



HIV Research in the Prairies:

A Compendium



PRAIRIE COMMUNITY-BASED
HIV RESEARCH PROGRAM

Acknowledgments

This compendium has been developed by Paula Migliardi (Community-Based Research Facilitator) with Melissa Bendig (Research Assistant). We appreciate all the support and encouragement we obtained from the many researchers we consulted throughout the life of this project. We would also like to thank Carla Pindera, Marissa Becker, Bohdanna Kinasevych and Carole Beaudoin for their guidance.

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April 2009

Foreword

This compendium has been compiled to promote and increase access to research that is being conducted in Alberta, Manitoba and Saskatchewan. The focus is on research that affects people living with HIV and those at risk for contracting the infection in the Prairie region. The ultimate goal is facilitate evidence for action.

In order to build the compendium we searched a number of databases including those from the Canadian Institutes of Health Research (CIHR), the Canadian HIV Research Inventory hosted by the Canadian Association of HIV Research (CAHR), Canadian Foundation for AIDS Research, Canadian HIV Trials Network, HIV Community Based Research Network of the Community Based Research Centre, and the library databases of main universities in the region (University of Manitoba, University of Regina, University of Saskatchewan, University of Alberta, and University of Calgary). We also searched the websites for research groups or organizations involved in HIV/AIDS, such as the Manitoba Resistance and Susceptibility to Infection Group in Manitoba, and AIDS service organizations.

Once the information was identified we proceeded to contact the researchers to ensure the accuracy of the information. Most provided feedback, including additional information not available through our original searches. In some cases, the information remained partial.

The compendium focuses on the last few years of research that affects people living in the prairies, with many ongoing projects. Research in some areas may be geographically more far-reaching, in particular around the clinical and basic sciences areas.

The summaries are arranged alphabetically by province and author, and by broad research streams (i.e., Social Sciences, Epidemiology, and Clinical and Basic Sciences). Wherever applicable and possible a few reports or publications were included with each summary. Open access publications were prioritized.

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Housing and Health: Impact of Housing on with HIV/AIDS Symposium

Principal Investigator: Alvardj-Korenic, Tatjana
Alberta Community Council on HIV

Population: People living with HIV/AIDS

Duration: September 2008 – August 2009

Funder: Canadian Institutes of Health Research
– Meetings, Planning and Dissemination

Summary: 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 and 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 coalition. It will play an important role in building a strong national response to the issue of housing for individuals living with HIV/AIDS.

Aboriginal Women's Perspectives on "Culturally Appropriate" HIV Counselling and Testing

Principal Investigator: Bucharski, Dawn
Centre for Health Promotion Studies, School of Public Health
University of Alberta

Advisor: Reutter, Rita

Population: Aboriginal women

Duration: Project completed in the spring of 2002

Funders: National Health Research and Development Program Research Training
Award / Walter H. Johns Fellowship / Province of Alberta Graduate
Scholarship / Capital Health Authority / Regional Public Health

Summary: A qualitative study was conducted to determine Aboriginal women's perspectives on "culturally appropriate" HIV counselling and testing. Data were collected through semi-structured individual interviews with seven Aboriginal women, and with six women in a focus group, in a western Canadian city. The data were analyzed utilizing thematic content analysis. Four major categories were explicated: Aboriginal women's life experiences that may increase their risk for HIV infection; barriers to HIV counselling and testing for Aboriginal women; guiding principles of the ideal HIV testing

situation; and characteristics of culturally appropriate HIV counselling and testing for Aboriginal women. The need for sensitivity to the hardships and life experiences Aboriginal women may have experienced was a pervasive theme in all of the categories. The study concludes with directions for further research and implications for HIV policy and programming for Aboriginal women.

Publications: Buchariski, Dawn. (2002). *Aboriginal Women's Perspectives on "Culturally Appropriate" HIV Counselling and Testing*. Centre for Health Promotion Studies, University of Alberta.

“Expanding our Desires” – Strategies and Approaches for Improving the Sexual Well Being of Calgary MSM

Principal Investigators: Calgary AIDS Awareness Association
Barr, Valerie (consultant)
White, Heather (consultant)

Population: Men having sex with men

Duration: Project completed in May 2002

Funder: Calgary AIDS Awareness Association

Summary: Surveillance data available for Alberta (December 21, 2001) indicated MSM made up 21% of new HIV infections, whereas in Calgary, MSM account for 38% of new infections. According to the Calgary Health Region, there are approximately 1,300 individuals living with HIV/AIDS in Calgary.

In response to this increase in infection rates over the past few years, AIDS Service Organizations (ASOs) across Canada and the United States are providing programs targeted at men who have sex with men. In order to develop relevant and effective programs to address the increase in HIV infection rates in this population in the Calgary area, AIDS Calgary wanted to obtain information from the community of men who have sex with men.

This study was commissioned by AIDS Calgary to gather information from a broad spectrum of the community including gay, bisexual and non-identified men who have sex with men, AIDS activists, academics and service providers. There was particular interest on the part of AIDS Calgary in hearing from sub-groups of MSM, Aboriginal/Two-spirited MSM and other MSM who may not usually access AIDS Calgary programming and services. The intent of this research was to inform the program planning of AIDS Calgary and in particular the Men’s Project. As a result of this research, and among other recommendations, AIDS Calgary was encouraged to: focus on what works and build on AIDS Calgary successes e.g. Gay Men’s Health Summit and peer education initiatives; develop multiple strategies for multiple populations; establish a vital presence on the Internet; move beyond condoms-only messaging and proactively increase the availability of a broad range of MSM sexual health and wellness opportunities; collaborate and proactively work with other GLBTQ friendly organizations to develop resources to support the sexual health and well being of men who have sex with men in Calgary; and become the premier advocate and sponsor for the sexual health and well being of men who have sex with men in Calgary.

Publications: Barr V. & White, H. (2002). *“Expanding our Desires” – Strategies and Approaches for Improving the Sexual Well Being of Calgary MSM*. Calgary: AIDS Calgary Awareness Association. Available at http://cbr.cbrc.net/files/1061844071/Expanding_Our_Desires.pdf

An Environmental Scan of Harm Reduction in the Chinook Health Region

Principal Investigators: Community Harm Reduction Network
Thompson, Mary (consultant)

Populations: Service providers, community members

Duration: November 2002 – May 2003

Funder: Community Harm Reduction Network

Summary: This study is an environmental scan of harm reduction in the Chinook Health Region as it relates to HIV/AIDS and hepatitis C. In this study the research problem was essentially a very broad one: “What community strengths, weaknesses, opportunities and threats constrain or enable effective harm reduction?”

Some of the highlights of the study were as follows: harm reduction and recreational drug use as concepts are underdeveloped, creating challenges to understanding; the metaphors of the war on drugs and the 12-step program are powerful and persistent prohibition-based paradigms but are barriers to harm reduction in practice; changes are emerging in HIV/AIDS and hepatitis C infection rates and patterns, and in the drugs being used in non-normative ways; and the marginalization of certain populations is a significant causal factor of risk. At the community level, there are significant supports for the furthering of harm reduction initiatives; but systematic empirical research on people in at-risk categories is underdeveloped. At the micro level of the environment, which is the everyday world of individuals, two conditions were prominent: the anxiety of being marginalized by living with HIV and/or HCV is significant; and anti-drug advertising has mixed results with youth audiences.

Publications: Community Harm Reduction Network. (2003). *An Environmental Scan of Harm Reduction in the Chinook Health Region*. Alberta. Available at: <http://cbr.cbrc.net/files/1063829119/LethbridgeHR-envscan.pdf>

The Alberta Community Council on HIV (ACCH) HIV/AIDS CBR Facilitator Project

Principal Investigator: Colver, Ellie
Alberta Community Council on HIV/AIDS

Duration: April 2007 – March 2009

Funder: Canadian Institutes of Health Research (CIHR) – Operating Grant

Summary: The Alberta Community Council on HIV (ACCH) is the coalition of all 14 community-based HIV/AIDS organizations in Alberta. ACCH has hosted a community-based research facilitator project since January 2001 and is applying to the Canadian Institutes of Health Research (CIHR) for funding to support its CBR Facilitator program for another two years (April 2007 to March 2009). The overall goal of the ACCH community-based research facilitator program is to build and strengthen the CBR capacity of ACCH and its member organizations so they can effectively address the challenges of the HIV/AIDS epidemic. The CBR facilitator program will achieve this by providing ACCH, its member organizations and their community partners with the necessary skills and support to undertake relevant and applied research that will help meet their policy, program and service delivery goals.

HIV/AIDS experience of Alberta women who are from countries where HIV is endemic

Principal Investigator: Dela Cruz, Aniela
Faculty of Nursing, University of Alberta

Advisor: Mill, Judith

Population: Persons from HIV-endemic countries, women

Duration: May 2007 – April 2010

Funder: Canadian Institutes of Health Research (CIHR), Doctoral Student award

Summary: 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 an 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 centres such as Toronto or Montreal. 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.

Health Care Experiences of HIV Positive Aboriginal Offenders Released into the Community

Principal Investigator: De Padua, Anthony
Faculty of Nursing, University of Alberta

Advisor: Mill, Judith

Population: Incarcerated persons, Aboriginal

Duration: Initiated in 2008

Funder: Canadian Institutes of Health Research – Doctoral Research Award

Summary: 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 (PHAC, 2004). The Correctional Service of Canada reported that within the prison system, offenders have higher rates of HIV infection than the general public (CSC, 2003). Once an offender is released into the community, a lack of health care services can lead to deterioration in health status and a missed opportunity to prevent the spread of HIV in the community. Understanding the relationships between Aboriginal culture, offender subculture, and current health care practices will improve health care for this marginalized and vulnerable population. An exploratory descriptive critical approach will be used to address the question: *What are the health care experiences of HIV positive Aboriginal offenders*

following release into the community? Presently there is limited research on the health care needs of HIV seropositive offenders following release and their experiences.

Contextual factors affecting HIV/AIDS treatment and prevention amongst recent immigrants from endemic countries

Principal Investigator: Donnelly, Tam Truong
Faculty of Nursing, University of Calgary

Co-Investigators: Kovacs Burns, Kathy
Lai, Daniel
Worthington, Catherine
Schnee, Paul

Duration: April 2007 – March 2009

Population: Immigrants from endemic countries

Funder: Canadian Institutes of Health Research (CIHR)

Summary: The HIV/AIDS problem is increasing worldwide; Canada and Alberta are no exception. Over the past few years, Alberta has had an increase in the number of immigrants, who came from countries with high numbers of people with HIV/AIDS. An emerging health concern is how to assist persons with HIV/AIDS and to prevent further increases in the incidence of this disease. The region's health care providers and the Medical Officer of Health recognize that recent immigrants may experience barriers to HIV/AIDS prevention, early detection, and treatment, posing the risk of HIV/AIDS spread within the population.

Informed by the ecological perspective and Kleiman explanatory model of health and illness, we undertook an exploratory qualitative research project for which the goals are to (a) gather information on how and why recent immigrants living in small rural centers seek help to manage their HIV/AIDS and related problems, practice HIV/AIDS prevention, and deal with social stigma; (b) to identify intervention strategies that recent immigrants and health care providers perceive to be effective in meeting the needs of recent immigrants living with HIV/AIDS; and (c) to identify intervention strategies that recent immigrants and health care providers perceive to be effective in promoting the use of HIV prevention activities and early detection. Thirty-four health care and service providers and 39 lay immigrants who came from Africa and Caribbean countries were interviewed. Analysis of the interviews revealed many factors affecting HIV/AIDS treatment and prevention among recent immigrants living in rural centers. Appropriate services and changes in the health care system are needed to accommodate the health care needs of immigrants living with HIV/AIDS and to decrease the seriousness and prevalence of HIV/AIDS among immigrants in small rural centers in Alberta. In future publications, we will discuss the study's results from the health care and service providers and the lay immigrants' perspectives. We will present recommendations for strategies to strengthen health delivery systems and create supportive environments for recent immigrants to seek care and to prevent HIV/AIDS.

Improving the accessibility of research ethics boards for community-based research in Canada¹

Principal Investigator: Flicker, Sarah
Faculty of Environmental Studies, York University
Travers, Robb
Ontario HIV Treatment Network

Co-Investigators: Binder, Louise
Gahagan, Jacqueline
Guta, Adrian
McKay, Colleen
Mitchell, Claudia
Nixon, Stephanie
O'Campo, Patricia
Wilson, Michael
Worthington, Catherine

Duration: February 2008 – March 2011

Funder: Canadian Institutes of Health Research - Operating Grant

Summary: Community-based research (CBR) differs from more traditional forms of inquiry by involving community members in all stages of the research process. As a result, CBR approaches may be more sensitive to attending to the unique vulnerabilities of participants and the communities to which they belong. Nevertheless, a different and often unanticipated set of ethical issues may emerge in these research situations. By operating within a biomedical paradigm, Research Ethics Boards (REBs) may be ill-equipped to flag common potential ethical CBR challenges. CBR principles offer a complementary ethical system that values active commitment to relationships, equitable participation and collaboration between community and academic stakeholders, capacity-building, and social change. Drawing on the field of public health ethics, we put forth a platform that advocates for a dual focus on community and individual rights and respects multiple ethical norms and traditions. We argue for a paradigm shift that brings together standard principles used by REBs and CBR principles into one unified ethics review paradigm for CBR. We propose to conduct a review of current REB practices in Canada, explore common HIV/AIDS related CBR ethical dilemmas and develop and test a pilot assessment tool for CBR ethics review.

¹This is a national study with some data collection in Alberta.

A multi-method inquiry into the HIV/AIDS and sexual health-related risk behaviours of seasonal workers and transient youth within Alberta's mountain park regions

Principal Investigator: Fownes, Laurie
Department of Community Health Sciences, Faculty of Medicine
University of Calgary

Supervisors: Robinson Vollman, Ardene and Thurston, Wilfreda

Population: Youth

Duration: August 2004 – July 2005

Funder: Canadian Institutes of Health Research (CIHR) Master's Student award

Summary: The goal of this project is to contribute to the small body of literature in Canada on HIV/AIDS, sexual health and the tourism trade. The results of this research will inform programming and policy, and provide critical data into this research area through the investigation of the relationship between HIV/AIDS, sexually transmitted infections (STIs) and the social determinants of health for transient communities and seasonal workers within the mountain park resort communities. An estimated 10% of people working are involved in tourism (Barnett, 1996). Approximately 10 million visitors come through Banff and three to four million through Jasper each year (Blair et. al., 2003). Existing studies suggest that there is a relationship between risky sexual behaviours and transient populations, however little assessment has been done in the developed world (Blair et al., 2003; Mullhall, 1996). People living and visiting tourism destinations will be involved in the research process at every step of the way. This research will help to identify what approaches will be effective in helping people who are living with or at risk of a sexually transmitted infection including HIV/AIDS. The results will be used to support further work through improvements to policy and planning. More broadly, findings from this study will fill in gaps in the literature on HIV/AIDS in Canada and will contribute to our knowledge of HIV/AIDS in the tourism trade.

Publications: Fownes, Laurie. (2006). *A Qualitative Inquiry of the Sexual Health Activities of Service Industry Workers in Alberta's Mountain Parks*. Unpublished M. Sc. Thesis. Available at https://dspace.ucalgary.ca/bitstream/1880/44841/1/Fownes_MSc_2006_Med.pdf

Building Partnerships and Increasing Community Capacity for Conducting HIV/AIDS, Health and Housing Instability Research in African and Caribbean Communities in Canada²

Principal Investigators: Greene, Saara
Fife House, Toronto
George, Clemon
Institute of Technology, University of Toronto

Co-Investigators: Byers, Steve
Este, David
Etowa, Josephine
Gahagan, Jacqueline
Husbands, Wiston
Hwang, Stephen
Jackson, Randy
Koornstra, Jay
Lawson, Erica
Monette, Laverne
Rourke, Sean
Tucker, Ruthann
Worthington, Catherine

Populations: Ethno-racial minorities

Duration: April 2008 – March 2009

Funder: Canadian Institutes of Health Research – Seed Grant

Summary: 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 increasing 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 at the greatest risk of homelessness and housing instability.

²This is a national study with some of the activities taking place in Alberta (i.e., Calgary).

The experiences of HIV seropositive mothers living in rural Alberta

Principal Investigator: Groft, Jean.
Faculty of Nursing, University of Alberta

Advisor: Mill, Judith

Populations: Rural women

Duration: September 2005 – August 2008

Funder: Canadian Institutes of Health Research – Doctoral Research Award
Health Services / Population Health Stream

Summary: The goal of this study is to learn about the health of mothers in rural Alberta who have HIV. HIV infection rates have been increasing among Canadian women for the last 10 years. Little is known about the impact of HIV on women's roles as mothers. Women infected by HIV face challenges as they attempt to care for themselves and their children in a society that may question their ability to be mothers. The thoughts and concerns of rural women on health issues in general are often invisible to authorities. The health of rural Canadians is poorer than that of urban Canadians. Many factors such as poverty, lack of access to resources and lack of power affect rural women and increase their risk of infection with HIV and other illnesses. Through the process of interviewing HIV-infected mothers, we will develop a better understanding of their health concerns and their ideas for addressing these issues. Approximately 20 mothers will be asked to participate in in-depth interviews. The interviews will be carefully reviewed for important themes. The findings will be shared with the women themselves and with rural communities, health care workers and volunteers, service agencies and government workers. This process will allow greater understanding of women's experiences and the development of better ways to improve the health of women and their children.

The Experiences of Gay Men Living With HIV/AIDS Who Have Attended Participatory Programs and Received Individual Counselling

Principal Investigator: Harris, Gregory
Department of Applied Psychology, University of Calgary

Advisor: Alderson, Kevin
University of Calgary

Population: Gay men

Duration: September 2002 – February 2004

Funder: Canadian Institutes of Health Research

Summary: Although the length and quality of life for people living with HIV/AIDS has improved dramatically in recent years because of antiretroviral medications, these individuals still need to make significant psychosocial adjustments in order to improve their quality of life and the HIV trajectory. Mental health professionals can play an important role in this process. The present study investigated the experiences of 12 gay men living with HIV or AIDS who received counselling and peer support services.

Publications: Harris, G. & Alderson, K. (2007). An investigation of gay men's experiences with HIV counselling and peer support services. *Canadian Journal of Community Mental Health*. Vol. 26, No. 1

Harris, G. & Alderson, K. (2006). Gay Men Living with HIV/AIDS: The Potential for Empowerment. *Journal of HIV/AIDS & Social Services*. Vol. 5, No.3/4.

Hope and the High Risk Period following HIV diagnosis

Principal Investigator: Harris, Gregory
Department of Psychology, University of Alberta

Advisor: Larsen, Denise

Population: Gay men

Duration: April 2004 – September 2006

Funder: Canadian Institutes of Health Research (CIHR)
– Doctoral Research Award

Summary: When people become diagnosed with HIV, they can experience deep levels of hopelessness and despair, resulting in high-risk behaviours (e.g., unsafe sexual practices, risky drug sharing activities, suicidal ideation) through which the virus can potentially be spread at high rates (Hook & Cleveland, 1999; Siegal & Meyer, 1999). The purpose of the present research is to explore participants' experiences of suspecting and receiving an HIV diagnosis, in order to develop counselling and peer-support interventions to assist newly diagnosed individuals and also to reduce the chances of their engagement in high-risk behaviours that would further spread the illness. It is expected that increased levels of hope will lead to increases in ethical behaviours. However, hope is a complex phenomenon, and although there is presently the potential to experience more hope than ever when receiving an HIV diagnosis, this is often not the case. Newly diagnosed individuals still report extreme hopelessness and despair. Thus, it is hypothesized that there are multiple mediating variables between people experiencing hope following an HIV diagnosis (e.g. support, acceptance of HIV, counselling, co-occurring stressors). These variables

will also be explored within the present study. In order to attempt to understand the emotional-cognitive processes of hopelessness and despair following diagnosis, so as to reduce the risks associated with the high-risk period, one needs to become submerged within this population. Philosophical Hermeneutics, the methodology for the present study, is a dialectical qualitative approach to research, which involves conducting in-depth interviews and analyzing the results for the purpose of gaining deep understanding through interpretation (Gallagher, 1992; Smith, 1994). Multiple interviews are being conducted with individuals living with HIV, in order to explore themes surrounding hope and counselling strategies.

- Publications:**
- Harris, G. E. & Larsen, D. (2007). HIV peer counseling and the development of hope: Perspectives from peer counselors and peer counseling recipients. *AIDS, Patient Care and STDs*. 21(11), 843-859.
- Harris, G. & Larsen, D. (2008). Understanding hope in the face of an HIV diagnosis and high-risk behaviors. *Journal of Health Psychology*. 13, 401-415.

Engaging People from HIV Endemic Countries (Nigeria, Sudan, and South Africa) in Calgary

Principal Investigator: Huffey, Nedra
Leech, Jessica
AIDS Calgary Awareness Association

Co-Principal Investigators:
Worthington, Catherine
Este, David

Population: Immigrants, refugees, people from HIV endemic countries

Duration: April 2006 – March 2008

Funder: Canadian Institutes of Health Research (CIHR) Operating Grant

Summary: As the Calgary region becomes more ethnoculturally diverse, the complexity of HIV/AIDS service needs increases. In order to develop and provide appropriate supports to people from Nigeria, Sudan and South Africa that are living with, and affected by HIV/AIDS, AIDS Calgary must first determine how to effectively engage them in order to assess and meet their needs with respect to HIV prevention, care and support. AIDS Calgary will conduct a community-based research project that will pilot the process of engaging members of these communities in developing and delivering culturally-appropriate HIV prevention, care and support services for populations from HIV-endemic countries living in Southern Alberta. This research can improve the health of individuals and groups in the Nigerian, Sudanese and South African communities in Calgary, and potentially southern Alberta, by determining the most ethnoculturally appropriate ways for these needs to be met by HIV/AIDS, health and immigrant/refugee serving organizations. The development of collaborative, innovative service delivery approaches based on the study's findings can improve awareness of, and access to, HIV prevention, care and support services for the Nigerian, Sudanese and South African communities.

Environmental Scan: HIV/AIDS Needs and the Service Environment in Calgary for People from Countries Where HIV is Endemic

Principal Investigator: Huffey, Nedra
AIDS Calgary Awareness Association
Patten, San (consultant)

Population: People from HIV Endemic countries, service providers

Duration: Project completed in August 2005

Summary: In order to develop and provide appropriate supports to people from endemic countries that are living with and affected by HIV/AIDS, AIDS Calgary must first determine how to effectively engage them and understand their needs. AIDS Calgary Awareness Association commissioned this environmental scan in order to determine the feasibility of engaging people from endemic countries that are living with, and affected by, HIV/AIDS and responding to their needs for support and outreach services.

The objectives of the environmental scan were:

1. To describe the population of people living in Calgary from African countries where HIV/AIDS is endemic;
2. To describe the service environment, with respect to: settlement services; health information, resources and services tailored to this population; social supports and family services; and employment assistance;
3. To describe current service use among people living in Calgary from African countries where HIV/AIDS is endemic;
4. To conduct a literature review covering two main topics: HIV/AIDS and related health service needs for newcomers from African and other countries where HIV/AIDS is endemic; and service delivery, best practices etc. for HIV/AIDS prevention, support, care and access to treatment for newcomers from African and other countries where HIV/AIDS is endemic.

Publications: Patten, San. (2005). *Environmental Scan: HIV/AIDS Needs and the Service Environment in Calgary for People from Countries Where HIV is Endemic*. Calgary: AIDS Calgary. Available at:
<http://www.aidscalgary.org/programs/documents/EnvironmentalScan-PeoplefromContrieswhereHIVisEndemic-Aug-05.pdf>

HIV/AIDS and Human Rights Needs Assessment: Equality Project

Principal Investigator: Leech, Jessica
AIDS Calgary Awareness Association

Populations: People living with HIV/AIDS, people at risk for HIV, people affected by HIV/AIDS

Duration: September 2002 – May 2004

Funder: Alberta Human Rights, Citizenship and Multiculturalism Education Fund

Summary: Stigma and discrimination related to HIV/AIDS can have a significant impact on health and well being. The objectives of this project were to:

1. Identify human rights issues facing people living with HIV/AIDS in the Calgary region.
2. Provide one-on-one support and assistance to people experiencing discrimination.
3. Develop educational resources containing practical information for service providers and people experiencing discrimination.
4. Build the capacity of service providers and people living with HIV/AIDS to conduct advocacy/ self-advocacy work in the area of human rights.

This project used community-based research methodologies that included a survey, interviews, focus groups, community consultations and data gathered through frontline work. Wherever possible, this research attempted to incorporate the Greater Involvement of People Living with or Affected by HIV/AIDS (GIPA) principle. Using an applied research approach, all research has been directly incorporated into human rights programming and educational resources. Community-based organizations have an important role to play in identifying human rights issues and in creating programming to overcome barriers to accessing basic rights for people living with HIV/AIDS.

Publications: Leech, Jessica. (2004). *HIV/AIDS and Human Rights Needs Assessment: Equality Project*. Calgary: AIDS Calgary Awareness Association. Available at: <http://www.aidscalgary.org/programs/documents/EqualityProject-NeedsAssessment.pdf>

An Exploratory Study of the Characteristics of Injection Drug Users With Recent Acquisition of HIV in Edmonton

Principal Investigator: McPherson, Nancy Carol
Centre for Health Promotion Studies, School of Public Health
University of Alberta

Advisor: Wilson, Doug

Populations: Injection drug users

Duration: Project complete in the spring of 2002

Summary: A qualitative study was conducted to explore the social and contextual factors that directly and indirectly lead to HIV transmission among injection drug users. Data were collected through semi-structured individual interviews with 10 participants who contracted HIV infection within the past two years while living in northern Alberta. The data were analyzed utilizing thematic content analysis. Using determinants of health as a framework, three key areas were explored: the context in which individuals are at risk of contracting HIV infection through drug use, barriers to existing education and prevention programs and services, and indicators for designing and implementing an effective and comprehensive HIV prevention program in Edmonton. The study concludes with implications for future research and recommendations for practice.

Publications: McPherson, Nancy Carol. (2002). *An Exploratory Study of the Characteristics of Injection Drug Users With Recent Acquisition of HIV in Edmonton*. Centre for Health Promotion Studies, University of Alberta.

Community consultation to design an intervention to reduce AIDS stigma

Principal Investigator: Mill, Judith
Faculty of Nursing, University of Alberta

Co-Investigators: Austin, Wendy
Dumont-Smith, Claudette
Edwards, Nancy
Jackson, Randy
Leonard, Lynee
MacLean, Lynne

Population: Aboriginal

Duration: January 2006 – January 2007

Funders: Canadian Institutes of Health Research
– CBR Program Capacity-Building Workshop
Ontario HIV/AIDS Treatment Network

Summary: Two community consultation workshops are proposed to build research capacity among community research partners by meaningfully engaging them in the design of an intervention to reduce AIDS stigma. The intervention will be based on findings from a CIHR-funded community based research project: 'The Influence of Stigma on Access to Health Services by Persons with HIV Illness,' which is currently being conducted in Ottawa and Edmonton. During the research project, persons living with HIV/AIDS (PHAs), Aboriginal persons living with HIV/AIDS (APHAs), and health professionals have been interviewed to examine the impact of stigma on access to health services. Workshops will be held in Ottawa and Edmonton and will include members of the research team and project advisory committees currently involved with the project, and decision-makers and health professionals from organizations in Ottawa and Edmonton not currently involved with the project. Following an overview of the key findings from the research, the workshop participants will be asked to assist with the development of the intervention. The development of best practice guidelines for the provision of health services to PHAs and APHAs will be an outcome of this process. The community consultation workshops will be held in the spring of 2006, in conjunction with another provincial meeting in Ottawa and Edmonton. The workshop will employ participatory learning strategies that rely on the direct involvement and recognized expertise of workshop participants.

Publications: Mill J., Austin, W., Chaw-Kant, J., Dumont-Smith, C., Edwards, N., Groft, J., Houston, S., Jackson, R., Leonard, L., MacLean, L. & Reintjes, F. (2007). *Final Report, The Influence of Stigma on Access to Health Services by Persons with HIV Illness*. Available at:
<http://www.mymailout.com/MyMailout/Home/2954/3672/link68549/The%20Influence%20of%20Stigma%20on%20Access%20to%20Health%20Services%20by%20Persons%20with%20HIV%20Illness.pdf>

The Influence of Stigma on Access to Health Services by Persons with HIV Illness

Principal Investigator: Mill, Judith
Faculty of Nursing, University of Alberta

Co-Investigators: Austin, Wendy
Dumont-Smith, Claudette
Edwards, Nancy
Houston, Stan
Jackson, Randy
Leonard, Lynne
MacLean, Lynne

Populations: People living with HIV/AIDS

Duration: April 2003 – March 2005

Funder: Canadian Institutes of Health Research – Improving Access to Appropriate Health Services for Marginalized Groups Competition

Summary: For many Aboriginal and non-aboriginal people living with HIV/AIDS (A/PHA), HIV illness continues to elicit profound feelings of stigma. The purpose of the study is to develop an intervention for the provision of health services to persons living with HIV that mitigates the impact of stigma on access to appropriate health services. The project received assistance from eight individual organizations located in Edmonton and Ottawa to recruit study participants. A participatory action research (PAR) protocol was achieved by involving members of the community on the research team and through participation of two research advisory committees. A qualitative methodology was adopted and this part of the larger study involved in-depth interviews with 33 study participants, of which 16 were Aboriginal people. The impact of stigma on the experience of HIV illness for A/PHA study participants is associated with cultural understanding and historical circumstance. Findings suggest that any interventions that focus on mitigating stigma and that promote optimal access to health care must attend to these features.

Publications: Mill, J., Austin, W., Chaw-Kant, J., Dumont-Smith, C., Edwards, N., Groft, J., Houston, S., Jackson, R., Leonard, L., MacLean, L. & Reintjes, F. (2007). *Final Report: The Influence of Stigma on Access to Health Services by Persons with HIV Illness*. Available at:
<http://www.mymailout.com/MyMailout/Home/2954/3672/link68549/The%20Influence%20of%20Stigma%20on%20Access%20to%20Health%20Services%20by%20Persons%20with%20HIV%20Illness.pdf>

The Diagnosis and Care of HIV Infection in Aboriginal Youth

Principal Investigator: Mill, Judith
Faculty of Nursing, University of Alberta

Co-Investigators: Archibald, Chris
Jackson, Randy
Myers, Ted
Wong, Thomas
Worthington, Catherine
Zoccole, Art

Populations: Aboriginal youth

Duration: April 2003 – March 2005

Funder: Canadian Institutes of Health Research – Operating Grant

Summary: The purpose of this national community-based study was to explore HIV testing and care decisions in Canadian Aboriginal youth. Three main areas of inquiry were: *the decision to test, the testing experience and the relationship between testing and care*. This project was a collaboration of the Canadian Aboriginal AIDS Network (CAAN), the Public Health Agency of Canada (PHAC), and researchers at the Universities of Alberta, Calgary and Toronto. The research team received direction and guidance on the research questions and the design of the study from a community advisory committee (CAC) that included Aboriginal youth, Aboriginal Elders and representatives from community based organizations. An exploratory descriptive design was selected for the study due to the limited knowledge about HIV testing in Aboriginal youth in Canada. Mixed methods, including a cross-sectional survey and in-depth interviews, were used to collect data. The study was conducted in partnership with eleven community-based organizations from across the country that included Aboriginal AIDS service organizations, Aboriginal health centres and friendship centres.

Publications: Mill, J., Jackson, R., Worthington, C., Archibald, C., Wong, T., Myers, T., Prentice, T. & Sommerfeldt, S. (2008). HIV Testing and Care in Canadian Aboriginal Youth: A community based mixed methods study. *BMC Infectious Diseases*. 8:132. Available through open access at <http://www.biomedcentral.com/content/pdf/1471-2334-8-132.pdf>

Mill, J., Archibald, C., Wong, T., Jackson, R., Worthington, R., Myers, T., Prentice, T. & Sommerfeldt, S. (2008) *The Diagnosis and Care of HIV Infection in Canadian Aboriginal Youth: A National Community-Based Collaborative Research Project*. Available at: <http://www.caan.ca/pdf/The%20Diagnosis%20and%20Care%20of%20HIV%20Infection%20of%20Canadian%20Aboriginal%20Youth.pdf>

Challenging Lifestyles – Aboriginal Men and Women Living with HIV/AIDS

Principal Investigator: Mill, Judith
Faculty of Nursing, University of Alberta

Co-Investigators: Houston, Stan
Lambert, Denise
Larkin, Kecia

Population: Aboriginal women, Aboriginal men, people living with HIV/AIDS

Duration: September 2002 – August 2005

Funder: Health Canada

Summary: Individuals, community agencies, professional organizations and government have identified HIV illness as a serious concern in Canadian Aboriginal communities. In the past, HIV prevention strategies have primarily focused on preventing the disease prior to infection. Prevention strategies must also include the promotion of healthy behaviours in the period following diagnosis. There is limited research on the behaviour of Aboriginal persons following diagnosis with HIV, however some research and anecdotal information suggest that there is an increase in 'high risk' behaviour. There is an urgent need, therefore, for research to investigate factors that increase or limit the spread of the virus in infected individuals. The purpose of this research project is to examine the experience of Aboriginal men and women following their diagnosis with HIV and to identify strategies to prevent the spread of HIV following diagnosis that are appropriate to the culture and situation of Aboriginal communities. A key goal of the research team is to model a research process that is based on respect and that involves, and is accessible to, the community. A participatory action research (PAR) design was chosen to guide the study because the principles of PAR are compatible with the principles for conduct of research in Aboriginal communities. These principles include: involving Aboriginal communities in all stages of the research process; promoting collaboration between members of Aboriginal and academic communities; and ensuring that the lived experience of participants belongs to Aboriginal communities. The study will be carried out in two phases. During the first phase, in-depth interviews will be used to explore the experiences of HIV seropositive individuals following diagnosis. Approximately 30 HIV seropositive Aboriginal men and women will be recruited from communities across Alberta. During the second phase of the study, an intervention to promote healthier lifestyles for Aboriginal persons with HIV illness will be designed, applied and assessed. In addition to interviewing individuals with HIV, approximately 10 community professionals working in HIV prevention, treatment, policy or program development will be interviewed. These individuals will be asked to reflect on the findings and assist with the development of the intervention. A Community Advisory Committee will be formed to provide advice and guidance throughout the research project. The Committee will provide input on the design, analysis, interpretation and dissemination of the findings. The members of the Committee will include elders and representatives from Aboriginal communities, Aboriginal persons living with HIV/AIDS (APHA's), and agencies currently working in the area of HIV prevention, treatment and support. The principal investigator, research team members, participants, and the Community Advisory Committee will equally share responsibility for the dissemination of the findings. Several outcomes are anticipated from the research. First, it is expected that this project will provide new knowledge and insight about the factors that increase or limit the spread of HIV in infected individuals. It is also anticipated that the research will identify and test an HIV prevention intervention that is appropriate to the culture and situation of Aboriginal communities. Finally, this project will foster

collaboration and build new partnerships between a community-based organization and researchers within a university setting.

Community solutions workshop: HIV testing and care for aboriginal youth

Principal Investigator: Mill, Judith
Faculty of Nursing, University of Alberta

Co-Investigators: Archibald, Chris
Jackson, Randy
Myers, Ted
Wong, Thomas
Worthington, Catherine

Populations: Aboriginal youth

Duration: April 2005 – March 2006

Funder: Canadian Institutes of Health Research (CIHR)
– CBR program Capacity-Building Workshops

Summary: The purpose of the proposed two-day workshop is to build research capacity among our Aboriginal community partners by meaningfully engaging them in the design and implementation of dissemination strategies related to the findings of a CIHR-funded community-based research project, “The Diagnosis and Care of HIV Infection in Canadian Aboriginal Youth.” Workshop participants will be asked to develop appropriate means for disseminating this information to their own clients and communities based on their knowledge of community needs and capacities. Guidance and technical assistance in designing dissemination strategies will be provided by the research team. Workshop participants will include the members of the research team, project advisory committee, and one representative from each of the Aboriginal community-based organizations who have assisted us in recruiting participants for our study and have been present at previous capacity building exercises. These individuals include representatives from Inuit, Metis and First Nations groups and from communities in all geographic areas of Canada. The workshop will be held in conjunction with CAAN’s AGM in October 2005 ensuring that the maximum number of Aboriginal community members can attend. The workshop will employ participatory learning strategies that rely on the direct involvement and recognized expertise of workshop participants. Their active participation and full engagement in the workshop will ensure that participants gain a better understanding of the processes involved in translating research findings into actionable interventions.

Publications: Mill, J., Archibald, C., Wong, T., Jackson, R., Worthington, R., Myers, T., Prentice, T. & Sommerfeldt, S. (2008) *The Diagnosis and Care of HIV Infection in Canadian Aboriginal Youth: A National Community-Based Collaborative Research Project*. Available at:
<http://www.caan.ca/pdf/The%20Diagnosis%20and%20Care%20of%20HIV%20Infection%20of%20Canadian%20Aboriginal%20Youth.pdf>

HIV, Hepatitis C and STD Issues in Alberta: The 2002 Alberta Survey of Adults

Principal Investigator: Northcott, Herbert (consultant)

Population: general population

Funder: Population Health Strategies Branch, Alberta Health and Wellness

Summary: *The HIV, Hepatitis C and STD Issues in Alberta* 2002 survey asked over 1200 Albertans about their knowledge, attitudes and practices on the topics of the study. Some of the specific measures related to the knowledge of curability, transmission and prevention of HIV, opinions on testing during pregnancy, and knowledge, transmission and prevention of STDs and hepatitis C. It also inquired on the sources of information and the role of the Internet as a medium to arrange for sexual encounters.

Publications: Northcott, Herbert. (2003). *HIV, Hepatitis C and STD Issues in Alberta: The 2002 Alberta Survey of Adults*. Alberta: Alberta Health and Wellness.
Available at <http://www.health.alberta.ca/documents/HIV-STD-Issues-Survey-2002.pdf>

A Qualitative Inquiry into the Health-Related Experience of Living and Working in Alberta Oil Camps

Principal Investigators: Taylor, Vatonina
Department of Applied Psychology, University of Calgary
Gorman, Lyn
Wood Buffalo HIV/AIDS Society

Population: Transient population

Duration: September 2002 – December 2003

Funders: Canadian Institutes of Health Research – Master's Student Award
Centre for Health and Policy Studies (University of Calgary)

Publications: Taylor, Vatonina. (2004). *A Qualitative Inquiry into the Health-Related Experience of Living and Working in Alberta Oil Camps*. Unpublished M.Sc. thesis, University of Calgary, Department of Applied Psychology.

The Alberta Community Council on HIV (ACCH) Community-Based Research Technical Assistance (RTA) Project

Principal Investigator: Vanderschaeghe, Jennifer
Alberta Community Council on HIV

Duration: April 2005 – March 2007

Funder: Canadian Institutes of Health Research (CIHR) - Operating grant

Summary: The Alberta Community Council on HIV (ACCH) is the coalition of all 15 community-based HIV/AIDS organizations in Alberta. ACCH has hosted a Research Technical Assistance (RTA) Project since January 2001 and is applying to the Canadian Institutes of Health Research (CIHR) for funding to support its RTA program for another two years (April 2005 to March 2007), building on the approaches

that have proven successful thus far, and introducing new CBR capacity-building approaches to expand the ability of ACCH member organizations to use and produce research. The overall goal of the ACCH RTA Program is to build and strengthen the CBR capacity of ACCH member organizations so they can effectively address the challenges of the HIV/AIDS epidemic. The RTA Program will achieve this by providing ACCH member organizations and their community partners with the necessary skills and support to undertake relevant and applied research that will help meet their policy, program and service delivery goals. The four objectives of the ACCH RTA Project will be:

1. To increase the research capacity of ACCH member organizations
2. To help ACCH member organizations establish or strengthen linkages with research partners
3. To facilitate opportunities for ACCH member organizations to engage in knowledge exchange
4. To contribute to the advancement of CBR within Alberta and Canada as an important component of the Canadian Strategy on HIV/AIDS

AHFMR Population Health Investigator: HIV Services Research

Principal Investigator: Worthington, Catherine
Faculty of Social Work, University of Calgary

Populations: Persons from HIV-endemic countries; Youth / Adolescents / Children; Users of health care services

Duration: July 2005 – June 2009

Funder: Alberta Heritage Foundation for Medical Research (AHFMR) - Career Scientist Award

Summary: The goal of this four-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.

Participation in Clinical HIV Research: Experiences, Influencing Factors, and Impacts

Principal Investigator: Worthington, Catherine
Faculty of Social Work, University of Calgary

Co-Investigator: Gill, M John

Population: people living with HIV

Duration: April 2003 – March 2006

Funder: Social Sciences and Humanities Research Council (SSHRC)
Operating grant

Summary: The aim of this program of research is to investigate HIV clinical research participation by individuals living with HIV/AIDS in order to promote research within an ethical framework, and contribute to theory building in this area. The specific objectives of the study are to:

1. Examine who participates in clinical HIV research.
2. Investigate influences on participation in clinical HIV research.
3. Explore the experience of participating in clinical HIV research.
4. Examine the impacts on research participants of participation in clinical HIV research. Data will be collected at a regional HIV care facility in Canada.

Publications: Worthington, Catherine A. & Gill, M. John. (2008). Participation in HIV Research: The importance of clinic contact factors. *AIDS Patient Care and STDs*. 22(8): 619-625.

The Spectrum of Calgary Street-Involved Youth and HIV Risk: A Community Prevention Planning Initiative of Youth and HIV Services

Principal Investigator: Worthington, Catherine
Faculty of Social Work, University of Calgary

Co-Investigators: Berndt, Eric, AIDS Calgary
Jessica Leech, AIDS Calgary
MacLaurin, Bruce John

Population: Youth

Duration: April 2004 – September 2005

Funder: Canadian Institutes of Health Research (CIHR) Operating grant

Summary: The street-involved youth population - those aged 14 to 24 who identify with street culture and spend time with street peer groups - in Calgary is growing. Street youth and HIV services in Calgary are committed to providing effective, coordinated services to reduce the level of risk to youth while they are on the streets and to support the transition from street life when appropriate. Providing effective services to street-involved youth is not a simple task, however, as different types of street-involved youth in Calgary require unique and specialized services. Although there have been several studies of street-involved youth and street youth services in Calgary, there is a dearth of information on the spectrum of street-involved youth, their health and HIV risks, strengths and coping mechanisms, and their range of service needs. The goals of this community-based research and planning project sponsored by AIDS Calgary are to:

- Describe the spectrum of street-involved youth in Calgary (from those youth who connect with street culture during occasional episodes to those youth who are firmly entrenched in street life), and explore variations among these different sub-populations in terms of HIV and health risks, coping mechanisms, and needs; and
- Use the process of data collection and the information collected as a basis for a reciprocal planning process among youth and HIV service organizations, in order to develop and enhance existing services. Calgary youth and AIDS service organizations are collaborating on this project.

The first (research-oriented) goal will be achieved through surveys and in-depth qualitative interviews of street-involved youth conducted by agency research assistants. The second (service-planning oriented) goal will be achieved through the on-going collaborative work of representatives from community-based organizations at all stages of the project, including project planning, data collection, analysis, and interpretation, and formulation of key findings and recommendations for best practices and services enhancement.

Development of a Conceptual Framework to Enhance Labour Force Participation for People Living with HIV in Canada

Principal Investigator: Worthington Catherine
Faculty of Social Work, University of Calgary

Co-Investigators: McKee, Eileen
O'Brien, Kelly
Zack, Elisse

Populations: People living with HIV/AIDS

Duration: October 2007 – September 2009

Funder: Canadian Institutes of Health Research - Operating Grant

Summary: 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 for 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 health care 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 at enhancing 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.

Advancing HIV Services Research: Expanding Andersen's Health Service Utilization Framework

Principal Investigator: Worthington, Catherine
Faculty of Social Work, University of Calgary

Populations: Users of health care services

Duration: July 2005 – June 2010

Funder: Canadian Institutes of Health Research – New Investigator Award

Summary: 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 (to be prioritized for funding by Health Canada for 2004) 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.

Sexually Transmitted Infections Among Street Youth

Principal Investigator: Gratrix, Jennifer
Centre for Health Promotion Studies, University of Alberta

Advisor: Wild, Cameron

Population: Youth

Duration: Project completed by the fall of 2003

Funder: Health Canada – Enhanced STD Surveillance of Canadian Street Youth

Summary: Canadian street youth have been implicated as one of the core groups needing targeted interventions to reduce sexually transmitted infection (STI) transmission. This study sought to understand the health determinants among Edmonton street youth for hepatitis B immunization, agreement to STI/blood-borne pathogens (BBP) testing, and testing positive for STI/BBP. A convenience sample was recruited from community agencies providing service to street youth. Youth were administered a questionnaire and asked to provide a urine and/or serum sample for STI and BBP testing. This study confirms that many Edmonton street youth are participating in high-risk activities for STI/BBP acquisition and have a high prevalence of STI. Street youth are agreeable to outreach services including immunization and STI testing.

Publications: Gratrix, J. J. (2003). *Health determinants associated with the prevention and detection of sexually transmitted infections among Edmonton street youth*. Thesis (M. Sc.), University of Alberta.

Alberta Blood-borne Pathogens and Sexually Transmitted Infections

Principal Investigators: Sanderson, Michael
Surveillance and Environmental Health, Alberta Health and Wellness
Twilley, Leslie (Consultant)

Co-Investigators: Wang, Fu-Lin
Sutherland, Karen
Simmonds, Kimberley
Miller, Pamela
Nguyen, Thu-Ha

Summary: This report contains data on selected blood-borne pathogens and sexually transmitted infections in Alberta. Pathogens studied include HIV (Human Immunodeficiency Virus), HCV (hepatitis C virus) and HBV (hepatitis B virus; we report only acute HBV infections with the exception of HBV prenatal screening data), chlamydia, gonorrhea, syphilis (infectious, non-infectious, and congenital), mucopurulent cervicitis (MPC), non-gonococcal urethritis (NGU), pelvic inflammatory disease (PID), and selected co-infections. Measures are based on newly diagnosed cases of infection per year, up to 2006. Reported rates are age-adjusted according to 1996 Census Canada data.

For each infection, background information is provided on the effects of the infection, modes of transmission, available treatments, and international and Canadian data on infection rates. Our analyses of Alberta data examine time trends, age groups, geographic areas, ethnicities,

First Nations status, exposure categories, deaths, and prenatal screening, as available or appropriate for each pathogen.

Publications: Alberta Blood-borne Pathogens and Sexually Transmitted Infections Surveillance Working Group. (2008). *Alberta Blood-borne Pathogens and Sexually Transmitted Infections Surveillance Report 2008*. Edmonton, AB: Alberta Health and Wellness. Available at <http://www.health.alberta.ca/documents/BBP-STI-surveillance-2008.pdf>

HIV in Aboriginal Women in Northern Alberta

Principal Investigator: Shokoples, Sandra
School of Public Health, University of Alberta

Advisor: Saunders, Duncan
University of Alberta

Population: Aboriginal women

Duration: Project completed in the Fall 2002

Summary: Although only 8.4% of the population of Northern Alberta is Aboriginal, 46% of women with HIV in Northern Alberta who were seen by the Northern Alberta HIV Program were Aboriginal. The highest numbers of HIV-positive women were in the 15-34 year age groups. Of the two major risk factors for women contracting HIV – heterosexual contact and intravenous drug use, more HIV-positive Aboriginal women had used IV drugs. There was no statistically significant difference between HIV-positive Aboriginal women and non-Aboriginal women in terms of the proportion who had received antiretrovirals (ARV) or the proportion who had experienced outcomes of low CD4 count, death, or AIDS. HIV-positive Aboriginal and non-Aboriginal women continue to become pregnant after being diagnosed HIV-positive. Aboriginal leadership and participation in programs that address issues of women and of Aboriginal people are necessary to prevent the spread of this epidemic.

Publications: Shokoples, Sandra E. (2002). *HIV in Aboriginal women in Northern Alberta*. Unpublished M.Sc. Thesis, University of Alberta.

Social Dynamics of Injection Drug Use: Developing New Measures for HCV/HIV Prevention Research

Principal Investigator: Wild, Cameron
School of Public Health, University of Alberta

Co-Investigators: Fischer, Benedikt
McKim, Harry
Predy, Gerald

Duration: April 2004 – March 2007

Summary: Injection drug use (IDU) and associated conditions such as Hepatitis C Virus (HCV) and Human Immunodeficiency Virus (HIV) infections pose a great burden to the health of drug users and their communities. While harm reduction programs (e.g., needle exchange) can reduce the population burden of IDU, some drug users continue to engage in unsafe injection practices despite having access to clean equipment. Physical tools for safer injection may not be enough to reduce harm in the context of powerful social influences. But relatively little is known about social contexts of injecting, and in

particular, interpersonal relationships that lead to risky injection practices. This research will investigate the social dynamics of IDU as seen through the lens of interpersonal relationships and social networks in order to understand issues such as power, trust and obligation in the context of drug acquisition, use, and consequences. A series of three studies will develop and validate new measures of social network influences among drug users.

Publications:

Wild, T.C., Prakash, M., O'Connor, H., Taylor, M., Edwards, J. & Predy, G. (2003).

Injection Drug Use in Edmonton's Inner City: A Multimethod Study.

University of Alberta. Available at: http://www.uofaweb.ualberta.ca/chps/pdfs/technical_report_03-001_full_report.pdf

Wozniak, L., Prakash, M., Taylor, M. & Wild, T.C. (2007). Everybody's Got It, But...: Situational and strategic participation in normalized HCV discourse among injection drug users in Edmonton, Canada. *International Journal of Drug Policy*, 18.

CIHR Team in HIV/HCV Co-Infection

Principal Investigators: Agrawal, Babita
Surgical-Medical Research Institute, Department of Surgery
University of Alberta
Kuman, Rakesh, University of Alberta
Richardson, Christopher, Dalhousie University

Co-Investigators: Power, Christopher,
Tyrrell, Lorne

Duration: October 200 – September 2012

Funder: Canadian Institutes of Health Research - Emerging Team Grant Program - HIV/AIDS

Summary: 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 for 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 the 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 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.

Publications: For a list of Dr. Agrawal and colleagues' selected references, see <http://www.adi.med.ualberta.ca/Home/Research/PrincipalInvestigators/Bio/agrawal.cfm>

Host Interferon Response to HIV Infection: Understanding How TRIM22 Blocks Virus Assembly/Release

Principal Investigator: Barr, Dominic Stephen
Medical Microbiology and Immunology, University of Alberta

Advisor: Smiley, James Richard

Duration: April 2007 – March 2008

Funder: Canadian Institutes of Health Research - Fellowships Award in the Area of Biomedical / Clinical HIV/AIDS research

Summary: Interferon has been shown to inhibit acute and chronic HIV replication, but little is known about the effect or mechanisms of the host interferon response to HIV infection, and whether HIV can circumvent these mechanisms. We have previously identified a protein called TRIM22 that is produced in high abundance during the interferon response and is capable of potentially inhibiting the assembly and/or release of the HIV virus from human cells. Our proposed research is designed to better define how TRIM22 is able to block HIV infection by studying its involvement at different steps of the viral lifecycle. We also plan to expand our studies to determine if TRIM22 can block the infection of other viruses with similar assembly and/or release pathways. Our research will help identify the specific components of the interferon response that are responsible for providing cells with protection from HIV infection. This will lead to more effective therapy and could eventually provide patients with a less-toxic alternative treatment to interferon therapy. If we hope to identify new drug targets and candidates for gene therapy, it will also be essential to understand how HIV counteracts this defense to establish infection, which is one focus of our proposed research. We hope that our research could lead to the design of new drugs or vaccines that can halt the person-to-person transmission of HIV and the spread of the virus in the body, thereby slowing the onset of AIDS.

Publications: Barr, S., Smiley, J. & Bushman, F. (2008). The Interferon Response Inhibits HIV Particle Production by Induction of TRIM22. *PLoS Pathogens*. 4(2): e1000007.

CIHR Team in HIV Pathogenesis

Principal Investigators: Cohen, Eric
Institut de Recherches Cliniques de Montreal
Liang, Chen
Lady Davis Institute for Medical Research (Montreal)
Sonenberg, Nahum
McGill University
Tremblay, Michel
Universite Laval

Co-Investigators: Archambault, Jacques
Lamaree, Daniel
Power, Christopher

Duration: October 1, 2007 – September 2012

Funder: Canadian Institutes of Health Research - Emerging Team Grant Program - HIV/AIDS

Summary: AIDS is a slow, degenerative disease of the immune and nervous systems resulting from HIV infection. With an estimated 39.5 million people world-wide living with HIV in 2006 and more than 30 million that have lost their lives since the beginning of the pandemics, this disease has the potential to overwhelm even the best system of health care delivery and threaten the lives, welfare and social stability of entire regions of the developing world. The introduction of anti-retroviral combination drug therapies in the mid-1990s has allowed a better control of viremia in infected individuals and has improved survival. However, these expensive and complex combination therapies are accessible to less than 20% of people with advanced HIV infection throughout the world; consequently, they are not having an impact on the progression of the epidemics. Furthermore, the risk of treatment failure, often associated with poor adherence and toxic side effects, is always present and the cause of the growing evolution of multi-drug-resistant viruses. Consequently, it is becoming an urgent public health priority to rationally design and develop novel therapeutic and vaccine strategies that are simple and efficient, as well as less prone to resistance, in order to control and contain the AIDS pandemic. However, progress in these areas still lies with a better understanding of HIV-host cell interactions governing viral replication and pathogenesis. To improve our understanding of these interactions, we propose an integrated multidisciplinary, multicentre research program that assembles an expert scientific team to study distinct stages of the virus replicative cycle. Our CIHR Emerging Team in HIV Pathogenesis has set its goals: to study critical HIV-host cell interactions governing viral production and transmission in natural target cells; and to reveal additional novel targets for antiviral strategies. Both objectives are essential to improve the health of Canadians afflicted by the disease.

Mechanisms of NK Cell Recognition and Killing of *Cryptococcus* Neoformans

Principal Investigator: Jones, Gareth
Department of Clinical Neurosciences, University of Calgary

Advisors: Mody, Christopher
Power, Christopher

Duration: June 2005 – May 2007

Funder: Canadian Institutes of Health Research - CIHR Institute of Infection and Immunity Fellowships

Summary: HIV-associated dementia (HAD), a clinical disorder defined by cognitive, behavioural and motor dysfunction, affects approximately 10% of HIV-infected patients at advanced stages of disease progression. HAD may result indirectly from the secretion of neurotoxic factors by resident brain macrophages/microglia in response to HIV infection or stimulation by viral proteins. Alternatively, HIV-1 encoded proteins may injure neurons directly without requiring the intermediary functions of non-neuronal cells. One such viral protein is the viral protein R (Vpr). The goal of the studies proposed here is to determine whether molecular diversity within HIV-1 Vpr is associated with the development of HAD. Particularly, do distinct brain-derived Vpr sequences exist that differ between patients with or without HAD? Are Vpr from HAD patients more neurotoxic than those from non-demented AIDS patients? What are the mechanisms by which these proteins mediate neurotoxicity? To answer these questions I will perform phylogenetic analysis on brain-derived HIV-1 Vpr sequences obtained from patients with or without HAD. Using a virus-based expression system, these Vpr sequences will be cloned and expressed in macrophages and astrocytes, and the relative neurotoxicity of conditioned media from these cultures examined. To complement these studies, the neurotoxic effects of exogenous

Vpr protein will be investigated. Lastly, an animal model will be utilized to investigate the in vivo neuropathological effects of brain-derived HIV-1 Vpr from patients with or without HAD. The results from these studies will increase our understanding of why HIV infection results in clinical dementia in certain patients.

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: Klein, Marina
Montreal Chest Institute Immunodeficiency Service

Co-Investigator: Gill, John

Duration: April 2006 – March 2009

Funder: Canadian Institutes of Health Research (CIHR) - Operating grant

Summary: Highly active antiretroviral therapy (HAART) has brought dramatic reductions in morbidity and mortality from virtually all causes of illness among HIV-infected persons. One of the glaring exceptions to this trend is end-stage liver disease, now one of the leading causes of death in HIV-HCV-infected persons. HCV clearly progresses more rapidly in the context of HIV; thus HCV has been called an opportunistic infection. Consequently, HCV-related disease should improve with the initiation of HAART. Paradoxically, this has not been clearly demonstrated. Several potential factors may be tempering gains from immune restoration, including chronic hepatotoxicity related to antiretrovirals, possible irreversibility of hepatic damage, incomplete immune recovery, alcohol use, other co-morbid conditions and problems with access and/or adherence to HAART in a population with high rates of substance use.

The primary objective is to determine the effect of HAART on progression to end-stage liver disease in HCV-HIV co-infection while evaluating the contributions of important social and biologic factors that may modify fibrosis progression rates. The project will also focus on validation and use of non-invasive markers of hepatic fibrosis, chronic hepatotoxicity of antiretrovirals and the immunopathogenesis of HCV related disease in the context of HAART.

Our research team brings together expertise in HIV, hepatology, immunology, public health and epidemiology in a translational research program that can address the multifaceted nature of co-infection. Not only will our study provide important information on the evolution of co-infection in Canada; it will also broaden the understanding of the immunopathogenesis of HCV infection and the roles HIV and HAART play in the development of liver disease through the conduct of specific sub-studies. The richness of the data collected will also serve to generate additional research projects within the cohort and through larger international collaborations with a particular long-term aim of evaluating the impact of HCV treatment on HCV and HIV associated outcomes.

The Patterns of Use and Outcomes of Highly Active Anti-Retroviral Therapy (HAART) Among AIDS Patients Treated by the Northern Alberta HIV Program

Principal Investigator: Martin, Leah Jessica
Department of Public Health Sciences, University of Alberta

Advisors: Houston, Stan
Saunders, Duncan

Population: Aboriginal populations

Duration: April 2005 – March 2008

Funder: Canadian Institutes of Health Research (CIHR) Doctoral Student Award

Summary: The recent introduction and use of an HIV/AIDS drug therapy combination, called highly active anti-retroviral therapy (HAART), has resulted in reduced AIDS-related morbidity and mortality [Hogg et al. CMAJ 1999;160:659-65]. However, we know little about the effectiveness of HAART among inner-city AIDS patients in North America. In Northern Alberta, all persons diagnosed HIV+ are referred to the Northern Alberta HIV Program (NAHIVP) for treatment; most of these patients are inner-city residents who deal with numerous social issues in addition to their illness. The purpose of our research is to learn more about the combinations of HAART drugs that NAHIVP patients are prescribed, and to evaluate the effectiveness of their therapies, especially in terms of patient quality of life. Improving our understanding about which HAART drug combinations are associated with the most successful outcomes will help physicians to prescribe more effective treatments. We expect that more effective treatments will improve the quality of life for the vulnerable AIDS population in Northern Alberta.

Defective Microbicidal CD4+ T Cells in HIV Infection

Principal Investigator: Mody, Christopher
Department of Microbiology and Infectious Diseases
University of Calgary

Co-Investigator: Jones, Gareth

Funder: Canadian Foundation for AIDS Research Introductory (Level 2) Research Grants

Publications: For a list of Dr. Mody and colleagues' selected references, see http://www.ucalgary.ca/microinfect/mody_publications

Direct Lymphocyte-Mediated Antimicrobial Mechanisms

Principal Investigator: Mody, Christopher
Department of Microbiology and Infectious Diseases
University of Calgary

Duration: October 2003 – September 2011

Funder: Canadian Institutes of Health Research (CIHR) - Operating grant

Summary: Infections remain one of the great challenges to mankind. Resistance to antibiotics and infections in patients with compromised immunity like AIDS are two of the most pressing problems that humans face. It is not clear how we will defend ourselves against these ever-increasing microbial invaders. The answer may lie in studies of the immune system. The information may provide new and exciting insights for therapies where antibiotics don't exist or where they have become ineffective. One of the elements of our immune system kills tumor cells and virally infected cells. The cells responsible for killing are called cytotoxic lymphocytes. Recently, it has been found that these cells bind directly to microbes like fungi and kill them. Because this finding is so new, the mechanisms of recognition of the microbe, mechanisms of activation of the cytotoxic or microbicidal lymphocytes and the killing mechanisms have not been well worked out. Imagine if this potent source of anti-infective cells could be harnessed and applied to therapy. Moreover, our recent studies demonstrate that this lymphocyte-mediated microbicidal response is defective in HIV-infected patients. It is the goal of this proposal to study the normal and defective mechanisms with the purpose of providing new therapies for challenging infections.

The Role of Dendritic Cells in the Microbicidal Lymphocyte Response in AIDS

Principal Investigator: Mody, Christopher
Department of Microbiology and Infectious Diseases
University of Calgary

Duration: January 2005 – January 2006

Funder: Canadian Foundation for AIDS Research - Introductory (Level 2) Research Grants

Regulations and Activity of Surface-Expressed IL-15 in HIV Pathogenesis

Principal Investigator: Mody, Christopher
Department of Microbiology and Infectious Diseases
University of Calgary

Duration: July 2002 – July 2003

Funder: Canadian Foundation for AIDS Research - Introductory (Level 2) Research Grants

The Role of the *Cryptococcus Neoformans* Mitogen (CnM) in Host Defense in AIDS

Principal Investigator: Mody, Christopher
Department of Microbiology and Infectious Diseases
University of Calgary

Duration: July 2000 – July 2001

Funder: Canadian Foundation for AIDS Research - Operating grant

HIV-1 Vpr-Mediated Neuropathogenesis: Classical and Systems Biology Analyses

Principal Investigator: Noorbakhsh, Farshid
Faculty of Medicine, University of Alberta

Advisor: Power, Christopher

Duration: September 2007 – August 2008

Funder: Canadian Institutes of Health Research - Fellowships Award in the Area of Biomedical / Clinical HIV/AIDS research

Summary: Despite the availability of highly active antiretroviral therapy (HAART), the prevalence of neurological disease caused by human immunodeficiency virus (HIV)-1 infection has risen over the past decade. The mechanisms by which the nervous system is damaged during HIV infection remains uncertain although there is a consensus that innate immune activation driven by HIV gene expression is pivotal in HIV neuropathogenesis. Our working hypothesis is that the HIV infection exerts its neuropathogenic effects through both intracellular and extracellular expression of select HIV proteins, which might compromise neuronal viability directly or induce aberrant host immune responses with ensuing neural cell injury and death. We will focus on "viral protein r" (Vpr), because of its unique neuropathogenic properties. We will investigate Vpr's direct interactions with neuronal cells and also its indirect effects in terms of innate immune activation within the nervous system. These studies will lead to a better understanding of the processes underlying the development of HIV-associated encephalopathy in children and adults, along with the identification of new therapeutic strategies.

Early Molecular Determinants of HIV Neurovirulence: The Convergent Roles of Retroviral Envelope Expression and Diversity

Principal Investigator: Power, Christopher
Department of Medicine, University of Alberta

Duration: October 2006 – September 2011

Funder: Canadian Institutes of Health Research (CIHR) - Operating grant

Summary: The onset of human immunodeficiency virus (HIV)-induced neurological disorders including HIV-associated dementia and sensory neuropathy, directly caused by HIV-1 infection, parallels systemic immune suppression. Identifying the early molecular events in HIV-induced neurological disorders is essential for effective prevention and treatment. The working hypothesis is that HIV-1 envelope (ENV) exerts its disease-causing effects in the early stages of nervous system infection

to cause damage and/or death of neural cells with worsened neurological outcomes. To test this hypothesis, I will investigate the early molecular mechanisms by which expression of the HIV-1 ENV protein mediates infection and injury/death of vulnerable neural cells. In Specific Aim 1, we will clone HIV-1 ENV sequences from different regions of the brains of humans with AIDS and subsequently construct pseudotyped viruses for studies of infection. In Specific Aim 2, we will delineate the effects of the constructed viruses in glia and neurons using microarray and neurophysiological methods. In Specific Aim 3, we will define individual lymphocyte populations and associated mechanisms contributing to reduced neural cell viability following infection with different HIV-1 ENV clones. In Specific Aim 4, we will characterize the neuroprotective effects of an endogenous virus during HIV infection. This proposal will define the early effects by which HIV-1 ENV contributes to brain disease with the long term goal of further development of effective treatments for HIV-1 infection.

Publications: For a list of Dr. Powers and colleagues' selected references, see <http://www.psychiatry.ualberta.ca/Home/Researchers/Bio/PowerChris.cfm>

Lentivirus Neurovirulence: Dynamic Interplay Between Viral Heterogeneity and Host Immune Response

Principal Investigator: Power, Christopher
Department of Psychiatry, University of Alberta

Co-investigator: Baker, Glen

Duration: October 2002 – September 2012

Funder: Canadian Foundation for AIDS Research (Advanced (Level 1) Research Grants: First Year of Two Year Grants (2006/2007) & Canadian Institutes of Health Research (Operating Grant)

Summary: Infection by the immunosuppressive lentiviruses, human (HIV), feline (FIV) and simian (SIV) immunodeficiency viruses, results in a disease course during which immune and nervous systems' pathogenesis are closely integrated temporally and also in terms of disease severity. Studies from my laboratory and others indicate that neuronal loss in the brain is predicated on lentiviral infection and associated activation of glial cells (perivascular macrophages, microglia and astrocytes). Dual lentivirus infections have received increasing recognition in recent years because of their increasing prevalence, ability to expand molecular diversity within a viral quasispecies and worsened pathogenic effects during HIV/AIDS. However, the mechanisms by which infection by two or more virulent lentivirus strains exacerbate the disease course remain unclear at present. We have established a model in which multiple FIV strains infect cultured cells and whole animals resulting in exacerbation of brain disease and immunosuppression. The present working hypothesis is that molecular diversity within infectious lentiviruses, particularly during dual lentivirus infection, mediates neurological disease through induction of pathogenic innate immune responses, which depend on the individual viral strains. Herein we will investigate the following aims using both ex vivo and in vivo tools to elucidate the processes underlying development of lentivirus-related neurological disease. From these studies we expect to glean insights into the molecular mechanisms by which dual lentivirus infections contribute to brain disease and the comparative beneficial effects of ARTs on dual lentivirus infection. Moreover, the results of both ex vivo and in vivo studies will be integrated at transcriptional, translational and metabolic levels, focusing on a key neurotoxic and immunosuppressive pathway.

Molecular Neuropathogenesis of HIV Infection: the Neurotoxic Role of Vpr

Principal Investigator: Power, Christopher
Department of Psychiatry, University of Alberta

Co-Investigators: Dickie, Peter
Jhamandas, Jack
Cohen, Eric

Duration: January 2006 – March 2009

Funder: Canadian Institutes of Health Research (CIHR) HIV/AIDS Research
Initiative Operating Grant - Biomedical/Clinical Stream

Summary: Although the mechanisms by which the nervous system is damaged during HIV infection remain uncertain, there is a consensus that innate immune activation with accompanying neuronal injury and/or death are key features of HIV neuropathogenesis. Our working hypothesis is that the HIV-1 Vpr protein exerts its neuropathogenic effects through two concomitant mechanisms including induction of aberrant host neuroimmune responses and direct neurotoxic effects with ensuing neural cell injury and death. Herein we will clone HIV-1 Vpr sequences from blood and brain derived from HIV/AIDS patients with and without HAD; these sequences will be expressed and assessed in terms of their ability to transactivate the HIV-1 LTR. We will identify which domains and individual mutations within Vpr contribute to its pathogenic effects, including induction of neuroinflammation and neurotoxicity. We will define the neurotoxic mechanisms mediated by Vpr. We will investigate the in vivo neuropathogenic effects using a transgenic mouse in which Vpr is expressed in brain monocytoic cells. We anticipate that Vpr sequences derived from brain, and perhaps blood, will exhibit sequence differences that distinguish patients with and without HIV-associated dementia. In addition, we will identify which domains within Vpr are responsible for its neuropathogenicity. The mechanisms by which Vpr exerts its neurotoxic actions on neurons will also be elucidated. Finally, the in vivo model will permit us to define the mechanisms by which Vpr induces neuroinflammation and neuronal injury.

Neurotoxic Mechanisms Mediated by Lentivirus-Induced Proteolysis

Principal Investigator: Power, Christopher, University of Calgary

Co-Investigators: Hollenberg, Morley
Overall, Christopher

Duration: January 2004 – January 2006

Funder: Canadian Foundation for AIDS Research

In Vivo Lentivirus Neurovirulence: Molecular Mechanisms of Neuroinflammation and Cell Death

Principal Investigator: Power, Christopher, University of Alberta

Co-Investigator: James Peeling

Duration: October 2002 – September 2007

Funder: Canadian Institutes of Health Research (CIHR) Operating grant

Molecular Neuropathogenesis of Lentivirus Infections

Principal Investigator: Power, Christopher, University of Alberta
Duration: July 2002 – June 2007
Funder: Canadian Institutes of Health Research (CIHR) – Operating grant

A Randomized, Open-Label, Phase III, International Study of Subcutaneous Recombinant IL-2 (Proleukin®) in Patients with HIV-1 Infection and CD4+ Cell Counts at least 300/mm³: Evaluation of Subcutaneous Proleukin® in a Randomized International Trial ESPRIT CTN 110

Principal Investigator: Routy, Jean-Pierre
Montreal Chest Institute (MUHC)
Site Investigators: Shafran, Stephen
University of Alberta
Duration: September 2000 – June 2007 (Ongoing, closed to enrollment)
Funders: National Institutes of Health (NIH), Chiron & Canadian HIV Trials Network
- Operating grants

Summary: The purpose of this trial is to evaluate the effects of giving an immuno-reconstituant called recombinant interleukin-2 (rIL-2) to HIV-infected people with CD4 cell count that is at least 300/mm³, allowing other antiretroviral treatment as determined by the clinician. This is an international trial where 4000 volunteers worldwide will be randomly divided into two groups. Group 1 will receive rIL-2 given by injection below the skin. Group 2 will not receive the study drug to show whether or not rIL-2 makes a difference in slowing the progression of HIV infection. The Canadian participation is expected to be 150 volunteers. The study will last about six years.

Interleukin-2 (IL-2) is a hormone (cytokine) that helps the development of CD4 cells (T-cells, immune cells that fight infection), and may help to reconstitute the immune system. It is a substance which is naturally produced by the body's CD4 cells. People with HIV-1 infection do not produce enough IL-2. Recombinant interleukin-2 (rIL-2) is being tested to see if it will increase the number of T-cells and slow the progression of HIV infection.

Participants will be randomly assigned to receive or not receive rIL-2 at a dose of 7.5 MIU twice daily for five consecutive days, every eight weeks. This routine will be repeated two times. Thereafter, the frequency of receiving rIL-2 will be tailored.

The Role of the Nef Protein in HIV-1 Associated Neurodegeneration

Principal Investigator: Van Marle, Guido
Department of Microbiology & Infectious Diseases
University of Calgary

Co-Investigator: Power, Christopher

Duration: July 2003 – June 2004

Funder: Canadian Institutes of Health Research (CIHR) - Fellowships Award in the Area of Biomedical / Clinical HIV/AIDS research

Summary: HIV-1 continues to cause dementia in 10-20% of AIDS patients despite the widespread use of high activity antiretroviral therapy (HAART). The underlying cause for HIV-associated dementia (HAD) is the release of molecules that are toxic to neurons as a result of infection of cells in the central nervous system by HIV-1 or exposure of these cells to HIV-1 proteins. In particular, the HIV-1 envelope protein has been shown to be a potent mediator of neuronal death and the induction of these neurotoxins. However, the HIV-1 Nef protein is also abundantly expressed by cells in the CNS, primarily in astrocytes. Although Nef has been suggested to play a role in HIV-1 neuropathogenesis, little is known about its mode of action in the CNS. It is our objective to determine to what extent the HIV-1 Nef protein contributes to HAD. To address this issue we will be analyzing the Nef proteins found in HIV-1 infected patients with and without HAD, and look for similarities in the protein sequence and structure between the two patient groups. In addition, we will study how these translate to the neurotoxic effects of the different Nef proteins found in these patients. These studies will increase our understanding of the influence of different HIV-1 proteins on neurological disease in HIV-1 infected patients, which will allow for better therapeutic approaches for this debilitating aspect of HIV-1 infection.

Lentivirus-Induced Peripheral Neuropathy: Viral Diversity and Host Response

Principal Investigator: Zhu, Yu
Department of Medicine, University of Alberta

Advisor: Christopher Power

Duration: July 2006 – May 2008

Funder: Canadian Institutes of Health Research - Fellowships Award in the Area of Biomedical / Clinical HIV/AIDS research

Summary: Peripheral neuropathy has become the principal neurological disorder among patients with HIV infection in the developed world. Pain, paresthesiae and gait instability characterize the complications arising from HIV-induced distal polyneuropathy (DSP), which can be exacerbated by concurrent therapy, especially highly active antiretroviral therapy (HAART). Specific drugs used in HAART regimens include ddI, ddC, and d4T; they may cause an antiretroviral toxic neuropathy (ATN). Although there are some in vivo models of these neurological disorders, like HIV-1, feline immunodeficiency virus (FIV) causes immune suppression and neurological disease in cats, which is viral strain-dependent and defined by FIV encephalopathy and more recently by the development of DSP. I will characterize the neurobehavioral, morphological and innate immune responses of lentivirus-induced peripheral neuropathy with a focus on the role of viral diversity and load as determinants of

DSP. More specifically, the role of individual FIV strains as causing neurovirulence will be assessed. I will define the extent to which the FIV envelope region drives neurovirulence and how viral diversity influences viral load, together with the host innate immune response in peripheral nerves and the subsequent development of DSP. This model also allows us to interpret the data in relation to systemic immunosuppression, which is a critical component of HIV- and FIV-induced neurological disease. These studies will also elucidate the contribution of specific antiretroviral therapies including ddI and AZT, which causes antiretroviral toxic neuropathy (ATN) or improve immune status respectively, to the development of the lentivirus-induced neuropathy.

Manitoba

Social Sciences

Hell Yeah I'm An Expert! - An Overview of Peer Models on the Prairie

Principal Investigators: Bryans, Margaret
Peer Forum
Manitoba Harm Reduction Network

Co-Investigators & Collaborators:
Migliardi, Paula
Thompson, Laura
Wylie, John

Populations: Peers, users of services

Duration: November 2007 – October 2008

Funder: Prairie HIV Community-Based Research Program – Seed Grant

Summary: The goal of this project is to explore the ways in which the voices of peers can be better heard in the context of HIV/AIDS, STIs, and other blood-borne pathogens, interventions and care. This project seeks to examine the strengths and challenges in peer involvement and participation in community health agencies, organizations, and networks seeking to reduce the incidence of HIV, STIs and other blood-borne pathogens in Manitoba. Further, based on the data collected, this project will make recommendations on how to include peers in meaningful ways in various agencies, committees, organizations, and governments.

Improving Access to Services for Immigrant and Refugee Communities Environmental Scan

Principal Investigators: Campos, Carlos
Sexuality Education Resource Centre
Manning, Liz
Nine Circles Community Health Centre

Populations: Immigrants, refugees, service providers

Funder: Public Health Agency of Canada – AIDS Community Action Program

Summary: The environmental scan identifies service priorities in Brandon and Winnipeg for immigrants and refugees infected with, affected by, or at risk for HIV. The priorities were identified based on information gathered about existing services and identified barriers, as well as relevant literature.

Key informant interviews (nine in Brandon and four in Winnipeg) and a focus group (Winnipeg) were conducted. These key informants were direct service providers, working primarily with refugees, immigrants, people affected by or living with HIV/AIDS, and program managers or administrators overseeing projects or services directly related.

Publications: Campos, C. & Manning, L. (2006). *Improving Access Environmental Scan*. Winnipeg and Brandon: Sexuality Education Resource Centre and Nine Circles Community Health Centre. Available at:
<http://serc.mb.ca/content/dload/environmentalscanreport/file>

Housing, Health and HIV

Principal Investigators: Carnochan, Tara
Nine Circles Community Health Centre
Bridgman, Rae
Department of City Planning, University of Manitoba

Co-Investigators: Kozyniack, Jennifer
Migliardi, Paula
Sorensen, Tina
Charles, Kendra
Hardie, Rae-Anne

Populations: People living with HIV

Duration: July 2008 – April 2009

Funders: Homelessness Secretariat, Human Resources Development Canada & the Public Health Agency of Canada

Summary: The main purpose of this project was to increase awareness of needs, identify existing gaps and make recommendations for change in the area of housing and HIV. The goal was to determine the factors and themes that could enable the development of housing projects or programs to improve the quality of life and health of people with HIV. This project presented participants with an opportunity to share their experiences, inform others and to help improve services. Thirty people living with HIV who were experiencing substandard housing participated in in-depth interviews. About half of them also participated in a feedback session where preliminary predominant themes were presented for discussion. The findings and recommendations of the project were meant to provide direction in addressing housing and health issues faced by marginalized people living with HIV in the city of Winnipeg.

Publication: Kozyniack, J. & Charles, K. (2009). *Housing and HIV Needs Assessment*. Winnipeg: Nine Circles Community Health Centre.

WIN-MAP: A Feasibility Study of Geographic Mapping of Places in Winnipeg with High Levels of HIV-Related Risk Activity

Principal Investigators: Elliott, Lawrence
Department of Community Health Sciences
University of Manitoba
Wylie, John
Manitoba Health
Archibald, Chris
Public Health Agency of Canada

Co-Investigators: Choudhri, Yogesh
Green, Chris
Pindera, Carla
Kinasevych, Bohdanna
Carnochan, Tara
Beaudoin, Carole

Populations: People involved in high-risk activities

Duration: December 2005 – September 2008
Funder: Public Health Agency of Canada

Summary: The Win-Map Feasibility Study was undertaken to test the feasibility of examining high-risk activities for HIV acquisition as a function of geography in three Winnipeg neighbourhood clusters. The overall objectives were Win-Map were: To map locations and spots in Winnipeg where high-risk activities (HRA) take place, and to profile these locales by assessing the type of HRA and estimating the number of people involved in these activities.

The specific objectives of this initial feasibility study in three specific neighbourhood clusters in Winnipeg were:

1. To test the recruitment methods.
2. To determine the acceptability of the study among stakeholders.
3. To confirm the commitment of partners.
4. To assess data collection instruments in terms of acceptability, ease of administration, response rate, and validity of the information collected.

Improving Access to Services for Immigrant and Refugee Communities Needs Assessment

Principal Investigators: Foster, Cathy
School of Health Studies, Brandon University
McPherson, Nancy
Brandon Regional Health Authority

Populations: Immigrants, refugees

Duration: May 2006 – June 2007

Funder: Public Health Agency of Canada – AIDS Community Action Program

Summary: The intent of the project is to improve access to health and social services for immigrant people living with or affected by HIV in Brandon and Winnipeg. A needs assessment was the research component of this project. Through a collaborative process involving community members, community organizations, service providers and policy makers, a health promotion and disease prevention strategy will be developed based on current research, promising practices and the local context.

This report summarizes the needs assessment that was completed for the immigrant and refugee populations of Winnipeg and Brandon. The findings are based on data collected through focus groups and one key informant interview. A total of ten focus groups (five from Brandon and five from Winnipeg) and one key informant interview (Brandon) were held. A total of 93 individuals, both women and men, from African and Latin American countries participated in the research project.

Publications: Foster, C. & McPherson, N. (2007) *Improving Access to Services for Immigrant and Refugee Communities Needs Assessment*. Winnipeg and Brandon: Sexuality Education Resource Centre and Nine Circles Community Health Centre. Available at:
<http://serc.mb.ca/content/dload/ImprovingAccessNeedsAssessment/file>

Street-involved Women with Co-Occurring Disorders: Development of Policy and Practice Recommendations for Street Connections

Principal Investigator: Heywood, Diane
Faculty of Nursing, University of Manitoba

Supervisor: Gregory, David

Population: Women

Duration: Project completed in 2007

Summary: Street-involved women with co-occurring disorders experience distinct and overwhelming health and social issues, while facing considerable barriers to appropriate and helpful services. Street Connections, a Population and Public Health program, provides services to this and other street-involved aggregates using Harm Reduction and mobile outreach to prevent sexually transmitted infections and blood-borne pathogens. Three conceptual frameworks: gender-based analysis; the comprehensive, continuous, integrated system of care; and harm reduction guided the practicum. The purpose of the practicum was to develop policy/practice recommendations for Street Connections regarding service enhancement for this aggregate. Literature-based best practices were compared to three agency case studies of programs providing services to this aggregate including Street Connections, the Program of Assertive Community Treatment, and Dream Catchers. Data, consisting of agency documents and person-centered interviews with nine staff, were analyzed using open coding to identify themes. Recommendations incorporate gender-based analysis, recovery, access, engagement, screening, integrated services, and staff development/support.

Publications: Heywood, D. (2007). *Street-involved women with co-occurring disorders: development of policy and practice recommendations for Street Connections*. M.N. Master in Nursing, University of Manitoba.

A Cross-Cultural Analysis of HIV: Patterns of Food Choice Behaviours & Perceptions of Nutritional Needs in Aboriginal and Non-Aboriginal Families

Principal Investigator: Hoyak, Kristine
Department of Nutritional Sciences
University of Manitoba

Duration: January 2005 – January 2006

Populations: Aboriginal Populations, women

Funder: Social Sciences and Humanities Research Council (SSHRC)
Student award

Summary: The goal of this study was to describe food choice behaviours and influences of HIV-positive women who shared food with family to extrapolate potential intervention strategies based on women's self-defined needs. Methods involved employing the Food Choice Map (FCM) as an interview tool and qualitative content analysis of transcribed semi-structured interviews, leading to the generation of a grounded theory. An ethnographic analysis of the FCM interview was performed to strengthen the validity of the method. Coded themes were developed into the theory that expression of self-efficacy is seen in food choice behaviour and food management activities. The women's ability to utilize supports / manage destabilizing factors impacted their level of self-efficacy either positively or negatively. Food choice behaviours were a result of the influence of relationship roles and responsibilities, and self-care

and wellness needs. The key conclusion is that HIV is not a key influence on food choices. The goals of the women's food choice behaviours do not meet the goals of their health care providers. This population understands what healthy foods are, but does not have the means to attain them. A harm reduction approach to nutritional counselling and support would be most effective for this population. The FCM effectively captures food choice behaviour, and increases awareness of dietary habits.

Publications: Hoyak, Kristine. (2007). *"This is me. This is my schedule. This is what I eat": Describing strengths, contexts and consequences of HIV positive women's food choice behaviours in the food insecure household.*
Unpublished M Sc. Thesis. Department of Nutritional Sciences, University of Manitoba.

Nine Circles Community Health Centre Peer Involvement Research Project

Principal Investigators: Ibáñez-Carrasco, Francisco (consultant)
Ormond, Margaret (consultant)
Bond, Daryn (consultant)

Population: People living with HIV/AIDS

Duration: Project completed in April 2003

Summary: The will to integrate clients, (peer) volunteers, staff and board members into Nine Circles in supportive and consistent ways is expressed clearly in this document. A transition from one household to another always causes some degree of growing pains. We need to find new ways of working together and face new successes and challenges. The transitional board and the management team, in an effort to support the clientele in this transition have commissioned this brief consultation to obtain:

- a) A snapshot of where PHAs, staff, and volunteers are at, what motivates them, what is working for them and what still needs to be done.
 - b) A summary of legal and ethical implications of peer programming with a view to other Canadian experience in this area. This summary highlights examples from other service-oriented and peer-driven organizations or programs within Canadian organizations.
 - c) A set of recommendations for policy and program development.
- Our team developed a Work Plan to address these three areas. The result is a combination of ethnographic research (capturing what people say) and documentation research.

Publication: Ibáñez-Carrasco, C., Ormond, M. & Bond, D. (2003) *Nine Circles Community Health Centre Peer Involvement Research Project.* Winnipeg: Nine Circles Community Health Centre. Available at:
<http://cbr.cbrc.net/files/1070482812/NineCirclesPeerVolunteerReport.pdf>

Sexual Violence and Dislocation as Social Risk Factors Involved in the Acquisition of HIV Among Women in Manitoba

Principal Investigators: Mckeown, Iris
Reid, Sharon
Turner, Shelley
Orr, Pam
Prairie Women's Health Centre of Excellence

Population: Women

Duration: December 2000 – December 2001

Funder: Prairie Women's Health Centre of Excellence

Summary: This project provides a more comprehensive understanding of social factors and environment on HIV risk behaviours among Manitoba women. Research is needed to develop a better understanding of why Aboriginal women migrate to urban centres, how and whether they connect with services upon arrival and how these patterns are influenced by victimization, substance abuse and reliance on income from the sex trade. It is within this context that the authors focused on the experience of violence, economic hardship and relocation/dislocation as they relate to HIV risk. The specific objectives of this study were to:

1. Describe a group of women who are HIV-positive in Winnipeg with respect to age, source of income, education, risk behaviours for HIV infection, ethnicity, and residence.
2. Describe any past experience of violence or threat of violence in the home and community of HIV-positive women in Winnipeg, and how this contributes to negotiating abilities.
3. Describe the economic circumstances of HIV-positive women in Manitoba and how these circumstances contribute to behaviours associated with the acquisition of HIV.
4. Describe the role of relocation/dislocation of Aboriginal women in the acquisition and transmission of HIV.

Publications: Mckeown, I., Reid, S., Turner, P. & Orr, P. (2002). *Sexual Violence and Dislocation as Social Risk Factors Involved in the Acquisition of HIV Among Women in Manitoba*. Winnipeg: PWHCE. Available at:
<http://www.pwhce.ca/pdf/sexualViolenceComplete.pdf>

HIV/AIDS Community-Based Research Needs, Interests, Capacities and Challenges: An Environmental Scan of Manitoba and Saskatchewan

Principal Investigator: Migliardi, Paula
Prairie HIV Community-Based Research Program

Population: Community organizations

Duration: Project completed in April 2006

Funder: Canadian Institutes of Health Research

Summary: The objectives of this study were to describe current and future HIV community-based research perceptions, interests, needs, barriers or challenges among community-based AIDS serving organizations; describe community-based research resources available through local universities and other research centres, in particular those focusing on health and social aspects related to HIV; describe/assess the current capacity and enabling factors to meet those needs and challenges; and identify gaps between needs and challenges, and capacities and enabling factors. The results will assist the Prairie HIV CBR program to assess the degree to which organizational needs for conducting HIV community-based research are being met through the current system and determine future strategies to promote CBR and meet the challenges it may present.

Publications: Migliardi, P. (2006). *HIV/AIDS Community-Based Research Needs, Interests, Capacities and Challenges: An Environmental Scan of Manitoba and Saskatchewan*. Winnipeg: Prairie Community-Based Research Program. Available at <http://www.prairiecbr.com/images/documents/hiv%20cbr%20enviro%20scan%20-%20final.pdf>

Youth and STD/HIV Prevention: Phase 2 - Formulation of Youth-Led Research and Synthesis of Project Findings for Dissemination

Principal Investigator: Ormond, Margaret
Sexuality Education Resource Centre

Co-Investigators: Gregory, David
Migliardi, Paula
Schellenberg, John

Duration: April 2004 – June 2006

Population: Youth

Funder: Canadian Institutes of Health Research (CIHR) CBR Program - General - Operating Grant

Summary: Since 1999, the Youth & STD/HIV Prevention Project has been working towards the goal of developing youth-led action research addressing risk determinants and protective factors for STDs, HIV and Hepatitis C prevention with inner-city youth in Winnipeg. The overall research question to be addressed by this project concerns factors that create vulnerability to and protect against infection with STDs and HIV, from the perspective of young people themselves (with a specific focus on independent youth aged 14 to 24 in non-school venues in inner-city Winnipeg). This question is intended as a starting point for inquiry, allowing youth participants to determine specific research questions and methods as the project develops. Outcomes to date include:

1. Capacity-building (community-based research workshops, environmental assessment, literature review, creation and ongoing support of Youth Working Group and Academic Advisory Committee).
2. Phase 1 activities (feasibility consultation, youth-led research dissemination workshops, youth/academic communication sessions).
3. Print resource development (Sex, Drugs & Prevention pamphlet series, youth-designed magazine series entitled Harsh Reality, Community Report).

In Phase 2 (Part 1: Formulation), the research team proposes to build on these results by hiring and training a Youth Research Team to create research tools and collect the ideas, opinions and perspectives

of 100 to 200 youth participants to be integrated into the formulation of a larger youth-led prevention-focused research project. Evaluation research will be conducted in order to assess positive aspects and problems associated with youth involvement as research staff. Also in Phase 2 (Part 2: Synthesis), we propose to create and disseminate a series of articles and community reports based on critical project findings and outcomes for three key audiences:

1. STD/HIV prevention researchers and policy makers.
2. Front-line personnel working with Winnipeg youth.
3. Young people aged 14 to 24 in the inner-city.

Informal Social Supports, Caregiving and HIV/AIDS: A Community-Based Study

Principal Investigators: Pindera, Carla
Nine Circles Community Health Centre
Mignone, Javier
Department of Family Social Sciences
University of Manitoba

Co-Investigators: Akan, Margaret
Elliott, Lawrence
Harvey, Carol
Smith, Christine

Duration: April 2007 – March 2010

Population: Marginalized populations

Funder: Canadian Institutes of Health Research (CIHR) – CBR program – General – Operating grant

Summary: In Manitoba and Saskatchewan, increasing rates of HIV indicate a need for coordinated prevention and support programs. Increasing numbers 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.

Through the eye of a needle: Women injection drug users in Winnipeg

Principal Investigator: Pindera, Carla
Department of Community Health Sciences, University of Manitoba

Advisor: Kaufert, Joseph

Populations: Women, injection drug users
Duration: Project completed Spring of 2003
Funders: Canadian Nurses Foundation; College of Registered Nurses of Manitoba

Summary: The purpose of this research study was to describe the social context in which women injection drug users in Winnipeg live from their own perspectives. The study's primary emphasis was to give 'voice' to the understandings and experiences of the everyday lives of these women. A purposive sample of 8 women was selected for this study; the sample consisted of women who were knowledgeable about illicit injection drug use, had self-identified as injection drug users and were able to reflect on and provide information about their experiences and life histories. A qualitative research design using Photovoice was used to assist with the identification of how, from the woman's perspective, her context and life experiences functioned to create meanings for explaining her risk-related behaviour such as injection drug use. In this study, it was revealed that the women's drug use was connected to the personal and social circumstances in which they lived. Their drug use was linked to the process of managing losses and battling to survive and live with integrity under threatening life conditions. This study demonstrates that research that is sensitive to women's feelings about their social environment and subsequently, the details regarding the context in which injection drugs are used, is required if researchers and practitioners hope to provide effective and meaningful services for women who use drugs.

Publications: Pindera, C. (2003). *Through the eye of a needle: Women injection drug users in Winnipeg*. Unpublished M Sc. Thesis, University of Manitoba.

Two-Spirit Women's Experience of Homophobia in the Context of HIV/AIDS Service Provision¹

Principal Investigators: Jackson, Randy
Canadian Aboriginal AIDS Network
Ristock, Janice
Department of Women and Gender Studies, University of Manitoba
Co-investigators: Brotman, Shari
LaVerne, Monette
Seto, Joyce
Populations: Two-spirit women, homophobia, access to health care
Duration: April 2006 – March 2009
Funder: Canadian Institutes of Health Research - HIV/AIDS CBR Program -
Aboriginal - Operating Grant

Summary: The purpose of this study is to better understand the service provision needs of two-spirit women in the context of HIV/AIDS and their experiences of homophobia and/or transphobia. This project was inspired by CAAN's 2005 research report, which illuminated the fact that two-spirit women have experienced homophobia in health care settings. Little is known about these experiences and so the study will seek out individuals who self-identify as two-spirit women, lesbian, queer, bisexual, and

¹ Prairie study sites were Winnipeg and Edmonton

male-to-female transgender and gather their stories. By the project's end, key recommendations for programs and policy as well as fact sheets will be disseminated broadly.

Epidemiological trends signal the importance of these service provision needs. Comparing HIV/AIDS in the non-Aboriginal population, females make up a relatively larger proportion of cases of the Aboriginal HIV epidemic, numbering "nearly half (45.0%) of all positive HIV test reports among Aboriginal peoples, compared with 20.0% of reports among non-Aboriginal people." (CIDPC, May 2005) Women also face particular concerns with regard to poverty, abuse and violence, economic dependence and other factors including, in some cases, injection drug use. Taken together with the experiences of homophobia in many Aboriginal communities, the service provision needs of two-spirit women is a subject ripe for exploration.

Confidentiality and the principles of OCAP (community ownership, control, access, and possession) will guide the Research Team throughout the project, with the voices of participants being given prominence in the research findings. A strict protocol for coding the identities of individuals participating in the study as well as securing the information gathered will be followed, in order to protect their privacy. Collaborating community-based organizations will be approached to help recruit participants and enlist the support of local care providers to ensure that they have access to post-survey counselling if desired.

Aboriginal Two-Spirit and LGBTQT Migration, Mobility and Health

Principal Investigators: Ristock, Janice
Department of Women and Gender Studies, University of Manitoba

Co-investigators: Zoccole, Art
Brotman, Shari

Research Coordinators: Passante, Lisa (WPG);
Potskin, Jonathon (Vancouver)
Two advisory Panels are also part of the research team
(WPG and Vancouver)

Duration: 2006 – 2011

Funder: Canadian Institutes of Health Research.

Summary: This project is part of a larger research team grant: Sexuality and Gender: Vulnerability and Resilience (PI: Danielle Julien, UQAM) (see website <http://www.svr.uqam.ca/index.asp>). This pilot project will explore trajectories of migration and mobility of Aboriginal people who identify as two-spirit, lesbian, gay, bisexual, queer and/or transgender and the impact on health and wellness. This may include migrating from reserves to urban centres or rural communities (and back and forth) as well as staying or moving within one place. We are interested in the intersection between sexual and gender identities with cultural/Nation and other identities within the historical and present context of colonization in Canada. This purpose will be met through the following objectives:

- to explore the migration paths and experiences of LGBTTTQ Aboriginal peoples, their experiences of health/wellness in that context, and their interactions with health and social services (including mainstream, Aboriginal and LGBTTTQ services).

- to generate new knowledge that may lead to future research that will be of direct benefit to LGBTTTQ and Aboriginal communities, Aboriginal service providers and health/social service agencies.

Addressing Homophobia in Relation to HIV/AIDS in Aboriginal Communities²

Principal Investigators: Zoccole, Art
Two-Spirited People of the First Nations
Ristock, Janice
Women and Gender Studies Program, University of Manitoba

Co-Investigator: Barlow, Kevin

Funder: Health Canada's HIV/AIDS Community-Based and Aboriginal Research Programs, now at the Canadian Institutes of Health Research.

Summary: "Addressing Homophobia in Relation to HIV/AIDS in Aboriginal Communities" (AHRHAAC) was created to look at how organizations serving Aboriginal people can help to create supportive and nonjudgmental environments for two-spirit people living with HIV/AIDS through the development of policies that address homophobia and by raising awareness in Aboriginal communities on how to address homophobia when it is a barrier to HIV/AIDS prevention and education. The final report is a summary of an environmental scan using two surveys, one for two-spirit people and another for organizations serving Aboriginal people, to get a sense of current policies and to provide recommendations for future directions for policy development.

The research questions driving this project include:

1. "How can anti-discrimination policies be developed and implemented to address the needs and rights of two-spirit people who are accessing Aboriginal organizations?"
2. "How can Aboriginal organizations best implement anti-discrimination policies to improve the quality of services for two-spirit people living with HIV/AIDS?"
3. "How can awareness be raised in Aboriginal communities on how to address homophobia when it is a barrier to HIV/AIDS prevention and education?"

Publications: Zoccole, A., Ristock, J., Barlow, K., & Seto, J. (2005). *Addressing Homophobia in Relation to HIV/AIDS in Aboriginal Communities: Final Report of the Environmental Scan 2004-05*. Available at: http://www.2spirits.com/CAAN_homophobia_Report.pdf

² Alberta, Manitoba and Saskatchewan were among the research sites.

The Epidemiology of Sexually Transmitted Infections and Blood-Borne Pathogens in an Inmate Population

Principal Investigators: Beaudoin, Carole
Wylie, John
Department of Community Health Sciences
University of Manitoba

Co-Investigators: Dawood, Magdy
Larsen, Trina
Sloane, Marilyn
Van Caeseele, Paul
Wood, Michelyn

Population: Incarcerated persons

Duration: November 2007 – October 2009

Funder: Canadian Institutes of Health Research (CIHR) - Operating grant – HIV Prevention

Summary: 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.

MSM and WSW in Sexual Networks in Winnipeg, Manitoba: Exploring Changes in Network Dynamics and HIV Risk

Principal Investigator: Harvard, Stephanie
Department of Community Health Sciences
University of Manitoba

Advisor: Wylie, John

Populations: Men having sex with men, women having sex with women

Duration: September 2006 – August 2008

Funder: Canadian Institutes of Health Research (CIHR) HIV/AIDS CBR Program - General - Master's Award

Summary: Men who have sex with men (MSM) are a high-risk group for HIV infection. Women who have sex with women (WSW) may be at elevated risk for HIV from male sex partners. The 'M-Track' HIV surveillance study of MSM was conducted in Winnipeg, Manitoba. A pilot study was undertaken concurrently to assess HIV risk among WSW. Convenience samples of MSM and WSW were surveyed concerning HIV risk behaviours and tested for HIV, hepatitis C, and syphilis. MSM and WSW surveyed reported inconsistent condom use and high rates of injection drug use and sex trade involvement. Prevalence of blood-borne pathogens was high among both groups. High rates of response error suggested difficulty in survey participation among both groups. The samples of MSM and WSW reached may represent a high-risk subset of MSM and WSW. Study methods may be improved to better accommodate diverse participants.

Publications: Harvard, Stephanie. (2008). *Assessment of the prevalence of bloodborne pathogens and associated risk behaviours among men who have sex with men and women who have sex with women in Winnipeg, Manitoba*. Unpublished thesis. M. Sc., Community Health Sciences.

The Behavioural, Social and Cultural Factors Affecting the Epidemiology of Sexually Transmitted and Blood-Borne Pathogens in High-Risk Populations: Determining Risk Space in Canada's Vulnerable Populations

Principal Investigators: Jolly, Ann
Department of Epidemiology
Wylie, John
Department of Medical Biology
University of Manitoba

Co-investigators: Beaudoin, Carole
Dawood, Magdy
Van Caesele, Paul

Duration: April 2008 – March 2011

Funder: Canadian Institutes of Health Research – Operating Grant

Summary: Not all of the people in a population are equally susceptible to sexually transmitted or blood-borne diseases (like chlamydia or HIV). Instead, people only become exposed to these bacteria and viruses if they engage in very specific behaviours. These behaviours are frequently complex and

typically involve some sort of a social relationship between two or more people. They may also be influenced by the neighbourhood where a person lives or by the norms and behaviours of the friends and acquaintances that a person knows. Yet most research on infectious diseases looks only at individual behaviour, and not at the social context of that behaviour, or the diverse types of relationships that exist between spouses, family members, or friends. The research proposed here analyzes the social context of behaviours, to develop a greater understanding of what types of relationships are most likely to result in disease spread.

Enhanced Surveillance of Canadian Street Youth Study

Principal Investigators - Winnipeg:

Beaudoin, Carole (Phase III and IV)
Department of Health Sciences, University of Manitoba
Moses, Stephen (Phase II)

Populations: Youth

Duration: 1998 – 2003

Funder: Public Health Agency of Canada

Summary: Enhanced Surveillance of Canadian Street Youth (E-SYS) was initiated in 1998. The surveillance system was launched in direct response to recommendations made by provincial and territorial directors of sexually transmitted infections (STIs), at their 1997 national meeting. This system is the result of strong collaboration between local, provincial and federal public health stakeholders in addition to universities. The surveillance system has provided prevalence and risk behaviour data for a population not represented in school or in population-based study designs.

Findings from the analyses show that street youth have high rates of STIs and blood-borne infections.

Examination of subgroups within the street youth sample, such as injection drug users, reveals a particularly disturbing prevalence of some infectious agents; for example, the hepatitis C virus was also found within this population, as were concerning levels of substance use.

Effective prevention strategies for STIs and blood-borne infections for the street youth population cannot be developed if data on this population are limited to sexual risk behaviour elements.

Knowledge of social dynamics – such as reasons for leaving home, interactions with social services, exposure to abuse and risk behaviours of sexual partners – is needed for us to understand how STI and blood-borne infection prevention fits into street youth's lives. Therefore, this report extends beyond the simple prevalence of adverse health outcomes in this population; it provides information on risk taking and on the social context of risk behaviours. Finally, the report provides longitudinal comparisons of data collected in all surveillance cycles.

Information collected from E-SYS is intended to assist with enhancing social and public health programs aimed at improving the emotional, physical and psychological well-being of Canadian street youth.

Saskatoon, Winnipeg and Edmonton were among the centers to participate in the study.

Publications: Surveillance and Epidemiology Section, Community Acquired Infections Division, Centre for Infectious Disease Prevention and Control, Public Health Agency. (2006). *Street Youth in Canada: Findings from Enhanced Surveillance of Canadian Street Youth, 1999–2003*. Ottawa: Minister of Health. Available at http://www.phac-aspc.gc.ca/std-mts/reports_06/pdf/street_youth_e.pdf

Beaudoin, Carole. (2004). *Results from Phase II of the Enhanced Surveillance of Sexually Transmitted Diseases among Winnipeg Street-Involved Youth Study*. Winnipeg: Communicable Disease Control Unit Public Health Branch, Manitoba Health. Available at: <http://www.gov.mb.ca/health/documents/phase2report.pdf>

HIV, Sexually Transmitted Infections and Hepatitis C Knowledge, Attitudes and Behaviours Among Rural Youth

Principal Investigators: McNeill, Marjorie
Beaton, Connie
Play It Safer Network

Project Coordinator: Pockett, Carrie

Population: Rural youth

Duration: Fall 2005 – Fall 2009

Funder: Public Health Agency of Canada – AIDS Community Action Program

Summary: This knowledge-seeking and translation project began with a survey of knowledge, attitudes and behaviours on HIV, STIs and hepatitis C among youth in the northwestern region of the province of Manitoba. The survey looked at youth responses on condom use, abstinence, intimate relationships, access to information, knowledge of hepatitis C, HIV/AIDS, and sexually transmitted infections and sex, drugs and alcohol. The main findings of the survey were presented back to groups of youth in the different small towns where the survey took place. Reactions to the information were collected as well as key messages and media that youth felt would make an impact on other youth. Findings showed that programs that target more than one risk factor may have a better chance of producing a positive effect and consistent impact; and those that involve peers, media and community to promote connectedness and that have a long-term preventative orientation are more likely to be successful and have an impact on adolescent behaviour.

Following the focus groups, a group of youth was gathered to work on the translation of the information from the survey and focus group into educational materials. One of the main outcomes was the development of a graphic novel. The youth were involved in the development of characters and a script. These were based on four consistent themes: condom use; sex, drugs and alcohol; knowledge about STIs, HIV/AIDS and hepatitis C; and access to information. Youth from four communities were also involved in a photo contest of places in their communities where youth "hang out." The final product is in the process of being evaluated.

Publications: Play It Safer Network. (2008). *Unwanted! A Graphic Novel*. NorMan. Available at: <http://www.playitsafer.ca/comic.html>

Personal Risk Networks and the Molecular Epidemiology of Hepatitis C Among Injection Drug Users in Winnipeg

Principal Investigator: Shah, Lena
Department of Community Health Sciences, University of Manitoba

Advisor: Wylie, John

Population: People who inject drugs

Duration: Project completed in 2006

Publications: Shah, Lena. 2006. *Personal risk networks and the molecular epidemiology of hepatitis C among injection drug users in Winnipeg*. Unpublished thesis. M Sc., Community Health Sciences.

An Examination of Individual and Social Network Factors that Influence Needle Sharing Behaviour Among Winnipeg Injection Drug Users

Principal Investigator: Sulaiman, Patricia
Department of Community Health Sciences, University of Manitoba

Advisor: Wylie, John

Population: Injection drug users

Duration: Project completed in 2006

Summary: The sharing of needles among injection drug users (IDUs) is a common route of human immunodeficiency virus and hepatitis C virus transmission. Through the increased utilization of social network analysis, researchers have been able to examine how the interpersonal relationships of Injection Drug Users (IDUs) affect injection risk behaviour. This study involves a secondary analysis of data from a cross-sectional study of 156 IDUs from Winnipeg, Manitoba titled “Social Network Analysis of Injection Drug Users”. Multiple logistic regression analysis was used to assess the individual and the social network characteristics associated with needle-sharing among the IDUs. Generalized Estimating Equations analysis was used to determine the injecting dyad characteristics, which influence needle-sharing behaviour between the IDUs and their injection drug-using network members. The results revealed five key thematic findings that were significantly associated with needle sharing:

1. Types of drug use.
2. Socio-demographic status.
3. Injecting in semi-public locations.
4. Intimacy.
5. Social influence.

The findings from this study suggest that comprehensive prevention approaches that target individuals and their network relationships may be necessary for sustainable reductions in needle-sharing among IDUs.

Publications: Sulaiman, Patricia. (2006). *An examination of individual and social network factors that influence needle sharing behaviour among Winnipeg injection*

Networks and Infectious Disease: Social and Molecular Factors Affecting Transmission of Hepatitis C and HIV Among Injection Drug Users

Principal Investigators: Wylie, John
Cadham Provincial Laboratory, Public Health Branch, Manitoba Health
Departments of Medical Microbiology and Community Health Sciences
University of Manitoba
Jolly, Ann
Centre for Infectious Disease Prevention and Control, Population and Public
Health
Branch, Public Health Agency of Canada
Department of Epidemiology and Community Medicine, University of
Ottawa

Co-Investigator: Fowke, Keith

Populations: People who inject drugs

Duration: January 2003 – December 2005

Funder: Canadian Institutes of Health Research Health Canada/CIHR Research
Initiative on Hepatitis C - Operating

Summary: Not all of the people in a population are equally susceptible to blood-borne viruses like hepatitis C and HIV. Instead, people only become exposed to these viruses if they engage in very specific behaviours. These behaviours are frequently complex and typically involve some sort of a social relationship between two or more people. Yet most research on blood-borne viruses looks only at individual behaviour, and not at the social context of that behaviour, or the diverse types of relationships that exist between spouses, family members or friends. The research proposed here analyzes the social context of behaviours, to develop a greater understanding of what types of relationships are most likely to result in disease spread, and what types of relationship-specific programs could be developed to prevent disease spread. At the molecular level we also examine how social behaviours can influence the function of a person's immune system, and as a result, potentially affect their susceptibility to infection.

Publications: Wylie, John. (2005). *The Winnipeg Injection Drug Use Social Network Study: Phase II*, Manitoba: Manitoba Health. Available at
<http://www.gov.mb.ca/health/publichealth/cdc/surveillance/sns2.pdf>

Mother-to-Child HIV-1 Transmission: Interaction with Development Immune Systems

Principal Investigator: Embree, Joanne
Department of Medical Microbiology and Infectious Diseases
University of Manitoba

Co-Investigators: Plummer, Francis
Fowke, Keith

Duration: October 1997 – March 2001

Funder: Canadian Institutes of Health Research (CIHR) - Operating grant

HIV Resistance: Specificity, Function and Duration of T Helper Responses

Principal Investigator: Fowke, Keith
Department of Medical Microbiology and Infectious Diseases,
University of Manitoba

Co-Investigator: Embree, Joanne

Duration: April 2001 – March 2004

Funder: Canadian Institutes of Health Research - Individual Group Project
(HIV/AIDS) - Biomedical/Clinical Stream

Determining the Role of Trappin-2 in Mediating Resistance to Infection by HIV-1 by Microarray Analysis

Principal Investigator: Kaefer, Nadine
Department of Medical Microbiology and Infectious Diseases
University of Manitoba

Advisor: Plummer, Francis

Duration: September 2007 – August 2008

Funder: Canadian Institutes of Health Research - Frederick Banting and Charles Best
Canada Graduate Scholarships - Master's Award

³ Manitoba counts a strong history of research in the field of Basic Sciences. Information on this history, including overview of researchers' interest, collaborations, projects and publications are found in the Manitoba Resistance and Susceptibility to Infection Group's website at <http://www.mrsi.ca/>

Evolution of Envelope Genes of HIV-1: Evaluation by an Immunological Bioinformatics Approach

Principal Investigator: Liang, Binhua
Department of Medical Microbiology and Infectious Diseases
University of Manitoba

Advisors: Plummer, Francis
Jones, Steven

Duration: June 2006 – April 2010

Funder: Canadian Institutes of Health Research (CIHR) - Operating grant, Canadian Institutes of Health Research (CIHR) - Student award

Summary: The Human Immunodeficiency Virus (HIV) was identified as the cause of Acquired Immunodeficiency Syndrome (AIDS) over two decades ago. To stop the HIV pandemic, the only promising solution is to develop an effective vaccine. However, HIV vaccine development has suffered from the inadequate understanding of host immune responses to control virus and is complicated by the rapid changes of the viral genome. The envelope (env) of HIV-1 is a potent target of the host's immune system. Study of immune-driven viral env evolution is challenged by the extensive variation of envelope sequences. With a recent proliferation of envelope sequence data and a wealth of immunological data deposited in the HIV database (Los Alamos), it becomes increasingly important to use an immuno Bioinformatics approach to mine the data in the database. In this project, I will study the evolution of HIV-1 envelope driven by host immune response by analyzing all the current available envelope sequences in the HIV database, thereby identifying potentially useful components that can be used for vaccine development.

Mechanisms for the Anti-Inflammatory Actions of Adenosine in HIV-1 Dementia

Principal Investigator: Mayne, Michael
Pharmacology and Therapeutics
St. Boniface General Hospital, Winnipeg

Duration: July 1987 – September 2004

Funder: Canadian Institutes of Health Research - HIV/AIDS Research Initiative
Operating Grant - Biomedical/Clinical Stream

The Effect of HIV Epitope Variations on Memory CD8 T Cell Responses

Principal Investigator: Mckinnon, Lyle
Department of Medical Microbiology and Infectious Diseases
University of Manitoba

Advisor: Plummer, Francis

Duration: April 2005 – August 2008

Funder: Canadian Institutes of Health Research - Doctoral Research Award in the
Area of Biomedical / Clinical HIV/AIDS Research

Summary: HIV infects and kills millions every year, and epidemics continue to grow in the populated and poor regions of the world. A vaccine is desperately needed. Because that vaccine would need to prevent people from developing an HIV infection that results in AIDS, knowledge of immune responses needed for protection would be extremely useful. A type of white blood cell called a CD8 or "killer" T cell has been shown to be important in fighting HIV. These cells work by recognizing extremely small bits of HIV (called "epitopes") displayed on infected cells, and by killing those cells to prevent further viral spread. However, with HIV there is a catch. As HIV makes copies of itself, these copies have mistakes in them, which allow them to be invisible to the immune response. In some cases, this process results in disease progression and death for the infected person. This is analogous to how bacteria can become resistant to antibiotics. By understanding how these mistakes allow HIV to escape the recognition of killer T cells, we will be able to design vaccines and medicines that prevent HIV from having this ability, and infection will continue to be controlled.

Effect of HIV-1 Viral Characteristics on Mother-Child Transmission of HIV-1

Principal Investigator: Murray, Melanie
Department of Medical Microbiology and Infectious Diseases
University of Manitoba

Advisors: Kroeger, Edwin
Plummer, Francis

Duration: August 2003 – October 2004

Funder: Canadian Institutes of Health Research – MD/PhD Program Studentship

A Randomized Trial of the Efficacy and Safety of Nelfinavir vs. Ritonavir Added to Background Antiretroviral Nucleoside Therapy in HIV-Infected Individuals with CD4+ Cell Counts Equal to or Below 100 mm³

Principal Investigators: Perez, George
NJCRI
Newark, New Jersey
Walmsley, Sharon L
Infectious Diseases
Toronto Hospital

Site Investigator – Winnipeg:
Choudhri, Shurjeel
St. Boniface General Hospital, Winnipeg

Duration: April 1997 – March 2002

Funders: National Institutes of Health (NIH), Agouron Pharmaceuticals, Canadian HIV Trials Network
Operating grant

Summary: CTN 102 - To determine whether a strategy of adding nelfinavir (NFV) to background antiretroviral (AR) nucleoside therapy is equivalent, in terms of delaying disease progression events or death, to the strategy of adding ritonavir (RTV) to background AR nucleoside therapy in participants with CD4 counts less than or equal to 100 cells/mm³.

Variant Epitope Specificity and Immunodominance of Effector and Memory CD8+ T Cells in Acute and Chronic HIV Infection

Principal Investigator: Plummer, Francis
Department of Medical Microbiology and Infectious Diseases
University of Manitoba

Co-investigator: Fowke, Keith (2008-2011)

Duration: October 2007 – March 2011

Funder: CIHR/Regional Partnership Program/Operating Grants & HIV/AIDS
Research Initiative Operating Grant - Biomedical/Clinical Stream

Summary: The HIV-1 pandemic continues to cause substantial human suffering, particularly in developing nations where the burden of infection is highest. Although access to treatment is expanding rapidly, the number of new infections grows annually, suggesting that new, more effective prevention modalities are urgently required. Failed attempts at achieving an HIV vaccine through known vaccine design methods suggest that a better understanding of HIV pathogenesis may be important to instruct these efforts. Two important yet unresolved areas in HIV-1 vaccine research are:

1. How the genetic diversity and evolution of HIV-1 may influence different aspects of the host immune response.
2. What are the qualities of T cell response that appear to offer protection to a small proportion of infected individuals.

Making use of large longitudinal cohorts based in Nairobi, Kenya, this proposal aims to expand on our previous work in this area and come to a better understanding of the complex interplay between HIV-1

genetics and protective immunity. Our findings should be highly relevant to those who design and evaluate HIV-1 vaccines.

The Biology of Sexually Transmitted Infections

Principal Investigator: Plummer, Francis
Department of Medical Microbiology and Infectious Diseases
University of Manitoba

Co-Investigators: Brunham, Robert
Fowke, Keith
Kaul, Rupert
McClarty, Grant
Moses, Stephen
Yao, Xiao-Jian

Duration: June 2005 – May 2006

Funder: Canadian Institutes of Health Research - Team Grant Program (LOI)

Characterization of Immune Mechanisms of Resistance to HIV-1 Infection

Principal Investigator: Plummer, Francis
Department of Medical Microbiology and Infectious Diseases
University of Manitoba

Co-Investigators: Simonsen, Jack Neil
Hayglass, Kent

Duration: October 1998 – September 2006

Funder: Canadian Institutes of Health Research (CIHR) - Operating grant

The Biology of Sexually Transmitted Infections

Principal Investigator: Plummer, Francis
Department of Medical Microbiology and Infectious Diseases
University of Manitoba

Co-Investigators: Kaul, Rupert
Yao, Xiao-Jian
Brunham, Robert Conrad
Fowke, Keith
McClarty, Grant
Moses, Stephen

Duration: October 1998 – September 2006

Funder: Canadian Institutes of Health Research - Operating grant

Related to HIV Resistance and its Effects on the Immunological Micro-Environment of the Genital Tract

Principal Investigator: Schellenberg, John
Department of Medical Microbiology and Infectious Diseases
University of Manitoba

Advisor: Plummer, Francis

Duration: September 2006 – August 2009

Funder: Canadian Institutes of Health Research - Doctoral Research Award in the Area of Biomedical / Clinical HIV/AIDS Research

Summary: A group of 120 sex workers in Nairobi, Kenya remains HIV uninfected, despite many years of exposure to HIV. These women appear to be naturally immune to HIV due to an unknown biological mechanism. A unique feature of resistance is a skewed Th1 (cell-mediated) response to HIV, possibly influenced by exposure to other microbes, including evidence of HIV-specific cytotoxic lymphocyte activity, a lack of HIV-specific antibodies (IgG) in the blood, and secretion of mucosal antibodies (IgA) that neutralize HIV in the genital tract. Although progress has been made in understanding genetic and immunological mediators of HIV resistance, the role of dynamic microbial communities in modulating HIV-specific immune responses at the mucosal interface remains underexplored. Dominance of acid- and hydrogen peroxide-producing *Lactobacillus* sp. in the female genital tract is a critical protective barrier against many infections, and some strains are potent inducers of Th1 polarization through activation of human dendritic cells. Bacterial vaginosis, a common poly-microbial condition in which levels of *Lactobacillus* sp. are reduced, has been associated with susceptibility to HIV in several studies worldwide. The hypothesis to be addressed in this project is that characteristics of microbial communities in the genital tract significantly alter mucosal immune responses, thereby contributing to HIV resistance observed in Kenya. Study subjects will be recruited among HIV-resistant and HIV-negative women from the Pumwani sex worker cohort in Nairobi. Phenotypic and genotypic profiling of vaginal microbiota will aim to detect differences between HIV-resistant/susceptible women that correlate with general and HIV-specific immune responses. Increased understanding of the influence of microbial communities on immunological micro-environments of the genital tract will be critical for actualizing HIV prevention strategies such as microbicides and mucosal vaccines.

A Pilot Study Assessing the Efficacy of Pneumococcal Vaccine in HIV Patients: Delayed Versus Immediate Immunization (CTN 147) – Winnipeg Manitoba

Principal Investigator: Schlech, Walter
Victoria General Hospital, Halifax, Nova Scotia

Site Investigator – Winnipeg:
Rubinstein, Ethan
St. Boniface General Hospital, Winnipeg

Duration: April 2003 – June 2006

Population: HIV-positive between the ages of 18-65

Funder: Canadian HIV Trials Network, Wyeth-Ayerst - Operating grant

Summary: A multicentre, randomized controlled trial using a two factorial design. Eighty patients will be randomly assigned to receive either Pneumovax (or Pneumo23 according to standard use at site) or heptavalent pneumococcal conjugate vaccine (Prevnam) prior to reconstitution of the immune system or will have immunization delayed until their CD4 count is greater than 200 cells/mm³ after the introduction of antiretroviral therapy. Randomization will be stratified by study centre. Variable block sizes will be used to try to prevent study personnel from guessing the next allocation. Random allocation lists will be generated by computer. Investigation of Molecular Mechanism Underlying the Action of HIV-1 Integrase During Viral Nuclear Import and Replication

Alteration of APOBEC3G Virion Incorporation Pathway Leads to HIV-1 Inactivation in the Presence of Vif: Development of a Novel Anti-HIV Strategy

Principal Investigator: Yao, Xiao-Jian
University of Manitoba
Duration: November 2007 – October 2010
Funder: Canadian Institutes of Health Research - Operating grant

Summary: APOBEC3G (A3G), a deoxycytidine deaminase, is a powerful host antiviral factor that can restrict HIV infection by acting to mutate viral DNA formed during HIV reverse transcription. However, although this host protein holds potent antiviral potentials, its role is counteracted by an HIV Vif protein. During HIV replication, Vif interacts with A3G and induces its degradation. In addition, Vif may also play another important role: to prevent A3G incorporating into viral particles for its action. We hypothesize that if A3G virion-targeting pathway could bypass Vif's blockage, A3G may be efficiently delivered into virus and restrict HIV infection. To test this hypothesis, we generated an R88-A3G fusion protein by fusing A3G with a virion targeting signal peptide from HIV Vpr protein. We demonstrate that expression of R88-A3G fusion protein, but not for A3G itself, significantly inhibited virus infection even in the presence of Vif. Results also revealed that the presence of R88-A3G significantly inhibited virus-associated reverse transcriptase activity, demonstrating a novel anti-HIV activity mediated by A3G fusion. In the proposed study, we will continue to investigate the effect of A3G fusion on HIV replication in different HIV susceptible cells including primary PBMCs, and to elucidate the mechanisms involved. The successful characterization of this system may lead to the development of new anti-HIV prevention and therapeutic strategies.

Characterization of Indigenous Lactobacillus-Associated Microbiota

Principal Investigator: Yao, Xiao-Jian
Department of Microbiology and Infectious Diseases
University of Manitoba
Duration: April 2003 – September 2009
Funder: Canadian Institutes of Health Research (CIHR) - Operating grant

Summary: HIV-1 integrase (IN) is a key enzymatic molecule that catalyzes integration of viral cDNA into host chromosome. In addition, this protein has also been shown to play an important role for HIV-1 DNA nuclear import during early viral replication, a critical step for HIV-1 infection in non-dividing cells. We have focused our studies on the investigation of molecular mechanism(s) involved in IN's action during viral nuclear import and our study revealed that the C-terminal domain of IN plays an

important role for HIV-1 nuclear import. In addition, our study also clearly indicates that HIV-1 IN specifically interacts with a cellular nuclear transport receptor, importin 7 (imp7). Interestingly, our results also demonstrated that the C-terminal domain of IN plays a critical role for this viral/cellular protein interaction. These data suggest that HIV-1 IN may recruit a specific cellular nuclear import pathway to contribute to an efficient HIV-1 nuclear import and other steps during early stage of viral replication. In the proposed study, we will continue our studies to fully elucidate the mechanism underlying HIV-1 IN/imp7 interaction and its role in HIV-1 nuclear import. Moreover, we will expand our research to explore the potential interaction of IN with other viral and cellular factors required for its critical activities during this early stage of HIV-1 infection. By using different experimental approaches, we believe that these studies will contribute to better understanding of the functional role and molecular mechanisms involved in the action of IN during HIV-1 nuclear import and viral replication, which may provide valuable information for designing of new therapeutic approaches against HIV-1 at the early stage of its replication.

Investigation of Molecular Mechanism(s) Involved in the Action of HIV-1 Integrase During Nuclear Import of Viral Preintegration Complex

Principal Investigator: Yao, Xiao-Jian
University of Manitoba

Duration: April 2003 – September 2009

Funder: Canadian Institutes of Health Research (CIHR) - Operating grant

Summary: The capacity to infect nondividing cells productively is one of the hallmarks that distinguishes HIV-1 from oncoretroviruses. At molecular level, the ability of HIV-1 to infect nondividing cells has been attributed to the karyophilic properties of HIV-1 preintegration complexes (PICs). Indeed, several HIV-1 proteins including Matrix (MA p17gag) and Vpr, which contribute to the efficient viral PICs nuclear transportation, have been reported to have karyophilic properties. HIV-1 integrase (IN) plays multiple roles during HIV-1 replication. Interestingly, in contrast to MA and Vpr which contribute to HIV-1 nuclear translocation in nondividing cells, IN has been shown to participate in HIV-1 nuclear import in both dividing and nondividing cells. However, even though intensive studies including using HIV-1 proviral clones have been dedicated to evaluating the contribution of IN to HIV-1 nuclear import, the mechanism(s) involved in this IN activity remains to be defined. First, does HIV-1 IN contain NLSs that specifically contribute to HIV-1 nuclear import in nondividing cells. Second, what mechanism(s) is involved in IN contribution to HIV-1 nuclear import in both dividing and non-dividing cells? The goal of this proposed study is to investigate the sequence and structural requirements and mechanism(s) involved in HIV-1 IN nuclear localization and their contribution to HIV-1 nuclear import in nondividing and dividing cells. By using different approaches presented in this proposal, we believe that these studies will provide valuable evidence for better understanding the functional role of IN during HIV-1 nuclear import and viral replication.

Saskatchewan

Social Sciences

Determining Factors Towards Improving HIV/AIDS Support Structures in Northern Saskatchewan Aboriginal Communities

Principal Investigator: Abonyi, Sylvia
Department of Community Health and Epidemiology and the Saskatchewan
Population Health and Evaluation Research Unit
University of Saskatchewan

Co-Investigators and Collaborators:

Irvine, James
Jeffery, Bonnie
Stockdale, Donna
Woods, Shirley
Morin, Max
Opekokew, Norman
Ballantyne, Jane
Caisse, Cecile
Ross, Greg
Smith, Rosalena

Population: Aboriginal Populations (First Nations and Metis)

Duration: October 2002 – September 2006

Funder: Canadian Institutes of Health Research – Operating Grant

Summary: The idea for this research project came from a partnership of northern health regions, an Aboriginal health organization, academic researchers, and the leadership of four participant communities, as they planned proactive responses to the potential emergence of HIV/AIDS in northern Saskatchewan. The goal of this project was to understand the context of HIV/AIDS in four communities. Because Hepatitis C comes in many of the same ways as HIV and AIDS, the Steering Committee was also interested in better understanding the context of Hepatitis C. The Steering Committee began this project with the following objectives:

1. Determine community awareness, attitudes and knowledge of HIV/AIDS.
2. Document knowledge derived from local experiences of the challenges facing communities, families and individuals when someone with HIV/AIDS lives in the community.
3. Determine community awareness, attitudes, capacity and strategies for accepting and supporting individuals with HIV/AIDS.
4. Determine factors to increase capacity of communities to accept and support individuals with HIV/AIDS.
5. Determine appropriate and meaningful ways to talk about HIV/AIDS and to conduct primary prevention, education, care and surveillance.

Over 200 individuals participated in interviews and group discussions between January and June 2004. Among the main findings were that many participants were fearful of HIV/AIDS, mainly due to

perceptions that HIV/AIDS is a terminal illness or “death sentence” and lack of adequate education and awareness on HIV/AIDS; also, some participants were more unfamiliar with Hepatitis C than HIV/AIDS, a surprising finding given that Hepatitis C is a more prevalent and immediate concern in some communities. Misconceptions about HIV/AIDS and Hepatitis C transmission/cause/vulnerability exist in each of the communities. These misconceptions influence the type and level of support participants feel they can offer affected community members; reactions to, and support for, people infected with HIV/AIDS differed based on the closeness of the relationship between the participant and the (potentially) affected person. All participants expressed a desire for themselves and their community as whole to be supportive of all affected community members; confidentiality with respect to accessing information, testing, and treatment was an overriding concern; long distances to appropriate services, and the remote location of some communities were issues discussed by participants; and that participants felt education and awareness need to be increased using more creative strategies (e.g. going beyond pamphlets and workshops) and on a consistent basis. This information is being used to help create prevention, education, and management programs for northern Saskatchewan communities.

Publications: Abonyi, S., Morin, M., Caisse, C., Ross, G., Smith, R., Opekokew, N., Ballantyne, J., Irvine, J., Stockdale, D., Woods, S., Nsungu, M., Jeffery, B., Dunning, H. & Fedosoff, D. (2006) *Northern Saskatchewan HIV/AIDS and Hepatitis C Awareness Initiative: Research Project Report*. University of Regina and University of Saskatchewan: Saskatchewan Population Health and Evaluation Research Unit.

A Gathering of Support: Developing an Aboriginal Grassroots Research Network on HIV/AIDS

Principal Investigators: Akan, Margaret
All Nations Hope AIDS Network
Bourassa, Carrie
Department of Science, First Nations University of Canada

Co-Investigators: Boekelder, Roxanne
Hampton, Mary
Horsefall, Ron
Jackson, Randy
McKay-McNabb, Kim

Population: Aboriginal Populations

Duration: April 2008 – March 2009

Funder: Canadian Institutes of Health Research – CBR Program - Aboriginal - Catalyst Grant

Summary: 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. 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; 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.

Sexual Violence, HIV/AIDS and Aboriginal Women

Principal Investigators: Barlow, Kevin
Canadian Aboriginal AIDS Network
Loppie, Charlotte
Faculty of Health Professions, Dalhousie University

Co-Investigators: Valaskakis, Gail
Wieman, Cornelia

Population: Aboriginal women

Duration: April 2006 – March 2009

Funder: Canadian Institutes of Health Research (CIHR) - Operating grant

Summary: 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 do gender, culture and HIV/AIDS status manifest themselves 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?

Canadian Aboriginal Cultural Competence for HIV/AIDS Health Care Providers

Principal Investigators: Barlow, Kevin
Canadian Aboriginal AIDS Network
Loppie, Charlotte
Faculty of Health Professions, Dalhousie University

Co-Investigators: Akan, Margaret
George, Janet
Jackson, Randy
Worsnop Masching, Renee

Population: Service providers

Duration: April 2005 – March 2008

Funder: Canadian Institutes of Health Research (CIHR) - Operating Grant

Summary: The cultural worldviews of Aboriginal peoples often warrant a unique approach with health care providers dealing with them. It is against this backdrop that this research addresses Aboriginal cultural competence in the context of HIV/AIDS health care. Some of the questions to be addressed include: the views of primary and community-based health care providers regarding culturally competent care in the context of HIV/AIDS, as well as the similarities and differences between the perception and practices of primary and community-based health care models. How do service providers influence the perceptions of Aboriginal peoples living with HIV/AIDS (APHA) regarding the quality of service? Using a community-based participatory action framework to answer these questions, we will conduct 24 interviews and 4 focus groups with 24 primary and 24 community-based health care providers in four sites. With the publication of a “good practice” manual, it is anticipated that service providers may come to a preliminary understanding of cultural competence resulting in an increase in client satisfaction and better health care outcomes for APHAs.

Publications: Canadian Aboriginal AIDS Network (2008) *“Relational Care” A guide to health care and support for Aboriginal people living with HIV/AIDS*, Ottawa

Barlow, K., Loppie, C., Jackson, R., Akan, M., MacLean, L. & Reimer G. (2008) Culturally Competent Service Provision Issues Experienced By Aboriginal People Living With HIV/AIDS *Pimatisiwin: A Journal of Aboriginal and Indigenous Community Health* 6(2)

Nonaka’s Theory of Knowledge Creation to Convert Tacit Knowledge into Explicit Knowledge: A Study of AIDS Saskatoon

Principal Investigator: Briggs, Alexa
Department of Interdisciplinary Studies
University of Saskatchewan

Advisors: Isaac, Grant
Forbes, Dorothy

Population: Service providers

Duration: January 2004 – January 2005

Funder: Social Sciences and Humanities Research Council (SSHRC)
- Master’s Student award

Summary: AIDS Saskatoon (AS), a non-profit organization, has limited funding. Most of the funding and resources for the organization go into service provision and education/prevention activities, leaving little time for strategic planning. Essentially, organizational knowledge exists at an individual level, which causes concern in terms of sustainability, continuity, evaluation, raising funding, writing research proposals, and staff training. AS' operations are largely based on tacit knowledge, or knowledge that resides within individuals, and little of it is explicit knowledge, or knowledge that can be examined by and shared with others. This problem yields the following research question: How does AIDS Saskatoon convert their tacit knowledge into explicit knowledge? This research study examines AS' tacit knowledge and represents it in an explicit format with the combination of thematic analysis and an organizational model. A Participatory Action Research (PAR) method is employed to gather and analyze qualitative data. The thematic analysis reveals the mental models and beliefs that are taken for granted at AS and therefore no longer articulated among the participants but simply a part of their daily practice. A metaphorical model of AS, using Nonaka's theory of knowledge creation as a theoretical basis, is presented to convey some of the tacit knowledge that cannot be captured in words. AS has had some challenges in their explicit knowledge documentation. This research takes one piece of their tacit knowledge and represents it explicitly through themes and image: themes articulated tacit knowledge at AS in an explicit format, and the organizational model framed the knowledge by using metaphor.

Publications: Briggs, Alexa (2008) *Metaphor and Meaning - Converting Tacit Knowledge Into Explicit Knowledge in a Non-Profit Organization*, Germany: VDM Verlag Dr. Mueller E.K.

Briggs, Alexa (2006) *Nonaka's Theory of Knowledge Creation to Convert Tacit Knowledge into Explicit Knowledge: A Study of AIDS Saskatoon*, Master's thesis available at http://library2.usask.ca/theses/available/etd-03312006-095805/unrestricted/AB_thesis_v060331.pdf

Mental Health & Wellness Among Aboriginal People Living with HIV/AIDS

Principal Investigator: Cain, Roy
School of Social Work
McMaster University

Co-Investigators: Jackson, Randy
Mill, Judith
Collins, Evan

Population: Aboriginal populations

Duration: March 2005 – February 2007

Funder: Canadian Institutes of Health Research (CIHR) - Operating grant

Summary: This project will examine depression among Aboriginal men and women living with HIV (APHAs), an area of inquiry that has received very little research attention. Mental health concerns were recently identified as a priority concern of the membership of the Canadian Aboriginal AIDS Network. Our research team has conducted preliminary research that identifies depression as a particularly important concern of APHAs. Our initial work suggests that depression relates to the ongoing stigmatization of HIV/AIDS, social isolation, lack of knowledge of HIV and its treatment, alcohol and drug use, personal biographies involving abuse and family disruption, medication side effects, and poverty. To examine such issues in greater detail, we propose to conduct 75-85 in-depth semi-structured interviews with APHAs in urban centres across Canada (Vancouver, Regina, Winnipeg, Toronto,

Halifax). The study will examine respondents' experiences with depression, what they do about these feelings, and the ways in which their feelings of depression may influence how they manage their health and their HIV infection. By analyzing how the experience of depression among APHAs is influenced by a broad range of social and psychological factors, the project will contribute to the development of more responsive and culturally appropriate supports and services.

HIV/AIDS, Maternal Health and Motherhood: Health-Related Behaviours, Programming Implications and Narrative Constructions

Principal Investigator: Downe, Pamela
Department of Archaeology & Anthropology
University of Saskatchewan

Co-Investigators: Abonyi, Sylvia
Lawson, Karen
Poudrier, Jennifer

Population: Women

Duration: April 2008 – March 2011

Funder: Canadian Institutes of Health Research – Operating Grant

Summary: 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 wellbeing of Aboriginal and non-Aboriginal women who have children and who are living with, affected by, and/or vulnerable to HIV/AIDS.

Promoting Cultural Awareness and Sensitivity in Addressing HIV/AIDS in Aboriginal Communities

Principal Investigator: Epale, Dina
Canadian Aboriginal AIDS Network

Co-Investigators: Akan, Margaret
George, Janet
Jackson, Randy
Loppie, Charlotte
Masching, Renée

Population: Aboriginal populations

Duration: April 2004 – March 2005

Funder: Canadian Institutes of Health Research (CIHR) - Operating grant

Summary: This proposed project around promoting cultural awareness and sensitivity in addressing HIV/AIDS in Aboriginal communities has been identified as a key research area based on the results of the recently released CAAN environmental scan. The main goal of this project is to formulate a research topic around promoting cultural awareness and sensitivity while addressing HIV/AIDS in Aboriginal communities. The formulation will be under the CBR capacity-building program with emphasizing providing research guidance and training to participants and taking them through a typical funding cycle. Together with the five identified co-investigators, we shall conduct a monthly teleconference and have one face-to-face meeting. Other identified activities will include: formulation of the main research question, literature review, design methodology, identify appropriate body to apply for funds and submit research proposal. The importance of this topic stems from the results of CAAN's environmental scan. Its goal was to understand community-based capacity needs of Aboriginal organizations that have HIV/AIDS programs and/or services, and identify barriers to participation in community based research etc. (CAAN Environmental Scan 2003). Participants were asked to identify the priorities of the Aboriginal HIV/AIDS organizations they represent. 41% and 57% of the 51 respondents mentioned cultural awareness and sensitivity as very high and high research priorities respectively. Other research areas of lower priorities were also mentioned. Some of them included research around harm reduction, barriers to using services, policy and advocacy and care and support. It is anticipated that we will submit a formal application by the end of the project to carry out the specific research.

Pregnant Injection Drug Users in Regina, Saskatchewan

Principal Investigators: Hunter, Garson
Donovan, Kathleen
Pedersen, Sarah
AIDS Programs South Saskatchewan

Population: Women, injection drug users

Duration: Project completed in July 2008

Funder: Indian and Northern Affairs, Urban Aboriginal Strategy

Summary: During 2005, Regina had experienced a reported 150 births among women who were injection drug users. Causing some alarm within the harm reduction community, the Harm Reduction Task Force of the Regina Area Drug Strategy was assigned the task to develop a process which would result in effective solutions to the issue of women who injected drugs while pregnant. AIDS Programs South Saskatchewan had taken a lead role in this process by focusing on the mother's health rather than the baby's health from the understanding that healthier moms would deliver healthier babies. This study sought to identify and document the barriers that prevent the women from accessing pre and postnatal care. Forty-five women participated in focus groups. What emerged was a picture of the poverty that is endemic to these women and their families, the fear the women have of losing their children to Social Services and therefore their avoidance of prenatal programs, a health care system that is not responsive to the needs of this population, and some of the preliminary changes being made by the Regina Qu'Appelle Health Region (RQHR) to begin to address the specific needs of this group of mothers.

Publications: Hunter G., Donovan, K. & Pedersen, S. (2008) *We are Not Asking Them to Hate Us, We Want Them to Help Us: Findings of focus group studies with pregnant injection drug users in Regina, Saskatchewan*, Regina: AIDS Programs South Saskatchewan

Traditional Uses of Plants in Saskatchewan: Sharing the Knowledge

Principal Investigators: Gendron, Fidji
Department of Science, First Nations University of Canada
Thompson, Lydia
AIDS Programs South Saskatchewan

Population: Aboriginal people

Duration: July 2008 – August 2009

Funder: Indigenous Peoples' Health Research Centre (IPHRC Community Network Partnership Research Grants)

Summary: Information on the traditional uses of native plants in Saskatchewan will be collected during interviews conducted by a summer student with Elders and other community members. This information will be used to develop a booklet with pictures of the plants, their traditional uses, and their First Nations tribal names - Cree, Saulteaux, Dakota, Dene and Nakota. Plants play a primordial role in the First Nations culture. They are used as a source of foods, fibers, instruments, purgatives, and medicines. To illustrate the importance of the last component, many First Nations people will use the term medicines when talking about plants. Traditional knowledge on how to use these plants is passed from generation to generation with grandparents, parents, and children spending time together in the outdoors. Unfortunately, with more community members living in urban areas, this traditional knowledge is less accessible and many First Nations people have lost this important aspect of their culture. The goal of this project is to work with students, Elders, and community members to develop a booklet that would provide traditional knowledge about plants. The booklet will be used as an educational tool and it is expected that Elders and community members will have heavy input on its form and content. This research project is interested in the various ways that plants are used. A key component will also be to find plants that are beneficial in the treatment of symptoms of HIV/AIDS.

Strengthening and Building Sexual Health of Aboriginal Youth and Young Adults

Principal Investigator: Hampton, Mary Rucklos
Department of Psychology
Luther College, University of Regina

Co-Investigators: Farrellracette, Sherry
Jeffery, Bonnie Lynn
McWatters, Barbara
Shercliffe, Regan Jeffrey

Populations: Youth, Aboriginal populations

Duration: October 2002 – September 2005

Funder: Canadian Institutes of Health Research (CIHR) Operating grant

Summary: Evidence suggests that Aboriginal youth are at higher risk for sexual health problems, including HIV and sexually transmitted infections (STI), than are non-Aboriginal youth. Given that condom use is effective in preventing HIV/STI and that self-efficacy is predictive of condom use, it is noteworthy that there is so little research on self-efficacy to use condoms in Aboriginal youth. This study employed a community action research strategy to examine the relationship between a set of cognitive and demographic variables and self-efficacy to use condoms in a sample of vulnerable and marginalized Aboriginal youth.

Publications: Hampton, M., McKay-McNabb, K., Jeffery, B. & McWatters, B. (2007) Building research partnerships to strengthen sexual health of Aboriginal youth in Canada, *The Australian Community Psychologist*, Vol 19 No 1, [http://www.groups.psychology.org.au/Assets/Files/Hampton-et-al_19\(1\).pdf](http://www.groups.psychology.org.au/Assets/Files/Hampton-et-al_19(1).pdf)

Shercliffe, Regan, Hampton, M., McKay-McNabb, K., Jeffery, B., Beattie, P. & McWatters, B. (2007) Cognitive and demographic factors that predict self-efficacy to use condoms in vulnerable and marginalized aboriginal youth, *Canadian Journal of Human Sexuality*, Spring-Summer.

http://findarticles.com/p/articles/mi_go1966/is_/ai_n29378437?tag=artBody;coll

Life Experiences of Aboriginal Families Living with HIV/AIDS: A Qualitative Inquiry

Principal Investigator: McKay-McNabb, Kim
Department of Psychology
University of Regina

Advisor: Hampton, Mary

Population: Aboriginal Populations

Duration: September 2005 – August 2008

Funder: Canadian Institutes of Health Research - HIV/AIDS CBR Program - Aboriginal - Doctoral Research Award

Summary: 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 health care 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.

Life Experiences of Aboriginal Women and HIV/AIDS: A Qualitative Inquiry

Principal Investigator: McKay-McNabb, Kim
Department of Psychology, University of Regina

Advisor: Hampton, Mary R.

Population: Aboriginal Women

Summary: HIV/AIDS is rapidly becoming an epidemic in Aboriginal communities. There is currently a lack of research investigating the factors influencing the spread of this illness among Aboriginal individuals. Particularly, research is lacking in the area of Aboriginal women and HIV/AIDS. The goal of this study is to contribute qualitative data to our understanding of how Aboriginal women have experienced the impact of HIV/AIDS.

Eight Aboriginal women who are infected with HIV (n=4) or affected by (n=4) HIV participated in qualitative open-ended interviews to generate a propositional theory, which described the women's journey on the path to healing. Grounded theory methods were used to discover the broad themes. The participants described their journey on the path to healing as a process of integrating acceptance, risk factors and everyday challenges, support, and developing new identities as Aboriginal women living with HIV/AIDS or as individuals affected by HIV. The participants' journeys ("walking on the path of healing") are depicted on the medicine wheel – a traditional model of health and healing which represents the stages one must pass through in a cyclical manner.

The participants of this study drew strength and personal understanding from the medicine wheel – they could understand their own experience as it was reflected in the model. Even though the women were at a variety of healing stages, the model held meaning for each woman. Through the gift of understanding provided by the medicine wheel, the participants found the strength to begin and continue walking on their path of healing.

Publications: McKay-McNabb, Kim (2006) Life experiences of Aboriginal Women Living with HIV/AIDS, *Canadian Journal of Aboriginal Community-Based HIV/AIDS Research*, Vol.1, <http://www.caan.ca/pdf/CJACBR.pdf>
McKay-McNabb, Kim (2005) Life experiences of aboriginal women and HIV/AIDS: a qualitative inquiry. Unpublished Master's Thesis, University of Regina.

HIV/AIDS and Aboriginal Women in Saskatchewan: Colonization, Marginalization and Recovery

Principal Investigator: Romanow, Carol-Anne
Department of Sociology
University of Saskatchewan

Advisor: Anderson, Alan

Population: Aboriginal women

Funder: The Bridges and Foundations Project on Urban Aboriginal Housing in Saskatoon

Summary: Since the onset of the AIDS crisis in 1982, Aboriginal women have been contracting HIV and Hepatitis C in increasing numbers. A new Aboriginal HIV/AIDS research agenda is imperative. This research was conducted in an attempt to understand why Aboriginal women in Saskatchewan remain marginalized in their continuing struggle against HIV/AIDS and Hepatitis C. Through the use of in-depth ethnographic profiles and personal histories, twenty-two Aboriginal women from Saskatchewan candidly shared their life histories. The women were asked a range of questions, including their knowledge about HIV/AIDS and Hepatitis C, and their attitudes and behaviours concerning sexual activities, alcohol and drug use, education, health, and lifestyle.

The key issues for Aboriginal women with HIV/AIDS and/or Hepatitis C focus on the fact that they sustain ‘triple jeopardy,’ in that they are discriminated against for having HIV/AIDS and/or Hepatitis C, for being a minority population by virtue of their Aboriginal ancestry, and for being women. Any analyses of what makes Aboriginal women vulnerable to HIV and Hepatitis C infection must take into account the role of poverty, independent of any risk factors, in leading to infection, illness, and in some instances, death.

The majority of the respondents were found to be prostitutes who continued to be involved in street prostitution, even after they had been diagnosed with HIV and/or Hepatitis C. Twenty percent of the respondents were infected through unprotected sexual activity, 20% through intravenous drug use, and 60% were infected through both unsafe sex and intravenous drug use. The results of this research: the incidence of both HIV and Hepatitis C is high in Aboriginal communities in Saskatchewan, due largely to low condom use, high rates of STDs (sexually transmitted diseases), low self-esteem, a lack of self-identity, increasing intravenous drug use, violence, sexual abuse, and high representation in street prostitution. Research to date is inadequate to the task of preventing the further spread of HIV and/or Hepatitis C, and providing effective and culturally appropriate treatment to Aboriginal women in Saskatchewan. This thesis serves to fill some of the research gap in knowledge about the relationship between race, gender, social class, sexual behaviour and HIV/AIDS and/or Hepatitis C infection.

Publication: Romanow, Carol-Anne (2003) *HIV/AIDS and Aboriginal Women in Saskatchewan: Colonization, Marginalization and Recovery*, unpublished M.A. Thesis, University of Saskatchewan. Available at <http://library2.usask.ca/theses/available/etd-12242003-223027>

Women Who Inject Drugs, Who We Are: The View From Here

Principal Investigators: Stadnyk, Bobbi
Kennedy, Keitha

Smith, Chris
AIDS Programs South Saskatchewan

Population: Women, injection drug users, service providers

Duration: Project completed in March 2007

Funder: Indian and Northern Affairs, Urban Aboriginal Strategy

Summary: The population of women who inject drugs and who live in Saskatchewan find it difficult to access services that they want or need in the province. Although there are reportedly numerous services available it is difficult to determine what exists. Neither the women nor the service providers seem to be aware of what can be accessed and who is a potential client. The purpose of this project was to find out from women who inject drugs and from service providers the gaps in services and to communicate the results to service providers. One hundred and fifteen women participated in a survey, and 55 in focus groups. Twenty-eight service providers attended focus groups. The study provided detailed recommendations on the provision of information on existing services, in particular to women; education to women who inject drugs; support to children who are in care; and education for service providers who work with women who inject drugs.

Publication: Stadnyk B, Kennedy K and Smith C (2007) *Women who inject drugs, who we are: The view from here*. Regina: AIDS Programs South Saskatchewan.

The House Model: A Blueprint for Best Practices in Community-Based HIV/AIDS Service Delivery

Principal Investigator: Thiessen, Kim
AIDS Saskatoon

Co-investigators: Scriven, Erin (Beckwell)
Briggs, Alexa
AIDS Saskatoon

Population: Community-based organizations, people living with HIV/AIDS, service providers

Duration: 2002 – 2004

Funder: Public Health Agency of Canada

Summary: As a harm reduction organization working to facilitate health promotion, AIDS Saskatoon often struggled to articulate its approach to service delivery – an approach that was shaped by the principles of harm reduction and a broad understanding of health, including the determinants of health. People who access services at AIDS Saskatoon often referred to the agency as a “second home” – a concept that became the impetus for *The House Project* and *The House Model of Service Delivery*.

This research explored and described the experiences and motivations of a sample of people who access services at AIDS Saskatoon. Data was collected through focus groups and individual interviews, and analyzed to test specific components of *The House Model*, which was new to the agency. The interviews addressed service use in the areas of frequency of use, satisfaction, degree of helpfulness, and overall ranking. Results of the study largely supported the relationships proposed in the initial model, with the exception of the importance of physical environments, which participants ranked higher than income and social status.

The House Model of Service Delivery (Thiessen & Scriven, 2002) represents aspects of an organization as components of a house structure. The *foundation* is designated as the determinant of health of *social*

environments. The four *load bearing walls* are designated as primary determinants of health: personal health and coping skills, social support networks, education, and income and social status. The *trusses* are secondary determinants of health, including: physical environments, healthy child development, employment and working conditions, biology and genetics, and health services. The *roof* represents the connection individuals have between their physical environment and spirituality. The number and kind of rooms in the house are determined by the needs and mandate of the agency. The *doorway* is located in the centre of the house and represents the access point individuals have to service delivery. A *person* is placed centrally in the doorway of the model and represents harm reduction principles and relationships with people. The determinants of gender and culture are a part of the person. The *yard*, which surrounds the house, represents the relationship the agency has with the larger community, including community partners, funders, policy makers, government, and other institutions.

This model could be useful to AIDS Saskatoon and other organizations for many purposes: staff and volunteer development, program development and evaluation, building partnerships and working relationships with educational institutions, and communication of agency vision, mission, values, and philosophies.

Publications:

Thiessen, K., Scriven, E., and Briggs, A. (2004). *The House Model: A Blueprint for Best Practices in Community-Based HIV/AIDS Service Delivery*, Saskatoon: AIDS Saskatoon, Inc.

Social Networks and the Transmission of Infectious Diseases: Implications for the Prevalence and Virulence of Sexually Transmitted Diseases

Principal Investigator: Vickers, David
Department of Computer Science
University of Saskatchewan

Advisors: Osgood, Nathaniel
Ross, Allen

Population: General

Duration: September 2007 – August 2008

Funder: Canadian Institutes of Health Research (CIHR) - Regional Partnership Program Doctoral Research Award

Summary: I am interested in the roles human ecology and social behaviour play in infectious disease transmission. By combining aspects of mathematics, epidemiology, sociology, and microbiology my Ph.D. research will focus on identifying people and their peers (called 'networks') likely involved in transmitting sexually transmitted infections (STI's), including HIV, in the current STI-HIV outbreak in Saskatchewan. This will involve combining aspects from the above mentioned disciplines to identify behavioural and social characteristics that might facilitate STI-HIV transmission, as well as the role of different STI microbes that are likely important in perpetuating the outbreak. My research will also attempt to develop new theoretical tools to better understand the transmission of infectious diseases as a whole. It will also be an integral part of my research to translate the knowledge gained that is largely academic in nature, into knowledge that is readily applicable to controlling these types of infectious diseases. I firmly believe that identifying behaviours and social settings associated with the current STI-HIV burden will alert public health policy makers to individuals at risk of acquiring (or spreading) an STI or HIV, and therefore allow personal health precautions to be implemented. Ultimately, this will also allow target groups to be identified, thus leading to increased efficiency of public health care delivery.

Investigation of an HIV Cluster Among Injection Drug Users (IDUs) in Saskatoon, Saskatchewan

Principal Investigators: Hansen, Lisa
De Bruin, Pam
Grauer, Karen
Wright, Judith
Dunlop, Terry
Opondo, Johnmark

Populations: Injection drug users

Duration: May 2005 – April 2006

Funder: Saskatoon Health Region

Summary: HIV has been an ongoing public health concern in much of Canada and in the province of Saskatchewan since the early 1980s. In the last two years, the Saskatoon Health Region (SHR) has,

similar to the province of Saskatchewan in general, witnessed higher than normal reports of new cases of HIV. In 2005, it became apparent that an extensive network of intravenous drug users and their sexual partners were rapidly accounting for the majority of new cases being reported to Public Health. This report summarizes the provincial epidemiology of HIV from the existing data, provides a snapshot of the last two years of HIV cases in SHR, and describes an HIV outbreak investigation conducted in Saskatoon. When considered together, we believe this provides a broad picture of the factors influencing this increase in newly reported HIV cases in Saskatchewan.

Preventing new HIV infections in drug using populations depends on reaching large numbers of the risk target population and rapidly making core interventions available and accessible to them. This is referred to as "scaling up" of interventions, which, in this context, refers to increasing the intensity of public health (community based) interventions to a level where HIV infection can be controlled among injecting drug users within a reasonable period of time. Preventing drug use is an overall and longer-range goal for Public Health. Mitigating some of the serious consequences of injection drugs use and HIV infection will require the integration of HIV/AIDS programs with other existing health and social programs. Appropriate program integration is essential for many of the complex health needs of those involved in using injection drugs. This report emphasizes the need to broaden HIV/AIDS awareness in the community, and the promotion of preventive health and evidence based treatment interventions in this community. An alternative approach to HIV case finding, testing and referral has, in this instance, possibly offered a more efficient strategy to reaching people who are often difficult to reach. Broadly speaking, the recommendations in this report speak to stronger prevention programs and more universal preventive health education. When undertaken, HIV testing must be closely linked to referral for care and other treatment services. In a high needs community, treatment and care must be coordinated and, where possible, integrated. To this end, the report outlines the following elements upon which to build specific recommendations: comprehensive surveillance; harm reduction strategies; testing and continuing care; primary prevention and health education; community outreach; and other supports.

Publications: Saskatoon Health Region Public Health Services (2006) *Investigation of an HIV Cluster Among Injection Drug Users (IDUs) in Saskatoon*, Saskatchewan, available at http://www.saskatoonhealthregion.ca/your_health/documents/MHOREportHIVHCVClusterOutbreakPHACJune2006.pdf

Impact of Antiretroviral Therapy (ART) on Bone Density and Osteoporosis in HIV Positive Canadian Women

Principal Investigators: Burdge, David

The Oak Tree Clinic, Children's and Women's Health Centre of BC

Site Investigator - Saskatoon:

Williams, Kurt

Royal University Hospital, Saskatoon

Populations: Women

Duration: Enrollment closed October 2003

Funder: Canadian Foundation for AIDS Research

Summary: It has become apparent that ART, while associated with decreased hospitalization rates, decreased incidence of opportunistic infection, and prolonged survival, are also associated with varying toxicities and side effects. A recent metabolic abnormality that may be associated with HIV and ART is decreased bone mineral density and osteoporosis. This study aims to investigate the prevalence of osteoporosis in HIV positive women in Canada in comparison to age and sex matched controls, as well as the risk factors (including ART) for development of the disease.

Options with Antiretrovirals (OPTIMA) – CTN 167

Principal Investigator: Cameron, William

Ottawa General

Site Investigator – Saskatoon:

Williams, Kurt

Royal University Hospital, Saskatoon

Duration: Ongoing with closed enrolment in 2006

Funder: Canadian Institutes of Health Research

Summary: This study will compare the three general approaches taken when first and second-line highly active antiretroviral therapy fails. The general approaches are:

1. The standard antiretroviral therapy (standard ART): switch to a standard ART regimen of no more than four drugs hoping that this will provide some therapeutic benefit.
2. The mega-antiretroviral therapy (mega-ART): use five or more ART drugs to diminish the most resistant.
3. The antiretroviral drug-free period (ARDFP): stop drug therapy temporarily to reduce toxicity and allow for the re-emergence of more sensitive viruses that will respond to the drugs once again.

Volunteers with advanced HIV disease, and in whom regimens that have included all three classes of antiretroviral drugs have failed, will randomly be assigned to an antiretroviral drug-free period of at least three months or no ARDFP, and will be randomly assigned to receive either a standard ART or a mega-ART. This is a five-and-a-half-year study aiming to enrol 504 participants in Canada, the U.S.A. and the United Kingdom.

Publications: For more information visit: www.optimatrial.org/ca/

In Utero DNA Immunization: Prevention of Vertical Disease Transmission and Neonatal Infection

Principal Investigator: Griebel, Philip
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Duration: April 2000 – March 2005

Funder: Canadian Institutes of Health Research – Operating Grant

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An electronic version of this compendium will be available at the Prairie HIV Community-Based Research Program website.

The information will also be available through a database that will be maintained at <http://www.prairiecbr.com>

If you wish to include your research projects or are aware of research projects that should be included, let us know.

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