) disease. Protease inhibitors, in particular, have been associated with high total and LDL-cholesterol, high triglycerides, insulin resistance, and diabetes mellitus. Additionally, HIV-infected people have a higher prevalence of standard CV risk factors such as smoking, compared with the general population. There is an urgent need to place the current evidence in the appropriate context of overwhelming clinical benefit of antiretroviral treatment, while clearly guiding clinicians in strategies to mitigate CV risk. We propose developing evidence-based guidelines for CV risk assessment and disease prevention in HIV-infected patients. Specifically, we propose: 1. To identify, review, summarize and grade the relevant published/presented literature on HIV or antiretroviral therapy (ARV) and cardiovascular risk. 2. To organize an expert workshop in order to develop Canadian guidelines, aimed primarily at HIV physicians and cardiologists. 3. To publish these guidelines in a peer-reviewed journal.

**Dates:** May 2008 – April 2009

**Funding Program:** CIHR Meetings, Planning and Dissemination Grant: Knowledge Translation

**Source:** CIHR database

**PROJECT R148:**

**Title:** *Workshop: What can we learn from HIV-1 infected subjects with slow disease progression?*

**Principal Investigators:** Cécile L. Tremblay and Nicole F. Bernard

**Abstract:** HIV-1 infected individuals with slow disease progression are rare and constitute an important population in which to study virus/host interactions contributing to the control of HIV-1 infection. These studies will likely provide information on rational vaccine design as well as potential new therapeutic targets. We have set up a cohort of HIV-1 infected individuals with slow disease progression (Slow Progressors) in Quebec, and are now expanding it to the rest of Canada. We have secured the collaboration of most of Canada's clinician scientists working in the HIV field. In order to make the best scientific use of the data that will be collected throughout this 5-year cohort study, we wish to organize a one-day workshop to exchange with all these collaborators on ideas and progress that has been made to date on HIV-1 pathogenesis relating to disease progression. The workshop will comprise scientific presentations from international experts in the field. The second part of the workshop will be used for scientific discussions on the various projects supported by the cohort. Finally, the third part will be used for the organization and coordination of the cohort's activities for the next year. This workshop will enrich our project and enhance the collaboration among this group of researcher.

**Dates:** May 2009 – April 2010

**Funding Program:** CIHR Meetings, Planning and Dissemination Grant – Planning Grant – Priority Announcement: Institute of Infection and Immunity

**Source:** CIHR database

## APPENDIX C

It is important to note certain limitations of the methodology for this appendix. The networks, coalitions, and programs identified in this chapter were active at some point between 2009 and 2011, but may no longer be active at the time of publication.

### 1) HIV/AIDS NETWORKS, COALITIONS AND ADVISORY BODIES

#### NATIONAL NON-GOVERNMENTAL ORGANIZATIONS

Canadian Aboriginal AIDS Network (CAAN)

Canadian AIDS Society (CAS)

Canadian AIDS Treatment Information Exchange (CATIE)

Canadian Association for HIV Research (CAHR)

Canadian HIV/AIDS Black, African and Caribbean Network (CHABAC)

Canadian HIV/AIDS Legal Network (CHLN)

Canadian Institutes of Health Research (CIHR) Canadian HIV Trials Network (CTN)

Canadian Public Health Association (CPHA)

Canadian Treatment Action Council (CTAC)

Canadian Working Group on HIV and Rehabilitation (CWGHR)

Interagency Coalition on AIDS and Development (ICAD)

#### FEDERAL ADVISORY BODIES

CIHR HIV/AIDS Research Advisory Committee (CHARAC)

Ministerial Advisory Council on the Federal Initiative to Address HIV/AIDS in Canada (MAC-FI)

National Aboriginal Council on HIV/AIDS (NACHA)

#### NATIONAL BODIES

Federal/Provincial/Territorial Advisory Committee on HIV/AIDS (F/P/T-AIDS)

Leading Together Championing Committee (LTCC)

#### INTERNATIONAL BODIES

Global Network of People Living with AIDS North America (GNP+NA)

International Community of Women Living With HIV/AIDS

#### PROVINCIAL NETWORKS, COALITIONS AND ADVISORY BODIES WITH PHA-SPECIFIC MANDATES

##### BRITISH COLUMBIA

Northern BC Aboriginal HIV/AIDS Task Force

Pacific AIDS Network (PAN)

Positive Living BC

Positive Women's Network

##### ALBERTA

Alberta Community Council on HIV (ACCH)

##### SASKATCHEWAN

MAN/SASK Network

Persons Living with AIDS Network Inc. of Saskatchewan (PLWA Network)

Play it Safer Network

##### MANITOBA

MAN/SASK Network

Manitoba PHA Caucus

Play it Safer Network

##### QUEBEC

Coalition des organismes communautaires québécois de lutte contre le sida (COCQ-SIDA)

Coalition sida des sourds du Québec (CSSQ)



**ONTARIO**

African and Caribbean Council on HIV/AIDS in Ontario (ACCHO)

Gay Men's Sexual Health Alliance (GMSH)

Ontario Aboriginal HIV/AIDS Strategy (OAHAS)

Ontario AIDS Network (OAN)

Ontario HIV Treatment Network (OHTN)

Ontario Advisory Committee on HIV/AIDS (OACHA)

**ATLANTIC**

Atlantic Interdisciplinary Research Network (AIRN)

Nova Scotia Advisory Commission on AIDS

Regional Atlantic AIDS Network (RAAN)

**NORTHERN CANADA**

Northwest Territories HIV & Hepatitis C Support Network

## 2) ORGANIZATIONS INVOLVED IN THE DELIVERY OF PROGRAMS AND TIME- LIMITED PROJECTS (2009 – 2011) SUPPORTING PEOPLE LIVING WITH HIV OR AIDS IN CANADA

It is important to note certain limitations of the methodology for this appendix. Some projects, programs or initiatives delivered by provinces and territories may not have been captured through the information-gathering methodology used in this report.

**NATIONAL LEVEL PROJECTS****CANADIAN ABORIGINAL AIDS NETWORK**

Project P1: The objective of this project is to provide national level support for Aboriginal AIDS service organizations, and to ensure that the needs of Aboriginal communities are addressed/ reflected in national policy, communication, and capacity-building strategies throughout the voluntary sector.

**CANADIAN AIDS SOCIETY**

Project P2: This project provides national support to AIDS service organizations, and acts as a national voice in the development and implementation of national policy, communication, and capacity-building strategies throughout the voluntary sector.

**CANADIAN HIV/AIDS LEGAL NETWORK**

Project P3: This project enhances national HIV/AIDS coordination and planning, policy development and capacity building and communications as it pertains to the legal, ethical and human rights of individuals, AIDS service organizations, and members of the general public affected by HIV/AIDS.

**CANADIAN TREATMENT ACTION COUNCIL**

Project P4: This project enhances national HIV/AIDS policy development specific to treatment access issues. This objective is in line with the goal of the National Voluntary Sector Response Fund (NHVSRF) which seeks to sustain an effective voluntary sector response to HIV/AIDS in Canada.

**CANADIAN WORKING GROUP ON REHABILITATION**

Project P5: The project's specific focus is to coordinate policies, programs and services among stakeholders and to develop best practice guidelines on HIV for rehabilitation professionals.

**CATIE**

Project P6: This project increases community-based AIDS service organizations' capacity to provide effective, integrated treatment information to people living with HIV/AIDS and service providers.

Project P7: National Network of Excellence in HIV/AIDS Knowledge Exchange: The purpose of this project is to establish a national HIV/AIDS Knowledge Exchange Broker to communicate HIV/AIDS prevention, care, treatment and support knowledge to front-line organizations working in HIV/AIDS. The Canadian AIDS Treatment Information Exchange (CATIE) will gather, synthesize, and disseminate relevant research, epidemiological data and best practices to front-line organizations (AIDS service organizations, public health units, population-based organizations, social services and community-based organizations) to increase their capacity to plan and deliver programs and services. CATIE will provide a single point of contact via a website, a toll-free telephone number, publications, workshops, and other communication vehicles.

**INTERAGENCY COALITION ON AIDS**

Project P8: The project provides national level support to new immigrants and engages Black Canadian, African and Caribbean communities, in national policy, communication, and capacity-building strategies throughout the voluntary sector.

**BRITISH COLUMBIA****A LOVING SPOONFUL**

Project P9: A Loving Spoonful is a volunteer-driven, non-partisan society that provides free, nutritious meals to people living with HIV/AIDS in Greater Vancouver.

**AIDS VANCOUVER**

Project P10: AIDS Vancouver works in the community with an integrated approach to HIV/AIDS care and support, prevention and harm reduction. AIDS Vancouver offers a comprehensive range of services, including case management, support programs, a grocery program, a helpline, a resource centre, and prevention and education outreach.

**AIDS VANCOUVER ISLAND**

Project P11: AIDS Vancouver Island works to improve the lives of people living with HIV or AIDS, and to prevent more individuals from becoming infected with the virus. It provides support for people living with HIV and/or hepatitis C through the Positive Wellness program.

**AIDS SOCIETY OF KAMLOOPS**

Project P12: The AIDS Society of Kamloops (ASK) provides awareness, education, advocacy, housing, and support related to HIV/AIDS, hepatitis C, marginalization and persons at risk, to develop healthier communities. ASK provides one-to-one counselling for PHA and their families.

**ANKORS – AIDS NETWORK KOOTENAY OUTREACH AND SUPPORT SOCIETY**

Project P13: ANKORS Prevention, Education, Training & Community Care Team Program: Provides programs and services specifically designed to address regional issues facing rural communities. The project provides support to PHA.

**BC MENNONITE CENTRAL COMMITTEE**

Project P14: The HIV/AIDS program seeks to work with churches, community organizations and individuals interested in providing support to persons infected with and affected by HIV/AIDS, as well as providing a local support group for persons living with HIV/AIDS.

**HIIYE'YU LELUM (HOUSE OF FRIENDSHIP) SOCIETY**

Project P15: Kwam Kwum Súli: Strengthening the Spirit: The project's objectives are to enhance sexual health and injection drug use harm reduction initiatives for at-risk Aboriginal youth; to facilitate access to diagnosis, care, and treatment; and to create social support opportunities for those infected with HIV and/or other related diseases and conditions. To meet these objectives, the organization will undertake the following activities: youth-driven development and presentations of materials such as workshops and theatre presentations; and youth engagement in traditional activities.

**POSITIVE LIVING BC (FORMERLY, BC PERSONS WITH AIDS SOCIETY)**

Project P16: Advocacy Services Program: Addressing the health determinants of income and social status that directly impact the health and well-being of people living with HIV/AIDS by helping PHA access government benefits and services.

**PRISONER POSITIVE**

Project P17: Prisoner POSITIVE works directly with the HIV-positive prisoner population through workshops for groups within correctional institutions, as well as individually through outreach activities after release.

**DR. PETER CENTRE**

Project P18: The Dr. Peter AIDS Foundation helps rebuild lives shattered by HIV/AIDS, addiction, mental illness, poverty, and discrimination because of gender and sexual orientation. The Centre has a combined Day Health Program and 24-hour nursing care residence.

**FRIENDS FOR LIFE**

Project P19: The Vancouver Friends For Life Society serves as a catalyst to enhance the wellness of individuals living with a life-threatening illness by providing complementary and alternative health and support services.

**HEALING OUR SPIRIT**

Project P20: Toll-free phone number to request loan of HIV/AIDS information books/DVDs/videos. Items mailed to requester.

**LIVING POSITIVE RESOURCE CENTRE**

Project P21: Living Positive Resource Centre (LPRC) is a non-profit organization in Kelowna, BC, which provides support and advocacy services to PHA and other people in need within the Central Okanagan. LPRC serves people experiencing issues related to housing, income, nutrition, access to health care, including addictions and mental health services, connections with natural support systems, and other determinants of health.

**MCLAREN HOUSING**

Project P22: McLaren Housing Society of British Columbia is a non-profit organization that provides safe, affordable housing to men, women and families who live with HIV/AIDS, are in financial need and yet are able to live independently.

**PORTLAND HOTEL SOCIETY**

Project P23: Promotes, develops and maintains supportive affordable housing for adults who are hard to house and at risk of homelessness due to their physical and/or mental health, behaviour, substance dependencies, and forensic history.

**POSITIVE LIVING FRASER VALLEY SOCIETY**

Project P24: The Lighthouse Centre is developing a resource centre that will allow persons living in the Fraser Valley to access services in the community to promote healthy behaviours and raise awareness about HIV/AIDS.

**POSITIVE LIVING NORTH**

Project P25: The Choice is Yours: Interactive, Targeted HIV/AIDS Education: Positive Living North delivers a comprehensive strategy to prevent the spread of HIV within vulnerable populations in Prince George and Northern BC.

Project P26: The Fire Pit: Fanning the Flames: The project's objectives are to enhance sexual health and injection drug use harm reduction initiatives for at-risk Aboriginals; to facilitate access to diagnosis, care, and treatment; and to create social support opportunities for those infected with HIV and other related diseases and conditions. To meet these objectives, the organization will undertake cultural activities and facilitate culturally appropriate prevention, education, and activities on sexual health and on injection drug use harm reduction.

**POSITIVE LIVING NORTHWEST**

Project P27: No Kheyoh T'Sih'En T'Sehena Society / Front Line Warriors: Positive Prevention: Developing and disseminating presentations and promotional materials for frontline service providers and community members at the local, regional and provincial level. This project relies heavily on 'Front Line Warriors' to provide their stories and experiences.

**POSITIVE WOMEN'S NETWORK**

Project P28: Support Program for HIV-Positive Women: Providing effective programming and resources for women, their families and service providers, including culturally appropriate services for Aboriginal women who face multiple barriers.

**RED ROAD HIV/AIDS NETWORK**

Project P29: Website access to GIS and Bloodlines magazine. GIS is a mapping of HIV/AIDS services throughout BC.

Project P30: Works with FN Summits, FN Leadership Council, BC Assembly of First Nations regarding on-reserve service barriers and implementation of policies to remove the barriers.

**SURREY HIV/AIDS CENTRE SOCIETY**

Project P31: The Surrey HIV/AIDS Centre Society's mission is to assist the community and those living with HIV/AIDS in overcoming vulnerability, challenges and stigma through education, advocacy, research, ongoing support and empowerment.

**VANCOUVER ISLAND PERSONS WITH AIDS SOCIETY**

Project P32: The mission of the Vancouver Island Persons Living With HIV/ AIDS Society is to offer compassionate peer support and information to all persons living with HIV/AIDS.

**VANCOUVER NATIVE HEALTH SOCIETY**

Project P33: The Vancouver Native Health Society (VNHS) delivers medical, counselling and social services, with an emphasis on providing care to the Aboriginal community. All programs are accessible without fees to native and non-native individuals residing in Vancouver's Downtown Eastside. This "ghettoized" neighbourhood is home to most of the Lower Mainland's most marginalized: substance dependent individuals, the mentally ill, PHA, homeless, immigrants, troubled youth and First Nations people.

### **VICTORIA AIDS RESOURCE AND COMMUNITY SERVICES SOCIETY**

Project P34: The Victoria AIDS Resource and Community Services Society (VARCS) is a non-profit group in Victoria providing practical, emotional, and social support to people living with HIV and their caregivers. VARCS provides a drivers' program, home help, advocacy, referrals, home and hospital visits and the Mobile X needle exchange program.

### **YOUTHCO AIDS SERVICES**

Project P35: The Peer (Promoting an Effective Education Response) to Youth & HIV/AIDS Program: Delivering HIV prevention programming to youth at risk of infections, and support services to youth living with HIV/AIDS.

### **VANCOUVER AIDS SOCIETY**

Project P36: Volunteer Resources Program: Informs the development of new, challenging and relevant volunteer opportunities. Increases the capacity and skill level of volunteers at the organization to provide services that will enhance the quality of life for individuals who are infected with and affected by HIV/AIDS.

### **WINGS HOUSING SOCIETY**

Project P37: Wings Housing Society provides housing assistance for people with HIV/AIDS, including Portable Housing Subsidies (partial rent payments) throughout British Columbia and tenancy in Vancouver's West End.

## **ALBERTA**

### **AIDS BOW VALLEY (ABV):**

Project P38: The mission of ABV includes: providing community outreach; reducing stigma and discrimination; offering support, referral and advocacy for people living with HIV/AIDS; increasing HIV/AIDS and STI knowledge within high-risk populations through prevention education strategies by using a community development and health promotion approach; increasing access to prevention tools for high-risk populations; and increasing knowledge and use of the principles of harm reduction by service providers, healthcare providers and the community at large.

### **AIDS CALGARY AWARENESS ASSOCIATION (ACAA)**

Project P39: ACAA activities across the Calgary, Bow Valley and Palliser Regions of southern Alberta include: providing client services supporting PHAs; community outreach (including: HEAT program for MSM, Prison Outreach, IDU & Sex Trade Outreach, Spirit Helpers for Aboriginals and Youth Xchange for street involved youth); community development; speakers network; community strategies; volunteer training; human rights and community development programming; development, communications, planning/evaluation, community-based research and fund development.

### **ALBERTA COMMUNITY COUNCIL ON HIV (ACCH)**

Project P40: ACCH supports community-based responses to HIV/AIDS in Alberta and provides provincial leadership through collective action and a unified voice. Its support takes the form of assisting its membership with skill and capacity building, as well as advocacy and coordination, community-based research, and stewardship of the Alberta Community HIV Fund (ACHF). Specific to PHA support, ACCH provides funding and coordination for Alberta's "Positive Voices" conference that is held biannually.

### **CENTRAL ALBERTA AIDS NETWORK (CAANS)**

Project P41: CAANS activities include community action, assisting the community in the development of appropriate and sustainable responses to HIV and related issues; health promotion, including providing programming that assists people living with HIV/AIDS and their identified support systems to have access to health promotion services specific to HIV and related issues; reducing the negative effects of substance use and the sex trade on individuals, families and communities through a harm reduction approach; providing education and prevention; and preventing HIV in populations known to be vulnerable to HIV by equipping them with skills to respond appropriately.

### **HIV EDMONTON**

Project P42: HIV Edmonton's mandate includes increasing the capacity of community, education, health and social service providers (CEHSP) to offer services free of barriers and discrimination for those infected with, affected by, and at risk of, HIV; providing quality care to PHA and those affected by, and at risk of, HIV; creating supportive environments through advocacy and policy support; raising public awareness of the societal cost and impact of HIV; informing public policy and practice; and offering community-based HIV-related education to CEHSP and those infected with, affected by, and at risk of, HIV.



**HIV NORTH SOCIETY**

Project P43: Mandates include increasing knowledge of prevention strategies of HIV among prison populations, youth, high-risk populations, Aboriginal peoples, and homeless and street-involved populations. Creating Support Environments by increasing access to social services for people living with HIV/AIDS and those in high-risk target groups; and increasing support networks for PHA, including health and housing.

**HIV SOCIETY OF SE ALBERTA**

Project P44: The project's objectives include fostering the development and maintenance of those living with HIV/AIDS in southeastern Alberta to access services and improving the well-being of people living with HIV/AIDS in this area of the province.

**KIMAMOW ATOSKANOW FOUNDATION (KAF)**

Project P45: Full Circle: The project objectives are to enhance sexual health and/or injection drug use harm reduction initiatives for, and with, vulnerable subpopulations, including those infected, specifically current and former inmates and co-infected Aboriginal people with HIV/AIDS; to facilitate access to diagnosis, care, treatment; to create social support opportunities for those infected with HIV and/or other related diseases and conditions; and to develop regional capacity-building initiatives for non-reserve Aboriginal community-based programming. These objectives will be achieved by developing media resources, by providing social support, including holistic and wellness training and skills training for frontline workers, and by formalizing a provincial Aboriginal alliance.

**LETHBRIDGE HIV CONNECTION:**

Project P46: The project's objectives include increasing community acceptance and support for those who are infected with, or affected by, and those at risk of, HIV/AIDS; undertaking health promotion; and increasing the capacity of people living with HIV to manage their condition.

**SHINING MOUNTAINS LIVING COMMUNITY SERVICES**

Project P47: Reducing Barriers: The project's objectives are to enhance sexual health and injection drug use harm reduction initiatives for, and with, vulnerable subpopulations, specifically high-risk women and youth, injection drug users, and Aboriginal people living with HIV/AIDS. To meet these objectives, the organization will provide nightly access

to culturally sensitive prevention material; offer support and transportation services to Aboriginal people living with HIV/AIDS; provide information sessions on traditional healing strategies; partner with community organizations; organize support circles and workshops; and enhance the skills of Aboriginal people living with HIV/AIDS in managing the disease.

**WOOD BUFFALO HIV & AIDS SOCIETY (WBHAS)**

Project P48: Objectives of this project include creating supportive environments; increasing target populations' knowledge of HIV and awareness of HIV initiatives and resources; and increasing the capacity of PLWHA in the region to manage their condition emotionally, socially, physically and financially.

**SASKATCHEWAN****AIDS PROGRAMS SOUTH SASKATCHEWAN**

Project P49: AIDS Programs South Saskatchewan, founded in 1986, works to support community health through sharing HIV/AIDS information and resources in southern Saskatchewan. This project will focus on assisting providers in gaining greater understanding of HIV/AIDS; striving for a coordination of care; and contributing to the prevention of HIV/AIDS.

**AIDS SASKATOON**

Project P50: Provides support to those affected by HIV/AIDS and education about HIV/AIDS infection and prevention. This project includes an effective and sustainable HIV education program implemented in Saskatchewan and delivered to and involving the community.

**ALL NATIONS HOPE AIDS NETWORK**

Project P51: A Journey of Healing, Aboriginal People Living with HIV/AIDS (APHAs) Joining the Circle: The project's objective is to develop regional capacity-building initiatives for non-reserve Aboriginal community-based programming. To meet this objective, the organization will provide culturally appropriate training sessions; develop materials for Aboriginal service providers on issues relating to Aboriginal people living with HIV/AIDS; establish a speakers' bureau to present at workshops and conferences; and assist two-spirited Aboriginal people through partnership building, research, strategic planning and events.



**BATTLEFORDS FAMILY HEALTH CENTRE INC.**

Project P52: Circle of Change: Reducing Harm: The project objectives are to enhance sexual health and injection drug use harm reduction initiatives for, and with, vulnerable subpopulations such as Aboriginal inmates, high-risk women and youth; to facilitate access to diagnosis, care, and treatment; and to create social support opportunities for those infected with HIV and related diseases and conditions. This will be accomplished through targeted educational groups for adult inmates and youth; drop-in support group; engagement of Aboriginal street youth; and an outreach program.

**KIKINAHK FRIENDSHIP CENTRE INC.**

Project P53: Kikinhak Sexual Health and Drug Use Awareness Program: The project's objective is to develop sexual health and injection harm reduction initiatives for, and with, vulnerable subpopulations, such as high-risk youth and people who live with intravenous drug users (IDU). The organization will undertake some of the following activities to meet its objective: develop partnerships; form focus groups on injection drug use; develop a workshop on the prevention of and living with HIV/AIDS; develop a monthly mailout on available HIV/AIDS resources and services; share materials and expertise through seminars in schools and the local addictions office; and organize informational sessions on HIV/AIDS, IDU prevention and harm reduction.

**PERSONS LIVING WITH AIDS NETWORK INC. OF SASKATCHEWAN**

Project P54: Meeting the needs of people who are living with HIV/AIDS and blood-borne pathogens, through education, support and addressing issues that they experience.

**MANITOBA****MANITOBA PERSONS LIVING WITH HIV AND AIDS CAUCUS**

Project P55: Positive Involvement, New Independence: The goal of this project is to build capacity for PHA within Manitoba to address their health and well-being by providing peer-support programs, including counselling, access to treatment information, volunteer training and skills development, and information dissemination through a newsletter.

**KALI SHIVA AIDS SERVICES**

Project P56: The Positive Women's Program provides non-medical supports and services to people living with HIV/AIDS, and resources for women living with HIV/AIDS in Manitoba by providing a support network for positive women and their children.

**KA NI KANICHIHK – "THOSE WHO LEAD" INC.**

Project P57: Aboriginal Women Responding to the AIDS Crisis (AWRAC): The project's objective is to develop national and regional capacity-building initiatives for non-reserve Aboriginal community-based programming. The activities the organization will undertake to meet its objectives include: establishing an advisory council and conducting focus groups to develop an Aboriginal community-based program and capacity-building training model, specifically focusing on women; teaching Aboriginal people living with HIV/AIDS and volunteers to deliver training on the model; and providing training on the model to Aboriginal organizations at regional community gatherings and conferences.

**NINE CIRCLES COMMUNITY HEALTH CENTRE**

Project P58: An Integrated Community-based Response to HIV/AIDS: Nine Circles is a community-based, multi-faceted primary healthcare centre, which provides prevention, advocacy, care, treatment and support for people living with, affected by, and at risk for, HIV/AIDS. It conducts focus groups with Aboriginal youth and youth at risk in Winnipeg to explore perceptions of risk for HIV/HCV and STIs; focus groups with HIV-positive youth to explore perceptions of existing services and ways to improve engagement with youth; focus groups with street-involved youth to understand the unique needs of vulnerable young people and their use of mobile technologies for health promotion; will implement Telehealth in order to facilitate prevention and educational activities among service providers in northern Manitoba; will hire a one-year term employee to facilitate capacity building between NCCHC and service providers in northern Manitoba.

**SEXUALITY EDUCATION RESOURCE CENTRE**

Project P59: Improving Access to Services for Immigrant and Refugee Communities in Winnipeg and Brandon Regions: The Sexuality Education Resource Centre works to increase access to HIV/AIDS prevention, care, treatment and support services for immigrant and refugee communities in the Winnipeg and Brandon Regions. The project is working to increase awareness and knowledge that contribute to improved health within these communities.

## ONTARIO

*In Ontario, the province provides funding to up to 90 programs and other community or social service agencies through the Community-Based AIDS Education and Support Program, including health clinics and hospitals. Many, but not all of these projects, are captured below, along with projects receiving federal funding. Services generally include HIV/AIDS prevention, education, support and practical assistance programs.*

### **AIDS COMMITTEE OF CAMBRIDGE, KITCHENER, WATERLOO & AREA**

Project P60: The “Aht Fra” Project: Accessibility through Interpreter Project for People with HIV/AIDS: This project develops pilot models of service coordination and integration to increase accessibility to services for people living with HIV/AIDS.

### **AIDS COMMITTEE OF DURHAM REGION**

Project P61: The AIDS Committee of Durham provides HIV/AIDS-related support and advocacy to individuals, families and groups infected with, or affected by, HIV/AIDS and to the general community in the region of Durham.

### **AIDS COMMITTEE OF GUELPH & WELLINGTON COUNTY**

Project P62: Positive Prevention – Train the Trainer: The objectives of this project include increasing the knowledge and ability of peer educators to effectively deliver one-on-one education sessions and facilitate educational workshops for people living with HIV and AIDS and people co-infected with HIV and AIDS and hepatitis C; and increasing the levels of positive sexual health and overall well-being of people living with HIV and AIDS and those co-infected with hepatitis C.

Project P63: Wellington and Grey Bruce Rural Prevention Outreach Program: The objectives of this project include increasing knowledge of HIV/AIDS, hepatitis C and sexual health among Aboriginal people in Grey-Bruce; decreasing isolation among HIV-positive Aboriginal people; decreasing stigma and discrimination experienced by rural Aboriginal people, the gay, lesbian, bisexual, and transgender community, the mental health community,

and people living with HIV/AIDS (PHA); increasing knowledge, skills and ability to access resources among rural physicians in the care and treatment of PHA; increasing knowledge of gay-specific psychosocial risk factors around transmission among rural gay men; and increasing knowledge of HIV treatment and complementary therapies among rural PHA.

### **AIDS COMMITTEE OF NORTH BAY AND AREA**

Project P64: The AIDS Committee of North Bay & Area (ACNBA) serves people in North Bay and area who are infected with, and/or affected by, HIV/AIDS.

### **AIDS COMMITTEE OF OTTAWA**

Project P65: The AIDS Committee of Ottawa (ACO) provides free, confidential services for people living with, affected by, and at risk for, HIV in the Ottawa area.

### **AIDS COMMITTEE OF SIMCOE COUNTY (ACSC)**

Project P66: ACSC supports those infected with, affected by, and at risk for, acquiring HIV/AIDS to help improve the quality of their lives.

### **AIDS COMMITTEE OF TORONTO (ACT)**

Project P67: Integrating a Common Approach to HIV, Sexually Transmitted Infections, and Hepatitis C: This project will provide formalized guidelines, policies and organizational tools for the AIDS Committee of Toronto (ACT) and other AIDS organizations to be better prepared to address the emerging needs related to those with HIV and other infections.

Project P68: Health Promotion for People with HIV/AIDS: The objectives of this project include increasing the capacity of PHA to make informed decisions related to their health and well-being; increasing the capacity of women living with HIV/AIDS to enhance their health and well-being and to reduce their isolation; increasing access to services for PHA by providing opportunities for peer support, information sharing and skills development; and decreasing social isolation of many PHA by providing opportunities for peer interaction, information sharing on health management issues, and participation in hands-on health-promoting activities.

Project P69: Positive Youth Outreach (PYO): Healthy Promotion and Outreach to HIV-Positive Youth: The objectives of this project include increasing access to health promotion information and skills development

opportunities for HIV-positive youth; increasing access to HIV treatment information and support for HIV-positive youth; decreasing social isolation and increasing access to HIV-related psychosocial and medical services; and increasing awareness of PYO and its services among HIV-positive youth and other AIDS/youth-serving agencies in Toronto.

**Project P70: VIVER: Portuguese-Speaking Case Management:** The objectives of this project include increasing accessibility for Portuguese-speaking PHA to health and social services; and increasing access to programs and services which promote self-efficacy, reduce social isolation and improve the emotional health and well-being of Portuguese-speaking PHA.

**Project P71: VIVER: Portuguese-Speaking Community Development:** The objectives of this project include increasing access to HIV/AIDS information and services for Portuguese-speaking PHA and affected by, and/or at risk for, HIV/AIDS; increasing volunteer capacity to provide HIV-related information, referrals and facilitated access for PHA; and increasing capacity of Portuguese-speaking social service programs and AIDS service organizations to provide services to Portuguese-speaking PHA.

#### **AIDS COMMITTEE OF WINDSOR (ACW)**

**Project P72:** ACW provides support, education and outreach services for people at risk of, or living with, HIV or AIDS. AIDS Support Chatham-Kent (ASCK) is a satellite office of the AIDS Committee of Windsor (ACW). Established in 1995, the Chatham office enabled the organization to expand services and offer greater accessibility to clients.

#### **AIDS COMMITTEE OF YORK REGION**

**Project P73:** The AIDS Committee of York Region offers education to promote the development of a caring and compassionate society, as well as access to dignified care for people infected with, or affected by, HIV and AIDS.

#### **AIDS NIAGARA**

**Project P74:** AIDS Niagara provides support, education and advocacy in a safe and confidential environment to all who are infected with, or affected by, HIV and AIDS.

#### **AIDS THUNDER BAY**

**Project P75: Enhancing Healthy Options:** The objectives of this project include increasing social contact for people living with HIV/AIDS (PHA) and their partners/families; increasing personal knowledge and skills about good health options; and increasing the level of knowledge/information and actual experience with complementary/alternative therapies.

#### **AFRICAN AND CARIBBEAN COUNCIL ON HIV/AIDS IN ONTARIO (ACCHO)**

##### **c/o Black Coalition for AIDS Prevention**

**Project P76: Words into Deeds: Engaging People living with HIV/AIDS in the response to HIV affecting African and Caribbean communities in Ontario:** The project addresses the various social isolation and discrimination issues facing African and Caribbean communities.

#### **ALLIANCE FOR SOUTH ASIAN AIDS PREVENTION**

**Project P77: South Asian PHA Volunteer Program:** The objectives of this project include reducing barriers to services for South Asian people living with HIV/AIDS (PHA); increasing the capacity of South Asian PHA to deal with the psychosocial issues associated with HIV/AIDS; increasing the knowledge and capacity of South Asian PHA to manage their own health; enhancing a supportive environment for PHA among service providers and the South Asian community; and increasing, diversifying, supporting and enhancing volunteer involvement to enhance organizational capacity.

#### **ASIAN COMMUNITY AIDS SERVICES (ACAS)**

**Project P78:** ACAS is a community-based organization that provides HIV/AIDS education, prevention, and support services to the East and South East Asian communities in Toronto.

#### **BARRETT HOUSE – GOOD SHEPHERD MINISTRIES**

**Project P79:** Barrett House is a Toronto residential care facility for people living with HIV/AIDS. Barrett House is a residence, not a hospice. It provides a dignified, caring and homelike environment for persons living with HIV/AIDS who require ongoing care. The goal of Barrett House is to offer residents a supporting, caring and secure environment – a “family.”

### **BLACK COALITION FOR AIDS PREVENTION (BLACK CAP)**

Project P80: Case Management for Black, African and Caribbean People living with HIV/AIDS (PHA): This project is focused on enhancing organizational capacity to provide programming to Black African and Caribbean people living with HIV and AIDS in Toronto. This project will use case management to assist individuals in relationships and couples who are at risk for HIV. Case management, as defined by Black Cap, is a multi-disciplinary approach to providing care and includes activities varying from group support sessions to individual support, such as lay counselling. In this project, participants will have a protective and confidential environment to enable them to discuss sex and relationships, find ways to reduce risk by incorporating safer sex strategies into their lives, and be better able to disclose their HIV status to partners.

### **BRUCE HOUSE**

Project P81: Volunteer Support Program: Bruce House provides housing, compassionate care and support in Ottawa for people living with HIV/AIDS. The objectives of this project include increasing the number and types of volunteer opportunities and activities supporting Bruce House programs and services; increasing the capacity of the Volunteer Support Program to provide more opportunities for volunteers to have meaningful and satisfying leadership and decision-making roles in the organization; increasing, improving and developing appropriate tools and activities for the recruitment, training, recognition and retention of volunteers; increasing knowledge, skills and abilities for PHA for increased meaningful involvement in the agency; and providing additional employment and/or volunteerism opportunities.

### **CASEY HOUSE**

Project P82: Casey House Hospice provides a continuum of compassionate care for persons infected with, and affected by, HIV/AIDS through a comprehensive range of exemplary palliative and supportive care services. As the treatment concerns of those living with HIV/AIDS are often complex and evolving, Casey House continually adapts its care practices to meet the changing needs of its clients. Through partnerships, Casey House delivers care in a variety of settings, such as in the home, clinics and a mobile health bus.

### **CENTRE FOR SPANISH-SPEAKING PEOPLES (CSSP)**

Project P83: The Centre for Spanish-Speaking Peoples serves new immigrants from 22 countries and other members of a very diverse Spanish-speaking community. It offers an HIV/AIDS program targeting people living with, and/or affected by, HIV/AIDS.

### **COMMITTEE FOR ACCESSIBLE AIDS TREATMENT C/O TORONTO PEOPLE WITH AIDS FOUNDATION**

Project P84: Legacy Project: Structured mentorship support to promote community collaboration, succession and meaningful participation of people with HIV/AIDS: This program will enhance the organizational capacity of the Committee for Accessible AIDS Treatment (CAAT) to better serve PHA and offer unique activities that can enable PHA to stay healthy. Project activities include consulting with PHA throughout the project, developing, implementing, and evaluating a peer-mentor training program, providing practicum-style learning opportunities, doing outreach to agencies, and sharing the program model. Through this project, people with HIV/AIDS will benefit from the guidance and support of experienced peer mentors living with HIV/AIDS, to lead and serve on the boards of organizations and project advisory committees. Another benefit of involving PHA in HIV/AIDS work is that they can help make programs and services more appropriate and relevant to the health of PHA.

### **FIFE HOUSE**

Project P85: AIDS Bereavement Project of Ontario: Turning to One Another – AIDS Service Organizations Bringing the “Greater Involvement of People Living with HIV/AIDS Principle to Life”: The AIDS Bereavement Project of Ontario will enhance the capacity of Ontario’s AIDS service organizations to effectively engage clients in programs and services. Not only will this program improve service delivery to clients, it also aims to expand their skills and knowledge to help other people with HIV/AIDS (PHA) by taking part in service delivery. PHA and AIDS service organizations from across the province will participate in the development and implementation of a strategy for these organizations to meaningfully engage people with the disease in their work. Based on lessons learned, training workshops will be developed and delivered to people with HIV/AIDS to work and volunteer in various HIV/AIDS initiatives across the province, including HIV prevention education projects and support programs. Training workshops will also be developed and delivered to AIDS service organizations to train staff on how to meaningfully engage clients in agency initiatives.



Project P86: Volunteer Services Program: The objectives of this project include maintaining and enhancing the strength, integrity, and operational efficiency of the Volunteer Program at Fife House; promoting leadership skills and expertise in supportive housing for PHA among the Fife House volunteer community; improving the effectiveness of the Volunteer Services Program; and maintaining and increasing the commitment of Fife House volunteers.

#### **HAMILTON AIDS NETWORK**

Project P87: PHA Resource Program: The objectives of this project include increasing the knowledge of PHAs, including information and resources around treatment and health promotion; developing, enhancing and supporting skills development for PHAs in the areas of communication, public speaking, facilitation and leadership; increasing the supportive environment among healthcare providers working with people living with HIV/AIDS, and youth through effective educational programming; and increasing the opportunity for peer-based resources for people living with HIV/AIDS.

#### **HEMOPHILIA ONTARIO**

Project P88: Hemophilia Ontario is committed to improving the quality of life of people affected by hemophilia and related blood conditions, and to work towards a cure. HIV and hepatitis C programming and initiatives include education, support, and advocacy for people living with a bleeding disorder, HIV/AIDS, and/or hepatitis C.

#### **HIV & AIDS LEGAL CLINIC OF ONTARIO (HALCO)**

Project P89: HALCO is a community-based legal clinic that provides free legal services to people living with, or affected by, HIV/AIDS in Ontario.

#### **HIV/AIDS REGIONAL SERVICES (HARS)**

Project P90: HARS provides education and support to individuals and organizations in Kingston and the surrounding region. Services include counselling, advocacy, access to free condoms, a needle exchange and an extensive resource library and education department.

#### **HOSPICE TORONTO**

Project P91: Hospice Toronto (formerly Trinity Home Hospice) provides continuity of care through volunteer care teams to people living with life-threatening illnesses. Hospice Toronto helps those who are terminally ill die in comfortable environments with peace and dignity. Hospice Toronto services complement client and community resources through the provision of integrated practical care and emotional support to people with life-threatening illnesses, as well as to their families and friends.

#### **LOFT COMMUNITY SERVICES**

Project P92: Centralized Service Coordination Pilot Project for People Living with HIV/AIDS (PHAs) Who Face Health and Mental Health Crises: This project focuses on developing and piloting models of service coordination and integration to increase accessibility to services for PHAs.

#### **ONTARIO ABORIGINAL HIV/AIDS STRATEGY (OAHAS)**

Project P93: OAHAS is a provincially mandated (off-reserve) AIDS service organization which provides outreach, educational workshops, training and care, and treatment and support services for Aboriginal peoples living with HIV/AIDS, their partners, families and communities.

#### **ONTARIO AIDS NETWORK**

Project P94: PHA Program: The objectives of this project are to maintain and enhance the existing network of PHAs within the OAN and community partnerships that support PHAs; to increase the knowledge and skills of PHAs relating to care, treatment and support; to increase the number of PHAs involved with community-based organizations, including member groups of the OAN; and to maintain and increase effective PHA inclusion and meaningful involvement in the OAN.

Project P95: Capacity Building to Increase Community Engagement: This project focuses on developing and piloting models of service integration and coordination, which will help increase the capacity of PHAs to develop and staff effective programs. It will also create role models for other PHAs that will encourage them to become full participants and contributors in their communities. This project will increase the skills of PHAs and teach them how to develop training modules, deliver educational workshops, and run peer-led support groups. Project activities include developing a training curriculum, implementing initiatives and evaluating for effect the PHAs in these roles, and developing and distributing a training manual.



**Project P96: Aboriginal Youth Peer Prevention Project:** This project focuses on enhancing organizational capacity to better serve Aboriginal youth. HIV-positive and negative Aboriginal youth will participate in a pilot project in the Chatham-Kent area to develop an Aboriginal youth strategy along with tools for HIV prevention in Ontario. Seven regional peers will be recruited for a provincial advisory committee. Aboriginal youth will learn how to design, develop, and deliver resources and effective prevention activities on increasing awareness of HIV risk and the means of transmission among Aboriginal youth. This strategy will be shared through a final report which will reach approximately 800 Aboriginal youth and their service providers and will provide them with the appropriate information and educational resources to help reduce the spread of HIV/AIDS among Aboriginal youth in Ontario.

#### **ONTARIO ASSOCIATION OF THE DEAF – DEAF OUTREACH PROGRAM**

Project P97: Provides HIV/AIDS education and support to deaf Ontarians living with, and/or affected by, HIV/AIDS.

#### **PEEL HIV/AIDS NETWORK**

Project P98: Health Promotion for People Living with, and Affected by, HIV/AIDS: The objectives of this project include increasing the level of knowledge and skills of PHA including prisoners and their caregivers in the Peel Region; improving access to HIV/AIDS-related treatment and services in Peel Region; and increasing involvement of ethnic communities in Peel HIV/AIDS Network activities.

#### **PETERBOROUGH AIDS RESOURCE NETWORK (PARN)**

Project P99: PARN provides support, health promotion and advocacy for people who are infected with, and/or affected by, HIV/AIDS. PARN also provides education for people at risk for HIV and awareness of AIDS issues to the broader community.

#### **PLANNED PARENTHOOD OF TORONTO**

Project P100: The Positive Prevention Project: Developing Youth-led Strategies Supporting a Common Approach to HIV, Hepatitis C and STI Prevention: The objectives of this project include increasing the knowledge of HIV-positive youth about sexual health and increasing their facilitation and leadership skills so that they in turn can educate their peers about HIV, hepatitis C and STI prevention;

increasing the knowledge of at-risk youth about HIV and STIs (specifically syphilis, gonorrhoea, and chlamydia); and increasing the understanding of the impact of stigma and discrimination and how to best communicate HIV, hepatitis C & STI prevention messages to youth.

#### **PRISONERS WITH HIV/AIDS SUPPORT ACTION NETWORK (PASAN)**

Project P101: Prison In-Reach Project: The objectives of this project are to reduce the transmission of HIV/AIDS among prisoners and ex-prisoners and to increase health promotion and health services for prisoners and ex-prisoners living with, and affected by, HIV/AIDS in Ontario.

#### **REGIONAL HIV/AIDS CONNECTION**

Project P102: HIV/AIDS Regional Coordination and Integration Plan – Connecting Regional Persons Living with HIV/AIDS to Care and Support: The objectives of this project are to decrease the regional barriers of isolation, transportation and social stigma PHA experience in Perth, Lambton, Elgin and Oxford counties, where there is no HIV-specific service provider; and to increase the coordination and integration of HIV/AIDS care and support services within Middlesex and surrounding counties.

#### **RÉSEAU ACCESS NETWORK**

Project P103: Réseau Access Network is committed to promoting wellness, education, harm and risk reduction in the Sudbury area. Réseau Access Network supports the individual and serves the whole community, including persons at risk, with a comprehensive/holistic approach to HIV/AIDS, HCV treatment and related health issues.

#### **THE TERESA GROUP**

Project P104: The Teresa Group serves children affected by HIV and AIDS and their families. It provides a wide variety of support, financial and counselling services. It also operates the Infant Formula Program, which attempts to reduce the risk of HIV transmission through breast milk by offering free formula for a period of one year to new mothers in Ontario who are HIV-positive.

Project P105: Volunteer Support Program: The objectives of this project are as follows: to increase the number of volunteers; to increase volunteer knowledge and awareness of HIV issues for affected children and families; to increase the skills of mid – and long-term volunteers about the changing needs of clients; and to maintain opportunities for support and recognition to volunteers.

#### **TORONTO PEOPLE WITH AIDS FOUNDATION**

Project P106: Food for Life: The objectives of this project are as follows: to increase access of homebound PHAs to adequate and appropriate nutrition; to decrease social isolation of PHAs in Toronto; and to increase access to already existing programs and services offered by Toronto AIDS service organizations (ASOs) to homebound PHAs.

Project P107: PHA Engagement in POZ Prevention for Gay Men: The objectives of this project are to increase PHA capacity and engagement in POZ prevention programming for gay men living with HIV/AIDS and to increase the provision of POZ Prevention and sexual health information for gay men living with HIV/AIDS.

#### **TWO-SPIRITED PEOPLE OF THE FIRST NATIONS**

Project P108: Two-Spirited People of the First Nations is an organization that provides HIV/AIDS education, outreach, prevention, and support/counselling for two-spirited peoples and others living with, and/or affected by, HIV/AIDS.

#### **VOICES OF POSITIVE WOMEN**

Project P109: Peer Network Community Collaboration Program: This project addresses the funding priority of developing and piloting models of service co-ordination and integration to increase the accessibility of services to clients. Activities include: creating and distributing an urban and rural services referral list; carrying out a needs assessment to develop and implement a transportation network to increase access to services; establishing agreements with regional health units to allow clients to be readily referred between agencies to obtain services; delivering educational training for service providers; and developing a peer-support network that will use HIV-positive volunteers as local contacts for isolated individuals who wish to make connections to HIV programs and services.

#### **WABANO CENTRE FOR ABORIGINAL HEALTH, INC.**

Project P110: Walking the Healing Path: The project's objectives are to enhance sexual health and injection drug use harm reduction for at-risk Aboriginal people; to facilitate access to diagnosis, care, treatment; and to create social support opportunities for those infected with

HIV and/or related diseases and conditions. To meet these objectives, the organization will develop culturally relevant resources; organize various information sessions and workshops; and provide outreach activities, such as home visits, transportation services, and support groups.

#### **WOMEN'S HEALTH IN WOMEN'S HANDS COMMUNITY HEALTH CENTRE**

Project P111: Negotiating Disclosure: an HIV Serostatus Disclosure Model for African and Caribbean Women: The project will address the funding priority of reducing systemic barriers to improve access to health services for at-risk women and women living with HIV/AIDS from the African and Caribbean communities.

#### **YOUTHLINK INNER CITY**

Project P112: YOUTHLINK offers a range of services from prevention and early intervention to treatment for young people between the ages of 12 and 24 and their families/caregivers living in the amalgamated City of Toronto.

#### **WOMEN AND HIV/AIDS WORKING GROUP**

Project P113: The Women and HIV/AIDS Working Group addresses increased rates of HIV among women in Ontario, and is composed of individuals from ministry staff, researchers, community representatives and people infected with, and affected by, HIV/AIDS. This provincial working group is responsible for supporting research on women and HIV/AIDS in Ontario, policy and program responses, and a comprehensive strategy focusing on HIV prevention. This has included consultation with women of varied backgrounds, an extensive literature review (publications literature review), and a survey of agencies providing services to women. An early result of this process has been the creation of a series of fact sheets on women and HIV. The Ontario Women's Study research team, which is affiliated with the Women and HIV/AIDS Work Group, is developing an Ontario-wide research program that will take into account the varied life experiences of women who are vulnerable to HIV infection.

## QUEBEC

### **AIDS COMMUNITY CARE MONTREAL (ACCM)**

Project P114: ACCM Client Support Services: Improving the quality of life of people living with HIV by helping to break their isolation, increasing their ties with other people, and creating opportunities for developing their personal knowledge and skills.

### **BUREAU LOCAL D'INTERVENTION TRAITANT DU SIDA (BLITS)**

Project P115: Lifecourse trajectory: Supporting and encouraging people with HIV to return to or maintain an active lifestyle in accordance with their individual situation.

### **CENTRE ASSOCIATIF POLYVALENT D'AIDE HÉPATITE C (CAPAHC)**

Project P116: Blue sentry: Creating/consolidating the networking of services and various HIV/AIDS resources for prison inmates who are released from federal institutions in Quebec, in order to improve the continuum of services between incarceration and release.

### **THE CENTRE FOR AIDS SERVICES OF MONTREAL (WOMEN) (CASM)**

Project P117: Women +: Providing services to HIV-positive women from a variety of cultural backgrounds.

Project P118: Refugee project: Supporting HIV-positive refugees from sub-Saharan Africa.

### **VAL-D'OR NATIVE FRIENDSHIP CENTRE**

Project P119: HIV/AIDS prevention project aimed at vulnerable persons in the Aboriginal community of Val-d'Or: The project objectives are to enhance sexual health and injection harm reduction initiatives for vulnerable subpopulations; to facilitate access to diagnosis, care and treatment; and to create social support opportunities for those infected with HIV and related diseases and conditions. To achieve these objectives, the organization will collaborate and co-operate with other regional organizations, engage in awareness and prevention activities, increase HIV/AIDS knowledge and intervention capacities, and put the harm reduction approach into practice.

### **COALITION SIDA DES SOURDS DU QUÉBEC**

Project P120: The CSSQ is a provincial non-profit agency that carries out HIV/AIDS and STBBI prevention and education among deaf and hard-of-hearing Quebecers. It also provides support services to deaf and hard-of-hearing individuals with HIV/AIDS in LSQ (Quebec Sign Language) and ASL (American Sign Language). The ACAP funds a project called Site Internet that groups together, on a sign language portal, as much information and as many resources available on the subject as possible. The site is operated by HIV/AIDS – and deafness-related community groups.

### **COALITION DES ORGANISMES COMMUNAUTAIRES QUÉBÉCOIS DE LUTTE CONTRE LE SIDA (COCQ-SIDA)**

Project P121: The project's mandate is to encourage, support and strengthen community action on AIDS in Quebec. COCQ-Sida was created to bring together community organizations concerned with AIDS, to promote solidarity among people, and to consolidate the approaches, action and resources involved, while respecting the independence of member groups.

### **FIRST NATIONS OF QUEBEC AND LABRADOR HEALTH AND SOCIAL SERVICES COMMISSION (FNQLHSSC)**

Project P122: Sharing circle and education: Strengthening the ties among Aboriginal inmates with HIV or hepatitis C, and Aboriginal people and workers, and increasing awareness of HIV/AIDS in prisons.

### **CENTRE SIDA AMITIÉ**

Project P123: Objectives include prevention of HIV and HCV, supporting, helping and treating people living with HIV.

### **CENTRE DES R.O.S.É.S. DE L'ABITIBI-TÉMISCAMINGUE/ SUPPORT COORDINATOR FOR PEOPLE WITH HIV/AIDS**

Project P124: Encouraging social integration in order to break the isolation and improve the quality of life of people with HIV/AIDS.

### **GROUPE D'ACTION POUR LA PRÉVENTION DE LA TRANSMISSION DU VIH ET DE L'ÉRADICATION DU SIDA (GAP-VIES)**

Project P125: By women, for women, for life: Addressing the needs of women living with HIV in order to encourage solidarity among this population and to facilitate their social and community involvement so that they can help reduce the stigma faced by many HIV-positive women in our society.

### **GROUPE D'ENTRAIDE À L'INTENTION DES PERSONNES SÉROPOSITIVES ET ITINÉRANTES (GEIPSI)**

Project P126: Managerial position: Supporting the organization in finding both financial and human resources stability in order to help people living with HIV, homeless people and individuals with addictions.

### **MOUVEMENT D'INFORMATION, D'ÉDUCATION ET D'ENTRAIDE DANS LE LUTTE CONTRE LE SIDA (LE M.I.E.N.S.)**

Project P127: MIENS is a regional organization that provides AIDS information, education and support. Activities are carried out mainly in the Saguenay-Lac-St-Jean area. Through its MASCULIEN prevention program, the organization supports men who have sex with men (MSM).

### **NATIVE WOMEN'S SHELTER OF MONTREAL**

Project P128: Harm Reduction: The project's objectives include the following: to facilitate access to diagnosis, care and treatment; to create social support opportunities for those infected with HIV and other related diseases and conditions; and to increase regional capacity-building initiatives for non-reserve Aboriginal community-based programming. The project objectives will be achieved through workshops, cultural ceremonies, resource booklet, support group exclusively for women, and accompaniment to medical appointments.

### **MOUVEMENT D'AIDE ET D'INFORMATION SIDA (MAINS)**

Project P129: Coordination of volunteers, promotion and social marketing: Improving the quality of life of people living with HIV/AIDS and their friends and families, and increasing awareness and prevention activities among high-risk groups.

### **MAISON PLEIN COEUR**

Project P130: Maison Plein Cœur/Volunteer coordination: Supporting people living with HIV/AIDS in returning to an active social life through volunteering.

### **MOUVEMENT D'INFORMATION ET D'ENTRAIDE DANS LA LUTTE CONTRE LE VIH-SIDA À QUÉBEC (MIELS-QUÉBEC)**

Project P131: Health promotion: Helping to improve the overall health (physical, mental, emotional, sexual, spiritual, etc.) of people with HIV/AIDS in the Québec City area.

Project P132: Community life: Promoting the well-being and quality of life of people with HIV/AIDS, while encouraging their participation in MIELS-QUÉBEC decision making.

### **REGROUPEMENT DES CENTRES D'AMITIÉ AUTOCHTONES DU QUÉBEC (RCAAQ)**

Project P133: Mobilisons notre support! (Mobilize our support!): The project's objectives are to enhance sexual health and injection drug harm reduction initiatives for vulnerable subpopulations; to facilitate access to diagnosis, care and treatment and to create social support opportunities for those infected with HIV or related diseases and conditions; and to develop capacity-building initiatives for non-reserve Aboriginal community-based programming. To achieve these objectives, the organization will review the services and resources for Aboriginal persons living with, or at risk for HIV/AIDS; hold an awareness workshop for young people at risk; and provide adapted training at each of the Quebec Aboriginal friendship centres.

### **SIDACTION**

Project P134: Sidaction is based on one essential principle: bringing together research and AIDS associations to participate in a cross-sectoral vision. By anticipating, analyzing and identifying new needs, finding appropriate responses, initiating new lines of research, preparing tomorrow's research by helping young researchers, thinking of new prevention methods, improving access to care in developing countries and adopting new forms of lobbying, Sidaction is taking action in all fields to address the epidemic's evolution and to respond as effectively as possible to pressing needs for supporting patients, by funding innovative programs, supporting and strengthening existing programs, developing its own programs and encouraging the creation of new initiatives.



## NEW BRUNSWICK

### JOHN HOWARD SOCIETY

Project P135: Works in collaboration with AIDS service organizations to support harm reduction services (e.g., a needle exchange program) and to help youth infected with HIV connect with appropriate services (e.g., funding a street worker project).

### AIDS NEW BRUNSWICK

Project P136: Objectives include improving access to prevention information/services (e.g., website, resource centre, collaborative projects, presentations, etc.), harm reduction services (e.g., needle exchange program) support services for PHAs and caregivers (e.g., newsletters, training, resources, peer support), and enhancing organizational development (e.g., strategic planning, evaluation, PHA involvement, volunteer/membership development).

### AIDS NB, NORTHERN LIAISON OFFICER TO WORK WITHIN BATHURST, NB

Project P137: An extension of AIDS – NB to fulfill its mandate in northern NB. Programs and activities target all risk groups including youth, women, MSM, IV drug users, and persons living with HIV/AIDS.

### AIDS SAINT JOHN:

Project P138: Serves individuals infected by HIV and their families, youth, IDU.

### SIDA AIDS MONCTON

Project P139: SIDA AIDS Moncton's focus and mission is to improve the quality of life of those infected with, and affected by, HIV/AIDS, and to reduce the spread of HIV and other STBBI. Provides harm reduction services (e.g., needle exchange program).

## NEWFOUNDLAND AND LABRADOR

### AIDS COMMITTEE OF NEWFOUNDLAND AND LABRADOR

Project P140: The Committee promotes improving access to care, treatment and support for PHA and caregivers (e.g., collaborative work with provincial government and other partners, information and support), enhancing access to prevention programs (e.g., training, education, harm reduction, collaborative work), and strengthening the organization (e.g., board development, staff/volunteer training).

Project P141: AIDS Committee of Newfoundland and Labrador Client Support and Outreach Services: ACNL provides education and outreach services on a provincial scope to many different groups across the province. This includes workshops, presentations and direct support and advocacy.

### AIDS COMMITTEE OF WESTERN NEWFOUNDLAND

Project P142: Volunteer group dedicated to increasing awareness of HIV/AIDS in the region and assisting people whose lives have been affected by the virus.

### LABRADOR FRIENDSHIP CENTRE

Project P143: HIV/AIDS Labrador Project: The project's objective is to enhance sexual health and injection drug use harm reduction initiatives for high-risk Aboriginal women and youth; Aboriginal people with HIV/AIDS; inmates; and intravenous drug users. The organization will meet these objectives by preparing presentations on prevention; organizing a public awareness campaign and miscellaneous activities; developing educational materials and participating in various events targeting youth; delivering the basics on sexually transmitted infections in Labrador; and organizing foetal alcohol-related training pertaining to HIV/AIDS.

### TOMMY SEXTON CENTRE APARTMENTS

Project P144: This facility provides supportive housing to people living with HIV/AIDS in Newfoundland and Labrador.

### TOMMY SEXTON CENTRE EMERGENCY SHELTER

Project P145: This facility provides short-term emergency shelter services to people living with, or at risk of exposure to HIV/AIDS in Newfoundland and Labrador.



## NOVA SCOTIA

### AIDS COALITION OF NOVA SCOTIA (ACNS)

Project P146: "Addressing HIV/AIDS-related Stigma & Discrimination in NS": This program provides direct support and care through one-on-one counselling and outreach in a number of areas including: grief and loss, treatment, and homecare situations. In addition, this program will produce tangible resources that will be made available to the target population across the province. Specifically, this program will produce a resource for primary caregivers dealing with people living with HIV/AIDS in palliative stages, create and distribute biannual treatment updates, and maintain a treatment information resource bank. To augment the one-on-one support services and resources produced, this program will provide health promotion programming to people living with HIV/AIDS through the Complementary and Alternative Therapies program, administer the health fund, and conduct provincial day-long workshops for people living with HIV/AIDS. This program seeks to address HIV/AIDS-related stigma and discrimination in NS by conducting focus groups with PHAs across the province to support the development of a social marketing campaign and a program to reduce the impacts of stigma.

Project P147: ACNS Support Program: This program provides a range of support and care programming for people living with, and affected by, HIV/AIDS in Nova Scotia. The goal of this program is to provide programming that promotes health and improves the quality of life for people living with HIV/AIDS and their primary caregivers.

### AIDS COALITION OF CAPE BRETON

Project P148: The AIDS Coalition of Cape Breton is a community-based, volunteer-driven organization that offers programs and services throughout Cape Breton Island. The organization aims to reduce the spread of HIV and to create supportive environments for people living with, and affected by, the virus.

## HEALING OUR NATIONS

Project P149: Finding our Voices: The project's objectives are to enhance sexual health and injection harm reduction initiatives for at-risk Aboriginal women and youth, two-spirited people, and intravenous drug users; to facilitate access to diagnosis, care, treatment; and to create social support opportunities. These goals will be achieved by increasing the capacity to provide a unified response to HIV/AIDS in the region; developing an action-oriented policy statement; planning and delivering educational HIV/AIDS sessions focusing on women's issues; undertaking an ongoing update of materials and developing innovative HIV/AIDS awareness resources for regional distribution; exchanging training opportunities with partner organizations; and developing a training and capacity-building event for Aboriginal people living with HIV/AIDS.

### NORTHERN AIDS CONNECTION SOCIETY (NACS)

Project P150: NACS is a community-based organization whose mission is to empower persons living with, and affected by, HIV/AIDS through health promotion and mutual support and to reduce the spread of HIV in Nova Scotia.

## PRINCE EDWARD ISLAND

### AIDS PEI

Project P151: Focuses on activities that support prevention (e.g., presentations, workshops, harm reduction, resource distribution), and increased access to health and social supports for PHAs (support programs, workshops, etc.).

## NORTHWEST TERRITORIES

### NORTHWEST TERRITORIES HIV & HEPATITIS C SUPPORT NETWORK

Project P152: HIV & Hepatitis C Community Education Resources, Support Networks and Capacity Building: The purpose of this project is to provide hepatitis C and HIV/AIDS education and prevention information to the public and those engaging in high-risk behaviours, training for other service providers, and support services to those living with HIV/AIDS and their families and friends.

## NUNAVUT

### GOVERNMENT OF NUNAVUT DEPARTMENT OF HEALTH AND SOCIAL SERVICES

Project P153: The project supports the existing Healthy Living Fund project in Nunavut, sponsored by the Government of Nunavut Department of Health and Social Services. Two key Government of Nunavut activities are supported: (1) support the development of a Nunavut Sexual Health Strategy to support healthier lifestyle choices, particularly among Nunavut's young/at-risk population, which is also the target population of the Nunavut Healthy Living project. Funding provided will be used to work with key partners and stakeholders to document community-level knowledge and evidence to support informed decision making related to the development of the strategy. (2) support the development of a Nunavut-specific sexual health/sexually transmitted infection education tool kit to enhance Nunavut's new school health curriculum and provide support for its use in Nunavut schools and communities.

## YUKON

### BLOOD TIES FOUR DIRECTIONS CENTRE

Project P154: In Yukon, Blood Ties Four Directions Centre works to provide support and care for people living with HIV/AIDS and hepatitis C, and prevention education and awareness on HIV/AIDS and hepatitis C. The Centre also works to reduce transmission in vulnerable population groups through the provision of harm reduction services, including a needle exchange and safe inhalation equipment.

### COUNCIL OF YUKON FIRST NATIONS IN PARTNERSHIP WITH BLOOD TIES FOUR DIRECTIONS CENTRE

Project P155: Bringing the HIV and Hepatitis C Risk Assessment Guidelines to Remote Rural Northern Communities Project: The project objectives are to facilitate access to diagnosis, care, and treatment and to create social support opportunities for those infected with HIV and other related diseases and conditions, and to provide general HIV/AIDS awareness in remote Northern rural areas. The activities the organization will undertake to meet its objectives include forming a steering committee to monitor the project; involving community HIV educators and health representatives in developing culturally relevant materials on HIV transmission, prevention, and harm reduction practices; and providing support to the high-risk HIV and hepatitis C population in rural and remote communities.



