

**An Exploratory ANALYSIS OF HIV/AIDS Epidemic Risk-Factors among Aboriginal
People in Canada and African South Africans**

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COMPULSORY DECLARATION

This work has not been previously submitted in whole, or in part, for the award of any degree. It is my own work. Each significant contribution to, and quotation in, this dissertation from the work, or works, of other people has been attributed, and has been cited and referenced.

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Abstract

When addressing the global HIV/AIDS pandemic, it is necessary to identify risk factors which are shared by populations, as well as those which may place populations uniquely at risk. Although Canada is a developed country, its Aboriginal population shares socio-economic characteristics with the world's developing populations. This thesis explores the shared risk factors among the Aboriginal population in Canada, where the HIV/AIDS epidemic is increasing despite relatively low national prevalence rates, and South Africa's African population, where the HIV/AIDS epidemic is particularly acute. The present analysis compares the profile of the African South African HIV/AIDS epidemic with risk factors that also occur among Aboriginal people. The results of this analysis show that the Aboriginal population has an epidemic risk profile that is similar to that of African South Africans. This points to the potential for a rapid increase of HIV/AIDS among Aboriginal people, as has been the case in the African South African population over the past two decades. This finding may allow for a more appropriate response to the Aboriginal HIV/AIDS epidemic, focusing on risk factors that have been identified in like populations rather than focusing on risk-prevention strategies that reflect the profile of Canada's general population.

Acronyms

AIDS	Acquired Immune Deficiency Syndrome
ART	Antiretroviral Therapy
ARV	Antiretroviral
CAAN	Canadian Aboriginal AIDS Network
CWB	Community Well-Being
DOH	Department of Health
HCV	Hepatitis C Virus
HIV	Human Immunodeficiency Virus
IDU	Intravenous Drug Use
NACHA	National Aboriginal Council on HIV/AIDS
OAHAS	Ontario Aboriginal HIV/AIDS Strategy
OCAP	Ownership, Control, Access, Possession
OI	Opportunistic Infection
SANAC	South Africa National AIDS Council
STI	Sexually Transmitted Infection
TB	Tuberculosis

Introduction

We live in a world where human rights are paramount to personal security, economic viability and individual prosperity. Beyond these elements, policy and decision makers, as well as the people who hold them accountable, have also come to adopt a rights-based approach to health. In an era when HIV/AIDS has reached every corner of the earth, and when our future is vulnerable, attention to the human rights of all individuals, regardless of their position in society, must be taken into account. As of 2007, there were 33.2 million people living with HIV in the world, 2.5 million of whom were newly infected in that year alone (UNAIDS, 2007). However, not all societies or persons have been affected equally. The pandemic is unequally distributed across the world in a number of localized and generalized epidemics. Societies the world over must strive to protect those at greatest risk and to provide them with full access to appropriate education, prevention and treatment services. The first step in this process is recognition of vulnerable populations, followed by analysis of the risk factors that influence this vulnerability. Only when risk factors have been singled out and their dynamic interplay scrutinized can effective policy and programming be put into place to stabilize and hopefully reverse the spread of HIV and AIDS.

HIV/AIDS in Canada and South Africa

Canada has not exhibited high rates of HIV or AIDS. At present, approximately 58,000 individuals are living with either HIV or AIDS in Canada (PHAC, 2007). Nevertheless, HIV infections in Canada are occurring at disproportionately high rates in certain vulnerable populations. Although less than 4% of Canada's total population identifies in the census as Aboriginal (including First, Nations, Inuit, Metis and Aboriginal non-specified), Aboriginal people accounted for almost one third of all positive HIV test results and for almost one quarter of all reported AIDS cases in 2006 (PHAC, 2007). Aboriginal people are almost three times more likely to be infected with HIV than non-Aboriginal Canadians (PHAC, 2007). Aboriginal women and youth are at particularly high risk. Although non-Aboriginal

women make up about one fifth of positive HIV test results among non-Aboriginal reports, Aboriginal women make up nearly one half of positive HIV test results among Aboriginal reports (PHAC, 2007). Aboriginal women also represented half of the AIDS cases that were reported by Aboriginal people in 2006 (PHAC, 2007). Furthermore, youth represent nearly one third of positive HIV test results among Aboriginal people (PHAC, 2007). Thus, the Aboriginal population in Canada is over-represented in both HIV and AIDS surveillance reports, with Aboriginal women and youth at greatest risk.

Sub-Saharan Africa remains the hardest hit area on the global HIV/AIDS pandemic map. South Africa is burdened with more HIV infections than anywhere else in the world (UNAIDS, 2008). According to Abdool Karim et al (2005), there have been distinct stages in the growth of the HIV/AIDS epidemic in South Africa. The first infections occurred in a localized population of homosexual men and recipients of tainted blood donations. The infection was thought to have reached South Africa from the USA. A second epidemic quickly spread to the general population through heterosexual transmission, most particularly affecting women and young people. This epidemic spread southwards from its epicentre in central Africa. It was mainly South Africa's African population (ASA) who were infected. The 2008 South African National HIV Prevalence, Incidence, Behaviour and Communication Survey (HSRC, 2009) estimates that the HIV prevalence rate of individuals 2 years of age or older is highest among ASAs at 13%, with White, Coloured and Indian South Africans all yielding prevalence rates that are under 2%. Furthermore, the highest prevalence rate was seen among African women aged 20-34. This group had an estimated HIV prevalence of 32.7% (HSRC, 2009). Male ASAs aged 25-49 and female ASAs aged 20-34 are two of the groups which have been listed as being most at-risk for contracting HIV (HSRC, 2009).

Having lived in South Africa and having observed these high HIV rates among poor ASA communities, I could not help but think about the similarities with the social circumstances that exist among Aboriginal communities in Canada. Many Aboriginal people are living in

impoverished conditions that mirror what is seen in less developed countries. But how can two very different countries with two very different epidemiological patterns of HIV have similar patterns of vulnerability and risk among certain sub-populations? Is there a common pathway of the epidemic and if so, what might it be?

The high level of vulnerability among ASAs and Aboriginal communities led me to think about how this situation might be explained. Today, ASA and Aboriginal Canadian communities both live in great poverty, and poverty that is disproportional to that experienced by other groups in the two societies. In some important ways this state of poverty has led to similar social conditions, which seem to mediate the spread of the epidemic. In South Africa, this has been well documented; however, in Canada, we are just beginning to understand the epidemic in Aboriginal communities. The similarities in the social conditions of both populations serve not only as a possible explanation for the increase in HIV incidence among Aboriginal peoples, but also as a caution to the importance of acting quickly and decisively on those social conditions so as to prevent further epidemic growth. This thesis is elaborated in the chapters that follow. Chapter 1 looks at the theoretical framework of the thesis, including a discussion of social epidemiology, social determinants of health, methodology and ethics. Chapter 2 looks at biological factors, such as co-morbidities, other sexually transmitted infections, and antiretroviral provision. Chapter 3 explores social factors such as history, poverty and sexual behaviour. Chapter 4 examines what the current responses to both epidemics are and what still needs to be done. Finally, chapter 5 concludes the thesis, with a summary of what has been discussed, as well as suggestions for a way forward and considerations for future research.

Chapter 1

Theoretical Framework

Social Determinants of Health

The past century and a half has dramatically changed the way many countries approach public health. Specifically, our improved scientific knowledge of health and disease has led to improvements in hygiene, vaccinations and medicines. However, scientific insights do not act alone in influencing health. Rather, health is the result of a dynamic interplay of factors. Sundin and Willner (2007:207) suggest that “epidemiology, biology, chemistry and other natural sciences became the cornerstones of knowledge needed to overcome health risks...”, but, “...political, economic and other factors are influential components...”.

A 250 year overview of the development of the state of modern public health in Sweden led Sundin and Willner (2007) to examine the ways that social change has influenced health and disease. According to their findings, historically, socioeconomic changes have been responsible for causing “...unemployment, poverty, unstable households, uprooted citizens and an increase of the consumption of alcohol, violence and theft”. These factors, they argue, “weakened the economic, cultural and social resources of the same proletariat...” (p.110).

Chopra and Sanders (2004) discuss similar implications of social change on health in South Africa, noting how the apartheid system was able to support booming settler agriculture and mining through the supply of migrant labour. They caution that, “...historical demography has shown that rapid social change associated with capitalist industrialization carries with it serious health [sic] hazards, especially for men” (Chopra & Sanders, 2004:169). The socioeconomic development of South Africa has created, “...continuing disorganized, squalid and dangerous urbanization”, which has not only led to the development of large, impoverished townships near large urban cities, but which has also subjected young men to,

“...the hazards of housing insecurity, dangerous informal employment, plentiful alcohol and cheap and risky sex” (Chopra & Sanders, 2004:172); all of which have the potential to negatively impact health.

A disease agent is a necessary, but not a sufficient, cause for disease to exist in an individual. Host genetic factors are also important, as are the complex physical, emotional, economic and political environments within which the individual lives. Stillwaggon (2005) makes a similar point in relation to HIV infection. She cautions that we must look beyond the limiting scope of behavioural factors that may contribute to HIV risk and also consider the dynamic interplay of contextual and structural factors such as poverty. Stillwaggon (2005) notes that focusing only on sexual behaviour has proven to be detrimental to our response to HIV. She notes that it is not just the behaviour, but rather, the context within which that behaviour is being enacted, that must be looked at (Stillwaggon, 2005). Contextual co-factors must therefore also be the focus of effective HIV prevention interventions. Stillwaggon (2005) asserts that differential sexual behaviours alone cannot be the primary cause of the HIV epidemic. She is here making the point that opened this paragraph; epidemic disease requires a host body and a disease agent but it also requires a propitious environment. Different transmission vectors exist across different populations who still share similar epidemic outcomes. For example, transmission vectors are different for Aboriginal people in Canada and for Africans in South Africa; however, both groups have HIV epidemics and therefore may have shared pathways to disease that are not accounted for by transmission alone. In both cases ubiquitous, abject poverty is the environment in which the epidemic flourishes. In this it seems little different from other epidemics. For almost all epidemic disease there appears to be an important social gradient: the poorer the people, the higher the morbidity and mortality. This applies to rich countries as well as poor countries (Gray, 1993).

Although the impacts of social change on health have been examined in multiple settings, and although Sundin and Willner (2007) offer Sweden's history as an important example, they also caution that, "comparison between societies, in different periods and different geographical areas and dissimilar in many other important ways, is ...hazardous" (p.214). Notwithstanding their caution, it is nevertheless important to make the comparisons, as a way of further illuminating a complex reality and identifying the factors which are important to research further. Looking at both the similarities and the differences between societies may serve to highlight inaccurate assumptions and connections and make clearer those that are important. However, when looking at social determinants of health in particular, it is important to remember that one circumstance does not necessarily predict another. Association and correlation are not the same as cause. Nowhere is this clearer perhaps than in the case of "race" or "ethnicity".

Race/Ethnicity

There is an extensive literature on both of these concepts. In this thesis I am using them interchangeably to indicate cultural differences that may impact on health. I am not inferring or intending to imply that race indicates different mental traits or aptitudes. I am not, therefore, using the term in the old, racist, biological essentialist sense. I am also very aware, as Head (2007) has argued, that the categories we use shape what we see and the approaches that we take. We may choose to categorize by race, by gender, by socio-economic status or by geography, but whichever we choose, we must be acutely cognizant of the effects that this will have on the way we present the data and how the data may be (mis)interpreted by others. This will in turn influence the policy direction that is followed and the decisions taken. If, for example, we choose to look at HIV/AIDS within a racial/ethnic framework rather than in geographical or socio-economic status terms, we must not lazily rely on race to 'explain' the data, but instead we must look at the data as an explanation for apparent racial differences in HIV/AIDS susceptibility, incidence and prevalence. If race is

used as a metaphor for cultural or social differences then these cultural/social differences and their impact on health must be explained. In their discussion of the use of race in health research, Schulman et al (1995:8) make this point. They argue that:

“the use of racial categories becomes important only when it leads to a more thorough appreciation of the social structures that result in disparities in exposure to risk conditions, or to development of prevention and support programs that reflect these cultural differences, and thus subsequent care and support needs of distinct groups” (p.8).

Thus, it is the responsibility of the researcher when using the concept of race/ethnicity in epidemiological research to remember that this is a shorthand way of referring to social structures and their consequences; it is not a description of innate mental capacity, personality or behavior.

In her book, “How to Have Theory in an Epidemic”, Paula Treichler (1999) discusses the concept of AIDS and racism. Treichler writes that when it comes to the way we look at a disease such as HIV/AIDS, only one dimension of identity takes precedence – national identity. She argues that “In 1990, a decade’s experience with the epidemic seemed to reinforce the conclusions of ethnographers that the “risk-group” categories produced by epidemiology often have little to do with the lived realities of human experience” (p.218). What she is saying here is that labeling groups of people, whether by colour, background, or some other characteristic, as being at greater risk than others is not helpful. What is necessary is to get beyond the label and look at the social context in which the group is living. Notwithstanding this important caution, to explain the epidemiology of HIV/AIDS or any other disease, we have to employ social categories. Thus, when looking at a country as diverse as Canada, it can be argued that the terms: “Canadian epidemic” and “Aboriginal Canadian epidemic” are not synonymous. The progression of the HIV/AIDS epidemic within Canada is not uniform across the total population. The common designation “Canadian epidemic” does not appropriately encompass the diversity of the epidemic’s progression

through various Canadian subpopulations and therefore leads us to search for specific factors that influence what may be different epidemics. We must, in other words look for risk factors that may affect very different groups, rather than trying to identify risk groups.

Country-focused intervention strategies must acknowledge differential identities, as they pertain to vulnerability and/or the way different people experience, interpret and thus understand the disease. Treichler (1999:99) notes that “understanding the AIDS epidemic as a medical phenomenon involves understanding it as a cultural phenomenon”. Treichler (1999:116) argues that “the reproduction in AIDS discourse of existing social divisions appears to be virtually universal, whether it is white or black AIDS, gay or straight AIDS, European or African AIDS, wet or hot AIDS, East or West German AIDS, central or west African AIDS, foreign or native AIDS, or guilty or innocent AIDS”. Rather than demonizing ethnic groups who have higher rates of HIV/AIDS, it is important to look at the context within which certain risk behaviours exist where ethnic or race categories are applied neutrally. ‘Race’ is not seen as a physiological or ethnically-backed precursor to disease spread. Rather, it is seen as an indication of vulnerability due to culturally-specific social and economic conditions, established or exacerbated by historical circumstances. Loppie and Gahagan (2001:8) elegantly express this idea:

“Care must be taken to avoid pathologizing Black and Aboriginal women’s health, or rendering problematic their lives by emphasizing disparate rates of illness rather than the historical, economic, political and social contexts that facilitate risk” (p.8).

LaVerne Monette (2008) also highlights the importance of de-stigmatizing versus targeting, noting that it is important to have a balance between a culturally-appropriate response without demonizing certain groups. According to Monette (2008), culturally-specific practices which may put people within certain Aboriginal groups at risk include the Sundance ceremony, where razors are used to cut the skin. Scarification and tattooing in prisons make prisoners particularly susceptible to blood-borne illnesses such as HIV and hepatitis.

Society tends to demonize prisoners instead of realizing that it is the specific risk behaviours that need to be targeted and addressed, and beyond them the social structures that encourage and/or support them (Monette, 2008).

Tracey Prentice (2008) also takes up the issue of labels and their dangers. She argues that there is a fine balance in the role that ethnicity data plays in initiating a culturally-appropriate response versus potentially demonizing certain groups. Prentice (2008) argues that it is not the reporting of ethnicity data in itself that is the issue, but rather, “how” the data is reported and interpreted. Smylie and Anderson (2006) broadly agree. They argue that “appropriate public-health planning and response requires health-assessment information that accurately reflects Aboriginal ethnicity [cultural beliefs] and geographic location...” (p.604). Thus, race or ethnicity may be a marker of social or cultural difference that is important in understanding the spread of disease.

This paper argues that in terms of HIV/AIDS risk factors, two populations from different countries of origin may share some common risk factors. These should be identified, compared and contrasted in order to refine our understanding of HIV/AIDS prevention, progression and treatment; to improve surveillance and planning.

HIV/AIDS Risk Factors

The expansion of the field of social epidemiology has led to numerous approaches to studying HIV/AIDS. Although each approach arguably has its own merit, an ecosocial approach assumes that all levels of risk factors must be looked at together in order to understand the pattern of HIV/AIDS progression in a population (Krieger, 2001). An ecosocial approach incorporates biological and social factors and acknowledges the dynamic interplay between them (Krieger, 2001). This whole system approach leaves little room for contemporary debates, that pit factors against one another, such as sex versus poverty or active versus innate risk, since focusing on one factor at the expense of others

distorts our understanding of disease progression. This paper will apply a whole system or ecosocial approach to the analysis of HIV/AIDS in ASA and Aboriginal Canadian communities.

Gouws and Abdool Karim (2005) apply epidemiological models to the progression of the HIV/AIDS epidemic in South Africa. According to the models, “the key factors that determine the spread of AIDS are the contact rate, the infectiousness and duration of infectiousness” (Gouws & Abdool Karim, 2005:50). In turn, these key factors, they argue, depend on demographic, social, biological and medical factors (Gouws & Abdool Karim, 2005). Thus, at the very base of our understanding of what mediates the spread of HIV/AIDS in a population, must be an understanding of the complex interplay of these groups of factors.

Similar models have been used to study HIV/AIDS risk factors among Native Americans. Irene Vernon (2005) cites the dynamic interplay of biological, social, economic, socioeconomic and behavioural factors as influencing disease spread through the Native American population. Vernon (2005) states that, “although vulnerability levels to HIV/AIDS vary from community to community, the biological, social, economic, and behavioural cofactors that continue to increase the danger to tribal communities remain constant” (Vernon & Jumper-Thurman, 2002 in Vernon, 2005:247). According to Vernon (2005), biological factors include sexually transmitted diseases; social factors include homophobia, stigma, access to quality health care services, and migration; economic factors include poverty; socioeconomic factors include violence, power and gender inequality; and behavioural factors include substance use and alcohol abuse.

For the purposes of this study, the factors outline by Gouws and Abdool Karim (2005) have been used as the framework for assessing the HIV/AIDS epidemic in South Africa. The Aboriginal population in Canada will then be analyzed as per each of these factors. Similarities and differences between each population across the various factor groups are highlighted. Gouws’ and Abdool Karim’s (2005) framework provides a comprehensive way

of looking at a variety of indicators within categories of HIV risk factors and serves as a useful tool for looking at similarities and differences between two populations and across various dimensions.

Methodology

My background is in Biological and Psychological perspectives of research. As such, preparing a research paper from a Sociological perspective presented many challenges. However, my educational background allowed me to bring a unique multi-disciplinary perspective to my research design. I was able to envision the problem of HIV/AIDS in Aboriginal communities from both a Science and Social Science point of view and to compare the situation in South Africa multi-dimensionally. Thus, I sought not only to look at biological and medical factors that affect health and disease, but at the dynamic interplay of these factors with social and economic elements.

This paper employs an inductive comparative approach to examine the biological and social factors that impact Aboriginal people in Canada and African people in South Africa. Comparative sociology has been a popular approach throughout social and political science studies to make observations at a macroscopic level that may otherwise not be easily examined through experimental methods. One aspect of comparative research is international or crossnational research. A major criticism of research of this type is the number of assumptions or generalizations that are made in making comparisons between two nations or cultures that are very different or dissimilar in so many complex ways. Furthermore, finding variables and measures that are similar enough to compare is challenging. Nevertheless, comparative research is important and has shown to be an effective approach for interpreting correlations (Durkheim, 1982; Weber, 1978). Expanding analysis beyond a national focus can provide important insight into which social phenomena

exist uniquely within a given culture or society and which phenomena or conditions may have arisen out of a particular interplay of variables that may also be present in other settings where like phenomena have been observed. As noted by social theorist Melvin Kohn, "In no other way can we be certain that we believe to be social-structural regularities are not merely particularities, the product of some limited set of historical or cultural or political circumstances" (Kohn,1987:713).

Further to Kohn's (1987) comparative theory, this thesis explores how the marginalization of the African majority in South Africa and the Aboriginal minority in Canada has led to remarkably similar biological (co-morbidities, sexually transmitted infections, etc) and social (poverty, access to health services, etc) determinants of health in two cultures in different parts of the world.

Although modern theorists of crossnational comparative research have developed formal ways to quantify associations between variables, the research on which this paper is based is drawn from secondary sources including population surveys and epidemiological studies. In order to respect the oral history of Aboriginal people it also draws on interviews with leaders of Canada's Aboriginal people. For historical reasons related to the exploitative nature of much of the research conducted by non-Aboriginal people in Aboriginal communities, there is a deep distrust of researchers in these communities. I was, therefore, very privileged to be able to work with Aboriginal leaders. Secondary research sources were collected in two phases. The first phase involved collecting government statistics on HIV/AIDS from both countries, by ethnicity. Canadian statistics were retrieved from the Public Health Agency of Canada's most currently released HIV/AIDS surveillance data (PHAC, 2007). Similarly, the most recent South African HIV/AIDS data was examined from the 2003 South African Demographic and Health Survey (South Africa, 2004), the Department of Health (DOH, 2008), Statistics South Africa (2008) and the Human Sciences Research Council (2005, 2008). The second phase involved collecting articles and research

papers which discussed the various risk factors that were described by Gouws and Abdool Karim (2005), who broke down risk factors into different disciplines. These articles were obtained through the library catalogue at the University of Cape Town, the library at the AIDS Committee of Toronto, as well as through online search engines, such as PubMed and the Cochrane database. Primary keywords used included “HIV”, “AIDS”, “South Africa”, “Canada”, “Aboriginal”, “Indigenous”, “African”, and “Native”. Secondary keywords were derived from the major risk factors discussed throughout this article. Further articles and research papers were then obtained using relevant citations from previous articles.

To support the secondary research sources, interviews with esteemed professionals working with Aboriginal people and HIV/AIDS in Canada were conducted. I contacted Ms LaVerne Monette of the Ontario Aboriginal HIV/AIDS Strategy (OAHAS) for her assistance with this research project and obtained her support to find other qualified professionals to interview. Interviews were informal and semi-structured and written or verbal consent was obtained in each case. For practical reasons, interviews were conducted either in person, via email, or via electronic instant messaging. Interviews were recorded with the expressed permission of each of the participants. Prior to each interview, participants were sent an email by Ms Monette, detailing the topic of the research and how it would be used. As the participants were recommended by Ms Monette, who herself participated, snowball or opportunistic sampling methods were used. Through this method I interviewed three people. Mr. Randy Jackson is the Director of Research at the Canadian Aboriginal AIDS Network (CAAN) and a PhD candidate at McMaster University, with an interest in Aboriginal cultural resiliency; Ms Tracey Prentice is a PhD candidate at the University of Ottawa who has often collaborated with CAAN and whose research interests include HIV/AIDS and Aboriginal women and youth; and Ms LaVerne Monette is the Executive Director of the Ontario Aboriginal HIV/AIDS Strategy and has an extensive background working in the Aboriginal community, as well as on various research teams – she is also a member of a number of HIV/AIDS-related Boards and Committees.

Ethics

In Canada, persons conducting health research on human subjects must adhere to the *Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans* (Interagency Secretariat on Research Ethics, 2005). However, because this research study did not involve the use of human subjects, ethics approval was not required. The persons who were interviewed were asked for their professional opinion on HIV/AIDS in the Aboriginal community in Canada. Humans are not involved as research subjects in this study, but rather as third-party participants, and this does not require ethics approval (Interagency Secretariat on Research Ethics, 2005).

When conducting research on Aboriginal people in Canada, it is important to apply the OCAP principles, which stand for ownership, control, access and possession (First Nations Information Governance Committee, 2007). These principles were established by the Steering Committee of the First Nations Regional Longitudinal Health Survey (First Nations Information Governance Committee, 2007) to protect the interests of Aboriginal communities participating in research. As a researcher conducting research on Aboriginal communities, one must adhere to the principles, making sure that Aboriginal people who are involved retain ownership of knowledge and information gained from them, that they have control of the research process from beginning to end, that they are able to fully access information and knowledge obtained about them, and finally that they have possession of any information taken from or learned about them (First Nations Information Governance Committee, 2007). This research project strives to be congruent with the OCAP principles by involving participation of Aboriginal people from the beginning, through community leaders and especially Ms Monette, with whom I liaised throughout. Data borrowed from the Aboriginal community for this project is acknowledged and will be used only for benevolent research purposes, and by making the results of this project available to Aboriginal communities in Canada. Finally, I acknowledge that the data and information regarding both

the Aboriginal and ASA communities that has been used and analyzed in this project belongs to those communities and will borrow such data and information only with the understanding that neither community will be put at harm or suffer losses by this research.

Limitations

The majority of data were taken from country-level epidemiological analyses and a summary of social science literature on HIV/AIDS in both the ASA and Aboriginal populations. Thus, population-level comparisons were able to be made without the limitations of small sample sizes.

Although this methodological approach is conducive to making population-level comparisons, it is limited in its ability to prevent generalizations about entire populations. Any potential bias in the selection of the major studies that have been summarized is acknowledged.

Collecting primary data from the Aboriginal community was also challenging, as previously mentioned in this thesis, due to a history of Aboriginal people being taken advantage of by non-Aboriginal researchers in Canada. This thesis thus referred to the opinions of highly esteemed experts in the Aboriginal HIV/AIDS research field and acknowledges the potential biases in doing so.

Chapter 2

Biological Factors

Sexually Transmitted Infections

According to Coetzee and Johnson (2005), sexually transmitted infections (STIs) directly increase the likelihood of a person contracting HIV by “causing inflammation of the genital tract, which increases the presence of T lymphocytes and macrophages” (2005:193). As well, a person who is HIV-positive and who also has an STI is more likely to expose their sexual partner to more of the HI virus (Coetzee & Jonson, 2005). Thus, STI prevalence rates within a population are important indicators as to the susceptibility of a population to the spread of HIV.

South Africa’s STI prevalence rates are among the highest in the world [for countries that keep statistics] and are such due to many of the same factors that shape HIV prevalence rates such as unsafe sexual behaviours that arise out of economic inequalities and migration (Coetzee & Johnson, 2005). Although both STIs and HIV are thought to be mediated by similar factors within populations, both also mediate the occurrence of one another. Thus, not only do STIs increase susceptibility to contracting HIV, but it is also thought that HIV makes a person more physiologically vulnerable to contracting STIs due to lowered immune defense (Coetzee & Johnson, 2005). Data that was averaged from multiple surveys of women attending public sector antenatal and family planning clinics in South Africa (thought to be a good indicator of overall STI rates in South Africa), indicate that 31% of all women who attended the clinics presented with Bacterial Vaginosis, 30% with Trichomoniasis, 26% with Candidiasis, 11% with Chlamydia, 7% with Syphilis and 5% with Gonorrhoea (Coetzee & Johnson, 2005).

In Canada, Inuit populations have been found to be particularly susceptible to contracting sexually transmitted infections. Chlamydia and Gonorrhoea are two STIs which are found to

be highest in Canada among Aboriginal young people (Steenbeek et al, 2006). Apart from many health concerns associated with these two STIs, persons who are infected with them are also found to be more susceptible to contracting HIV (Abdool Karim & Abdool Karim, 2005). Furthermore, STI infection rates may indicate high risk behaviours (including unprotected sexual activity), which may also make a person more susceptible to contracting HIV.

Steenbeek and others (2006) attribute factors such as living on settlements or reserves, contact between previously isolated communities, malnutrition due to over-hunting, exposure to new diseases, and loss of traditional health practices and values as contributing to the increase in STIs among Canadian Inuit communities. These historical factors have led to socioeconomic conditions which have made the Inuit population particularly vulnerable to contracting STIs (Steenbeek et al, 2006). For example, Steenbeek (2005) notes that early commencement of sexual intercourse by Inuit youth, paired with a lack of education from parents due to a loss of traditional values, have led to the engagement of many young adolescents in high risk sexual behaviours. The increase in STI prevalence rates in many Aboriginal communities compared to the rest of the Canadian population should be seen as an indicator of the risk for HIV rate increases within Aboriginal populations (Steenbeek et al, 2006).

The increased prevalence of STIs is perhaps one of the strongest indicators of increased HIV risk, due to similar transmission vectors, and of lack of condom use and other preventative behaviours. The higher prevalence of STIs in both the Aboriginal and ASA populations indicates that there may be similar risk factors present. Communities which have recorded higher rates of STI prevalence should be the target of prevention campaigns and should be monitored closely for HIV.

Access to Health Care

If AIDS patients are unable to access treatment, their viral loads may remain high, which can then increase the rate of transmission of HIV to a partner (Puren, 2005). As well, lack of regular treatment and monitoring of adherence can leave AIDS patients who are on antiretroviral therapy susceptible to drug resistance (Puren, 2005).

South Africa's two-tiered health system allows for wealthy individuals to afford private health care services, while poorer individuals must seek support and treatment in the overburdened government public health care system. Gray (2005) cites rationing by establishing criteria for eligibility, monitoring and support as issues of concern in the administration of free antiretroviral therapy in the public sector. Further, although antiretrovirals (ARV) are available now in public health sites in urban areas, in the rural areas there is still poor access. The 2005 South African National HIV Survey (HSRC, 2006) estimated that 84.2% (the majority) of the people who access the public health care system are ASAs. Thus, the inequalities within the health care system in South Africa may negatively affect poorer South Africans, some of whom may be unable to access regular services and treatment. Better access to treatment has been scaled up in recent years and is improving. Thus, these problems may be disappearing.

Beyond access to treatment, awareness of antiretroviral therapy also exposes inequalities. According to the 2005 South African National HIV Survey (HSRC, 2006), awareness of antiretroviral therapy was much lower among ASAs (58.21%) than other groups. In comparison, 83.6% of Whites and 79.8% of Indians reported awareness of antiretroviral therapy (HSRC, 2006). Breakdown of antiretroviral therapy knowledge by ethnicity was not available in the 2008 Survey (HSRC, 2009).

Although antiretrovirals are readily available and accessible in Canada, obtaining them requires knowing one's status and having regular access to medical care. Canada has been

applauded internationally for its universal health care system, yet many people across the country are unable to access health care services. For example, almost 20% of Aboriginal people do not have a regular physician and do not have regular access to health care services (NAHO, 2003). According to the Public Health Agency of Canada (2007), Aboriginal women represent 38% of the number of individuals who start antiretroviral therapy at a late stage of disease progression. The women in Ship and Norton's (2001) study stated that they often felt blamed by society for their HIV seroconversion and felt that they suffered from discrimination. The fear of this stigma and discrimination in small Aboriginal communities prevented many women from accessing necessary care and support (Ship and Norton, 2001). Exacerbating this problem is the fact that many Aboriginal people must travel over long distances, often into urban centres to access HIV/AIDS treatment. Even then, many Aboriginal people are denied the health care that they need, because culturally-specific HIV/AIDS care is very rare (Ship & Norton, 2001). This can be due to a lack of specialists in rural areas, as well as a lack of understanding of Aboriginal culture in larger urban areas. In a study conducted by Miller et al (2006), it was discovered that although Aboriginal people on optimal drug therapy react just as well as non-Aboriginal people on optimal drug therapy, Aboriginal people were less likely to receive triple combination antiretroviral drug therapy, were less likely to be adherent in early stages of treatment and were more likely to have a treating physician who was less experienced with HIV. This study highlighted the particular barriers to treatment that Aboriginal people in Canada face (Miller et al, 2006).

Further investigation into Aboriginal people's specific barriers to treatment revealed higher rates of Hepatitis C (HCV), poverty and unstable housing and intravenous drug use among the participants (Miller et al, 2006). Although the specific interactions and causalities were not investigated, Miller et al (2006) concluded that culturally-competent physicians and services were needed.

The national health care systems in Canada and South Africa are very different. While South Africa has a two-tiered health care system (a mixture of both public and private services), Canada has universal public health care. Thus, it can be assumed that availability and accessibility of health care is different in both countries. Yet, despite the public system in Canada, many Aboriginal people face barriers to treatment and care (PHAC, 2007). Thus, both Aboriginal people in Canada and ASAs are facing health care barriers, which may limit their ability to access treatment and care for HIV/AIDS. Government rollout barriers were previously cited as the reason for access issues in South Africa (Nattrass, 2004); however, access to treatment is better than it was a few years ago and it is improving all the time. Nevertheless, access to treatment is still poor in many rural areas. Meanwhile, Aboriginal people cite discrimination, stigma in smaller communities and limited access in remote areas as factors which prevent them from accessing care and treatment (PHAC, 2007). Both of these populations face similar barriers to accessing HIV care and treatment, Thus, targeted treatment interventions for both of these populations, which focus on these specific vulnerabilities, are necessary.

Co-Morbidities

Vernon (2005) cites the Centre for Disease Control, “people infected with HIV and living with AIDS are at greater risk of developing multi-drug resistant tuberculosis (TB), which is difficult to treat” (p.248). She adds that a person is more likely to develop AIDS if he or she is co-infected with both HIV and TB (Vernon, 2001 in Vernon, 2005). According to UNAIDS (2008), “TB is the leading infectious killer of people living with HIV, and accounts for an estimated 13% of AIDS deaths worldwide” (online).

South Africa had the fifth highest number of TB cases in the world in 2007 (WHO, 2009). In 2007, there were approximately 461,000 new TB infections in South Africa (WHO, 2009). The WHO reports that 73% of incident TB cases were found to also be HIV positive (WHO, 2009). HIV and TB are parallel epidemics that interact with one another. Thus a very high

prevalence of HIV is fuelling the TB epidemic. The high rate of TB in South Africa has been attributed in part to poor socioeconomic conditions, including poor housing conditions, such as overcrowding and poor ventilation; the migrant labour system; and inequality in the health care system (Abdool Karim et al, 2009; SANAC, 2007). These are all factors that occur at higher rates among ASA communities. South Africa's Abdool Karim et al (2009) note that growing resistance to TB therapies is also a major concern, with reported outbreaks of multi-drug-resistant and extensively-drug-resistant TB occurring in various parts of South Africa. Strategies to tackle the co-epidemics of HIV and TB involve an integrated approach, with testing for both infections taking place at the same time and with the employment of HIV interventions that prevent and treat TB as well (SANAC, 2007; Abdool Karim et al, 2009).

A recent article in the Toronto Star newspaper draws attention to the high rates of infectious respiratory diseases among some of Canada's Aboriginal populations (Weber, 2007). According to the article, the Inuit population in Nunavut has the highest rate of infant hospitalizations for respiratory infections in the world (Weber, 2007). According to a study highlighted in the article, this rate occurs at 40 times that of the population in southern Canada and can be attributed to factors such as poor ventilation and overcrowding in Inuit communities (Kovesi, 2007). The Canadian national average for number of residents per home is 2.39; however, among Inuit homes in Nunavut, the number of residents averages 6.1 (Kovesi, 2007). This overcrowding and poor ventilation may place Inuit communities at greater risk of TB spread and therefore also of HIV/TB co-infection.

In Canada, Aboriginal people and recent immigrants are the most vulnerable sub-populations in terms of HIV and TB co-infection (PHAC, 2009). Of the 1,600 reported new active and re-treatment TB cases in Canada in 2008, 341 were among Aboriginal people (PHAC, 2009). The rate of new active and re-treatment TB cases is the highest among Aboriginal people at 28.2, followed by a rate of 13.3 among foreign-born Canadians and by a rate of 0.8 among Canadian-born non-Aboriginal people (PHAC, 2009). Aboriginal people

are also overrepresented in homelessness statistics in Canada (NACHA, 2005). According to Hwang (2001), who acknowledge this overrepresentation, homeless people are at higher risk of contracting TB due to conditions such as overcrowding and poor ventilation in city shelters. This problem is exacerbated by poorer adherence to TB treatment regimens, which may contribute to treatment resistance (Hwang, 2001).

Although the rates of tuberculosis are different between Canada and South Africa, with South Africa having a much higher prevalence and incidence, the rates among Aboriginal people in Canada are disproportionately high. Tuberculosis is of particular concern due to the infectiousness of the disease and the fact that it remains a major co-factor of HIV infection in South Africa and of people living with AIDS internationally. Similar risk factors, such as overcrowding, are present in both populations. The higher rates of poorly ventilated and overcrowded housing among Aboriginal people than other Canadians and health care access issues in both populations may exacerbate the risk of opportunistic infections in both Aboriginal and ASA populations.

Chapter 3

Social Factors

South Africa's history of colonialism is well-known. From the time that the first colonial settlers arrived, through the apartheid regime, South Africa's racial history has been one of oppression and exploitation of the colonized people. The minerals revolution in the second half of the 19th Century led to a massive demand for unskilled labour. This labour was drawn from African farming communities across southern Africa. Legislation in South Africa and neighbouring colonial states obliged men to pay money taxes and thus seek wage work for part of the year. Other measures, such as the creation of laws which restricted land rights of ASAs, and allowed the appropriation of African land by settlers, resettlement on infertile land which was insufficient to support the population, differential pricing systems for African and settler agricultural production, all acted as mechanisms to make wage work a necessity for African families. The migrant labour system was the result. Men were recruited for contracts on South Africa's gold mines and returned to their family farms at the end of the contract period. This system of labour use stripped the autonomous land-based societies of southern Africa of their economic independence. Over time, as rural poverty grew, dependence on wage labour itself grew. ASA labourers who worked in the mines were forced to live far away from their families for long periods of time. Migration is thought to have been a factor in the spread of HIV in South Africa. Higher rates of HIV and STIs have been found in migrants than in the general population and this has largely been attributed to the separation of families, as well as sex workers congregating in all-male mining areas (Lurie, 2000).

After the National Party was elected to power in 1948, a policy of separate development for the 'races' was enacted. In the 1960's this led to the creation of so-called 'independent homelands' for ASAs, By the latter half of the twentieth century, many ASAs were forcibly assigned to twelve designated areas. These were former labour reserve areas. They were

characterized by extreme rural poverty. Three and a half million people were forcibly moved between 1975 and 1985 (Lurie, 2000). These 'homelands' were ruled by corrupt puppet 'governments' put in place by the South African apartheid government (Head, 2007).

Even after the end of the apartheid regime in 1994, the effects of economic inequality still resonated throughout South African society. Judith Head (2007) has described the inequalities that the new government faced. She notes that in 1990, 59% of the African population was living in poverty, compared to 20% of the Coloured population and only 3% of the White population. By 2001, 33% of the population of South Africa possessed 89% of the income, while 50% of the population only had 3% of the income, highlighting the economic disparity that existed between an elite minority (mainly White) and a poor majority (mainly Black).

Head (2007) argues that inequality was also reflected in the provision of health resources. Per capita spending on health in 1987 was R52 for 'homelands' residents (ASAs – many forcibly removed from urban areas), R340 for Coloured South Africans, R356 for Indian South Africans, and R597 for Whites. Post 1994, the two-tiered medical system of private and public health care inherited from the previous regime meant that the public sector was responsible for the health of 75% of the population, but accounted for only 2/5 of the total spending on health. Although presently South Africa is beginning to see a small problem of White unemployment and poverty, South Africa's poor and unemployed remain overwhelmingly Black (Head, 2007).

Apart from the dangers of the migrant labour system in the mining industry, which by separating men from their families and social ties and depriving men of the company of women lead to high risk behaviours that may contribute to the spread of HIV, vulnerabilities are also found among young men who move from rural areas to urban centres for work. Lurie (2005) argues that they may also engage in sexual activities with high-risk females. Higher rates of HIV have also been found to be associated with population movement in

other African countries, such as Uganda, where studies have shown that HIV infection rates were three times as high among people who had moved within the previous five years than among those who had not (Lurie, 2005).

Canada shares a history of colonization with South Africa, but there are significant differences. Unlike South Africa, where African people were needed as a labour force for mining, settler agriculture and secondary industry, settlers in Canada competed with the indigenous people for important natural resources and land. One consequence of the marginalization of Aboriginal Canadians who were not needed by the colonial economy was the undermining of historical systems of hunting and gathering, while in South Africa the power of the colonial state and its oppression of the indigenous people created a pool of cheap labour and led to growing poverty on reserves (Dickason, 1997; Wolpe, 1972). Nevertheless, oppression and rampant racism were present in both colonized nations, which paved the way for similar socioeconomic realities for both Aboriginal peoples and African South Africans.

European contact in Canada grew periodically over the course of approximately 900 years, with different European nations making first contact in Canada's Arctic and North Atlantic coastal region. European colonizers were eager to exploit the rich natural resources that the country had to offer. Most coveted of all were furs. The growing fur trade led to increased European settlement and land usage. Competition for fur and game led to hostility and conflict between the indigenous peoples and the Europeans (Dickason, 1997). Settlers pushed Aboriginal people off their traditional lands and entered into treaties that may have led to peace, but which exploited the lack of defenses that Aboriginal people had, taking their traditional lands away from them and forcing them to live on reserves (designated areas) in exchange. Perhaps one of the most striking similarities between the treatment of Aboriginal people and ASAs by their respective colonizers was the restriction of movement. According to Baron (in Dickason, 1997:481), "In 1902, a delegation from South Africa came to study the

Canadian pass system as a method of social control". In many areas in Canada, passes or permits were used to restrict Aboriginal people's movement off of designated reserves. South African colonists also employed a similar pass system to prevent African peoples from moving from designated areas (Usher, 2003). In Canada, massive and sweeping loss of lands altered the social and economic structure and organization of indigenous populations. Deprived of their livelihoods which were based on hunting and gathering, indigenous communities starved; epidemic disease took a heavy toll and gradually languages and cultures were lost as indigenous groups became too small to sustain them. Today, Canada's Aboriginal peoples are in constant struggle to take back land that is rightfully theirs and to retain and rebuild cultures that have all but been lost (Dickason, 1997).

The European colonizers brought diseases such as smallpox and tuberculosis to Canada, which wiped out many indigenous communities (Dickason, 1997). According to Monette (2008), Aboriginal people were adept at treating the ailments that they were normally exposed to, but they had no way of dealing with European ailments such as smallpox, which was introduced when Canada was colonized by Europeans. Europeans came from paternalistic and Christian societies and frequently held the philosophy that their God was better. As time went on, Aboriginal people suffered an increased dependence on government handouts, which led to a greater loss of control. There was a holistic health breakdown. Women in the far North were shipped away to the South to have their children, women were sterilized due to poverty and people with tuberculosis were moved far away. Aboriginal people also underwent a radical dietary change. Loss of game meat caused transition from a high-protein diet to a diet that was high in carbohydrates and sugar, which led to increased rates of diabetes, high blood pressure and obesity, which are now seen throughout Aboriginal populations in Canada. Clean drinking water has also become an issue with one in seven communities in Canada under a boil-water advisory (Monette, 2008).

The Residential School system that was created in the early 1900's as a means of assimilating Aboriginal youth into Christian society had a devastating effect on the children forced to live in them. According to LaVerne Monette (2008), Residential Schools have left a legacy of loss of parenting and grand-parenting skills, loss of how to relate to one another as men and women and how to relate to older people (i.e. concepts such as respect), and a loss of culture. In the 1960's, children's aid groups moved in on Aboriginal families. Many children were removed from their families and placed in homes; some of which were later shown to have been abusive. These conditions were often more horrible than Residential Schools because the child was isolated from others undergoing a similar experience (Monette, 2008). An estimated 80,000 Aboriginal people of the 1,172,790 Aboriginal people who currently identify as Aboriginal according to the 2006 Canadian Census, are thought to have once attended Indian Residential Schools and 19,179 legal claims have been made to date against the Government of Canada (Canada, no date). Distrust of non-Aboriginal people was exacerbated by the poor conditions that Aboriginal people experienced in this educational system. This history of attempting to mainstream a European-origin education system with its Christian values and contempt for Aboriginal life at the expense of traditional heritage and values has improved, with the abolition of Indian Residential Schools.

In a Medical Post article in 2004, Donalee Moulton asserts that the Aboriginal HIV/AIDS crisis in Canada "is linked to cultural and historic factors" (Moulton, 2004). Moulton (2004) discusses "Poverty, homelessness and racism" (p.71), as well as "drug and alcohol abuse and unprotected sex" (p.71) as important risk factors that exist within the Aboriginal population and which have grown out of the history of colonization and marginalization of Aboriginal people in Canada. Moulton (2004) quotes Renee Masching of the Healing Our Nations Organization, who says, "This is a culture that hurts. The use of alcohol and drugs masks pain. (But) these are high-risk activities" (p.71). With this statement Masching highlights the important link between historical factors and coping mechanisms that may lead to prevalent high-risk behaviours. Colonization and the Residential School system forced

assimilation and led to several generations of Aboriginal people who do not know their language, their culture, or their traditional ways. This has led to entire languages being lost or being on the verge of extinction. Since most Aboriginal cultures in Canada are entirely oral, cultural traditions are also on the verge of extinction (Prentice, 2008). This intergenerational loss of culture and identity places Aboriginal health at great risk and may lead to a potential increase in the various high-risk coping mechanisms that Walters & Simoni (2002) discuss. In their research on coping mechanisms in Aboriginal communities, Walters and Simoni (2002) have introduced what they call an "Indigenist Stress-Coping Model of Native Women's Health". Within this model, stresses in the form of traumas (such as historical trauma, discrimination, traumatic life events, physical and sexual assaults/abuse) are buffered by coping mechanisms. These take the form of cultural buffers (such as identity attitudes, enculturation, spiritual coping, and traditional health practices). They are employed to reduce health risks of HIV, other forms of morbidity, alcohol and drug use/abuse or dependence. They also help people cope with mental health problems such as post-traumatic stress disorder or anxiety, and depression (Walters & Simoni, 2002). Randy Jackson (2008) also discusses these cultural buffers. He mentions that "poverty and historical determinants create environments of risk...that lead some to adopt higher risk behaviours" and that "there are also buffers that operate against all this." Jackson (2008) cites a strong identity, participation in culture, and strong family and community connections and support as some of the buffers which act against risk environment. Friendship centres, Aboriginal social groups, and other support networks exist within urban settings and provide cultural support to Aboriginal people, helping to re-build cultural buffers (Jackson, 2008).

Loss of culture and the need to turn to coping mechanisms is also a problem among Aboriginal people who leave reserves and migrate to large urban areas. The National Aboriginal Council on HIV/AIDS (NACHA) (2005) and O'Brien Teengs and Travers (2006) discuss the difficulties that young Aboriginal people face when they when they move to large urban centres such as Toronto. These render them particularly vulnerable to HIV and AIDS.

These include “racism, poverty, unemployment, unstable housing, inaccessible services, and sexual exploitation; some young people turn to transactional sex to survive. Hwang (2001) and NACHA (2005) also argue that Aboriginal people are over-represented among homeless people and that this can lead to high-risk behaviours such as transactional sex to survive and intravenous drug use as a means of coping. Substance use is the main vector for HIV transmission among homeless adults but homeless youths are also at increased risk of contracting HIV because of their sexual behaviours. The 2001 South African Census reported that 1.8 million South Africans lived in informal housing (self-built very small shacks, densely packed in urban areas). Informal housing also reflects poor socioeconomic conditions, which are correlated to higher rates of STIs (Coetzee & Johnson, 2005).

In South Africa in 2001, 23.94% of people aged 15 to 65 years were unemployed (South Africa, 2001). ASAs and Coloured South Africans had much higher unemployment rates than other South African population groups (South Africa, 2001). Unemployment data reflects poor socioeconomic conditions. Some unemployed people are entitled to unemployment pay that lasts for a short time. The majority have no source of income. Unemployment has been associated with higher rates of HIV among South African populations (UNAIDS, 2006).

UNAIDS also states that “higher levels of education [are] associated with safer sexual behaviours and delayed sexual debut...” and that learning life skills about decision-making and risk-avoidance are important for the prevention of HIV (UNAIDS, 2009). According to the 2001 South African Census, 5.2% of Black African South Africans had post-secondary education, compared to 29.8% of White South Africans. 16.8% of ASAs had completed secondary schooling compared to the 40.9% of White South Africans. Twenty two per cent of Black African South Africans had no formal schooling, compared to 1.4% of White South Africans (South Africa, 2001).

The Community Well-Being (CWB) Index is intended to examine the relative well-being of different communities in Canada. It is adapted from the Human Development Index, which is used to measure well-being and development in countries around the world. The Index was designed to be used in years when the Canadian Census takes place (every five years) (McHardy & O'Sullivan, 2004:1). Education (literacy, educational level attained), employment (labour force participation and employment rate), income (per capita), and housing (proportion of population living with no more than one person per room, and proportion of housing not in need of major repairs) are all equally weighted factors which make up the total CWB score. CWB is scored on a scale from 0 to 1, with a lower score representing lower community well-being. In 2001, First Nations communities had an average CWB score of 0.66 as compared to other Canadian communities who had an average CWB score of 0.81. Although the First Nations CWB score has increased from 0.58 in 1991, the large gap between First Nations and non-First Nations scores is a concern (McHardy & O'Sullivan, 2004).

Many Aboriginal people who live on reserves in Canada live in poor housing conditions. According to Canadian Census data (2001), 12% of First Nations houses are overcrowded. This number is substantially higher than the 1% of households that are listed as overcrowded in the rest of Canada. Furthermore, 21.9% of First Nations houses require major repairs and 5.7% are unsuitable to live in and must therefore be replaced (Canada, 2001). Thus, housing among Aboriginal people in Canada is similar to housing for many African South Africans. Overcrowded housing is one of factors that contribute to the spread of infectious disease, The classic case of the relationship between overcrowding and infection is TB (Head, 2001). TB is a droplet borne infection whereas HIV is mainly spread sexually. Clearly the routes of transmission are different and overcrowding will not work in the same way for HIV as for TB. However, overcrowding is usually indicative of a number of other deprivations which collectively act on the organism's capacity to fight infection. One of those deprivations is malnutrition. There is an extensive literature on the impact of

malnutrition on health (see Khati, 2009 for references). “Malnutrition affects both the innate and adaptive arms of the immune system. It is not surprising that worldwide malnutrition is the commonest and biggest cause of immunodeficiency” (Khati, 2009:7). Suppressed immune systems enable HIV to be more easily transmitted from person to person (Abdool Karim, 2005). Poor housing conditions among Aboriginal people point to poor socioeconomic conditions, which may make Aboriginal Canadians more susceptible to infectious diseases such as HIV/AIDS.

According to the 2001 Canadian Census, Aboriginal people had an unemployment rate of 19.1 per cent compared to an unemployment rate of 7.1 per cent for the non-Aboriginal population. As well, average income for Aboriginal people was found to be less than half the average income of other Canadians; \$19,132 CAD, compared to \$40,062 CAD for non-Aboriginal people (Canada, 2001). High unemployment rates and lower incomes make Aboriginal people susceptible to living in poverty. This can have a direct impact on health, food access and malnutrition, less suitable housing conditions and lack of access to health care. All of these factors, in turn, may impact on Aboriginal people’s susceptibility to HIV infection.

Sexual Behaviour

Helleringer and Kohler (2007: 1377) argue that “network characteristics are an important determinant of the dynamics of HIV spread within a population”. Of particular interest is concurrency, where the number of sexual partners that a person has at any given time is evaluated. Although Lagarde et al (2001) were unable to show that concurrency is in itself a major risk factor for HIV and other STIs, they acknowledge that it is one of a dynamic interplay of cofactors which contribute to an epidemic.

According to the 2003 South African Demographic and Health Survey (2004), the African population group had lower reported rates of condom use, lower rates of limiting sex to one

uninfected partner, and lower rates of abstaining from sex than Coloured, White or Asian population groups, across both genders. In the 2005 South African National HIV Survey, African and Coloured males had higher rates of multiple partnerships than other groups of males. Among ASA males, 19.3% reported multiple sexual partnerships, as compared to 11.2% of Coloured males, 3.8% of White males and 4.0% of Indian males (HSRC, 2006). ASA men aged 25-49 are listed as a high-risk group for HIV in the 2008 survey. From 2005 to 2008 there was a rise in the number of multiple sexual partners reported by this group from 7.0% to 17.4% (HSRC, 2009). Unfortunately comparisons were not made with other ethnic groups. Another notable increase was seen in the rate of multiple sexual partnerships that have been reported for young ASA women between 2002 and 2008. In 2002, 1.3% of female ASAs between 20-34 years of age reported multiple sexual partnerships; however, in 2008, this number jumped to 4.3% (HSRC, 2009).

Nattrass (2004) attributes these HIV risk factors to a 'sexual culture' that consists of an imbalance of power relations between the genders (with men having most of the power), concurrent sexual partners, and transactional sex. The reasons given for this sexual culture, for women, cluster around survival. Sex is used as a currency. It gives poor women access to resources that they would otherwise not enjoy. Nevertheless, such behaviours expose African South Africans to a high risk of HIV transmission. Where survival sex comes into play, poverty and the legacy of apartheid may be to blame; however, it is very difficult to predict what the sexual culture would be like if poverty were taken out of the equation (Nattrass, 2004). Nattrass (2004) notes that condom use can be difficult to navigate within this sexual culture.

At one end of the transactional sex spectrum is sex work. According to UNAIDS/WHO (2008), sex workers in major urban areas in South Africa had a median HIV prevalence rate of 50.3 % (recorded in 2000), while sex workers outside major urban areas had a median HIV prevalence rate of 69.5 % (recorded in 2004).

LaVerne Monette (2008) believes that the history of loss of culture and abuse experienced by Aboriginal people has had major effects on their understanding of unconditional love. She says that many Aboriginal people have never known the unconditional love that is the right of all children from their caregivers and so they look for it sexually and through drugs and alcohol. She adds that never feeling accepted and loved can lead to poor relationships and the expression of feelings of love through sexual activity, such as having concurrent sexual partners, or being unable to navigate safe sexual partnerships (Monette, 2008). In the interview, Monette suggested that many Aboriginal people suffer from a lack of self esteem (Monette, 2008). Children who were removed from their families by the Residential School system did not know how to parent since they were never parented themselves (Prentice, 2008).

According to Steenbeek et al (2006), early initiation of sexual activity among Inuit youth is a concern for the spread of sexually transmitted infections. Bjerregaard and Young (1998) go on to note that since the infant mortality rate is relatively high among Inuit people, there is a general acceptance of pregnancies among young, unwedded, adolescent women. By definition pregnancy is indicative of unsafe sex or decreased contraceptive use, including condoms, which protect against HIV and other STIs.

In 2002, a sexual health survey was administered to Inuit youth who were attending schools in the province of Nunavut. The survey examined the differences in sexual beliefs and behaviours between Inuit and non-Inuit respondents (Cole, 2003). According to Cole (2003: 271), "When the statement "Having unwanted pregnancy is no big deal because you can always adopt out the baby" was presented, 26% of Inuit answered True, while 6% of Non Inuit answered true". Furthermore, "When the statement "It is wrong to use any kind of birth control" was presented, 18% of Inuit answered true, while 0% of Non Inuit answered true" (Cole, 2003:271). Students were also asked about their condom use during the first time they had intercourse. "By ethnicity, 70% of Inuit answered Yes and 80% of Non-Inuit

answered Yes” (Cole, 2003:271). Questionnaires are tricky instruments to use in social research if for no other reason than the respondent may answer what s/he thinks is expected of her/him, whether or not this is what s/he really thinks. Nevertheless the consistently different responses between Inuit and non-Inuit young people do suggest that attitudes may indeed be different as may sexual behaviours. These answers suggest that Inuit youth are more at risk of STIs, including HIV, than other Canadian young people. Another study, which targeted condom use in Ontario, surveyed Aboriginal people living on a reserve and found that within the 12 months preceding the study, only 8% always used condoms. Startlingly, 61% of respondents never used condoms. HIV/AIDS knowledge contributed to increased condom use (Calzavara et al, 1998).

In a study of women and children engaging in sex work in Vancouver, 52% were found to be First Nations – the highest representation of any ethnic group. Among the participants, First Nations women had higher incidences of childhood sexual abuse and childhood physical abuse (Farley et al, 2005). The Cedar Project is a ground-breaking study that was recently conducted among drug-using Aboriginal people in Vancouver and Prince George. Mehrabadi et al (2008) discovered that 59% of participants were engaged in sex work in the six months preceding the study, and “[71%] of participants reported having been involved in sex work at some point in their lifetime” (p.162). The Residential School legacy was a prevalent theme, with more than 40% of the female respondents who were involved in sex work, having parents who went to Residential Schools. Furthermore, an overwhelming majority of the female respondents who were involved in sex work had been removed from their parents. Sexual abuse was also high among these women, with 70% of young women having experienced forced sex (Mehrabadi et al, 2008). To understand the direct risk of HIV among the female participants, it should be noted that a high percentage of females reported unsafe sex with casual and regular partners, as well as high numbers of pregnancies (Mehrabadi et al, 2008).

Although the main mode of HIV transmission for Aboriginal people has been intravenous drug use (IDU) there has been a recent increase in the amount of HIV positive tests that are attributed to heterosexual practices (PHAC, 2007). Thus, the high rates of STIs, teenage pregnancies and sex work in many of Canada's Aboriginal populations should be cause for alarm.

A direct link between sexual exposure to HIV due to unprotected sex and socioeconomic factors can be seen in both populations. Sexual practices and sexual networks alone cannot be accepted as the major risk factor for HIV in Aboriginal and ASA communities. Variables such as the number of sexual partners and age of sexual onset vary across individuals and across populations around the world and do not sufficiently explain the high rates of HIV in the Aboriginal and South African context. However, it is an important risk dimension which may have an interactive effect with other risk factors that are discussed.

Chapter 4

Epidemic Response

What is Being Done?

In 2005, various Canadian government partners collaborated together to produce *Leading Together: Canada Takes Action on HIV/AIDS 2005-2010* (Canadian Public Health Association, 2005). This document outlined target areas and strategized a way forward for dealing with the spread of HIV/AIDS in Canada. In discussing Aboriginal people, *Leading Together* urges that, "...HIV prevention initiatives must target women and two-spirit men¹ as well as the underlying issues of poverty, lack of employment, stigma within the Aboriginal community, substance use and low self-esteem" (Canadian Public Health Association, 2005:33).

Building upon *Leading Together*, the Federal Initiative to Address HIV/AIDS in Canada (Government of Canada, 2004) is a government collaborative effort, which brings together various Canadian government agencies to work together to reduce the burgeoning HIV/AIDS epidemic in Canada. To this end federal resources are poured into this effort. The main goals of the Federal Initiative include the following:

- Prevent the acquisition and transmission of new infections;
- Slow the progression of the disease and improve quality of life;
- Reduce the social and economic impact of HIV/AIDS; and
- Contribute to the global effort to reduce the spread of HIV and mitigate the impact of the disease.

Leading Together (Canadian Public Health Association, 2005), supported by the Federal Initiative, highlights the specific challenges faced by Aboriginal people. It also notes that the

¹ The term two-spirit is an Aboriginal-specific term that refers to gay, lesbian, bisexual or transgendered Aboriginal people.

lack of ethnicity data in the provinces of Quebec and Ontario limits the accuracy of estimations of the impact of HIV/AIDS among Aboriginal people in Canada.

Encouraging an Aboriginal-led approach, as well as an Aboriginal holistic view of health are specific directives, as is a focus on Aboriginal women and two-spirit men. Decreasing substance use and depression, as well as increasing the number of Aboriginal health-care providers are also included (Canadian Public Health Association, 2005). What is not included in the document however, is a realistic perception of the magnitude of the specific risk factors within the Aboriginal population, or a clear vision of a way forward.

The challenges that Aboriginal people face are similar to those which African South Africans have faced and continue to face – the same challenges which are blamed for the rampant spread of the epidemic in South Africa. Canada has the advantage of hindsight and the ability to analyze mistakes of the past and apply lessons learned to the way it responds to a previously ignored crisis in its own backyard. Canadian decision-makers must not only look internally at the specific risk factors that mediate the spread of HIV in Aboriginal communities, but they must also look abroad for time- and life-saving solutions.

The primary document leading the attack against HIV/AIDS in South Africa is SANAC's National Strategic Plan (NSP) 2007-2011 (SANAC, 2007). South Africa's NSP includes the following four Priority Areas: Prevention; Treatment, Care and Support; Research, Monitoring and Surveillance; Human Rights and Access to Justice. Contrasting these Priority Areas against the main goals of Canada's Federal Initiative, one can see that the focuses are very different. Although both strategies place focus on prevention, the SANAC document highlights the need for increased and ongoing research, monitoring and surveillance. This has not been made a priority in the Federal Initiative, despite the fact that HIV surveillance in Aboriginal communities was previously noted to be lacking. Increased research, monitoring and surveillance, specifically within Aboriginal communities, is critical to our ongoing understanding of the interaction between the unique risk factors that place

Aboriginal peoples at particular risk. Furthermore, ethnicity data in provinces such as Ontario and Quebec, which have large urban centres, is necessary to understand how the Aboriginal HIV epidemic is growing in contrast to the general Canadian epidemic. Although the Federal Initiative mentions reducing the social and economic impact of HIV/AIDS, the SANAC document remains more targeted in its specification of employing a human rights-based approach to do so. Lastly, the final goal of the Federal Initiative, which is to contribute to a global effort to combat HIV/AIDS spread, minimizes the need to focus on the growth of the epidemic in Canada's own backyard (SANAC, 2007; Government of Canada, 2004).

Although the SANAC document has a much more targeted approach to battle the socioeconomic precursors to HIV risk, it has come under some criticism for its inclusion of unattainable targets (Abdool Karim et al, 2009). Critics note that the health care system is ill-equipped to manage the targets that the Strategic Plan sets out and that strong leadership is necessary in order to enhance these structures so that the Strategic Plan will be effective (Abdool Karim et al, 2009). This highlights the importance of enacting broad structural changes in order to support more targeted HIV/AIDS interventions.

What Needs to be Done?

HIV prevention and intervention strategies which are generalized for the entire Canadian population risk ineffectiveness in populations suffering unique epidemic patterns because they do not take into account the specific vulnerabilities that lead to high risk for HIV. As discussed earlier in this thesis, these vulnerabilities involve socioeconomic challenges that occur at higher rates within the Aboriginal and ASA communities than among the general Canadian population and other groups in South Africa.

While it must be said that the entire Aboriginal population of Canada is not homogenous – with Metis, Inuit and First Nations having different cultures and experiences, as well as the differential experiences of Aboriginal people living on- versus off-reserve – as a group,

individuals within this demographic face similar historical, social and economic challenges compared to the general Canadian population.

The growing epidemic among Aboriginal people must be acknowledged at community, regional and national levels. Beyond acknowledgement, greater exploration of trends and risk factors is imperative. Only then can high-risk-group-specific prevention and intervention strategies be employed.

In order for an appropriate response to be enacted, further ethnicity data must be collected in provinces such as Ontario and Quebec, which currently do not include ethnicity in their HIV surveillance reporting, but rather, categorize by risk-group. This calls into question the accuracy of national HIV projections for minority communities, thereby limiting an effective response. Collection of information by ethnic categories is necessary to create a response that is more targeted to specific high-risk communities, that takes into account specific socioeconomic vulnerabilities, as well as unique cultural needs, and that uses available resources more effectively.

Prevention and treatment programs need to focus on Aboriginal women and youths, who show increased vulnerability to HIV. A targeted response that focuses on community-level risk factors such as the Residential Schools legacy, poverty, gender inequality and substance use may be more effective than more generalized prevention campaigns, since it is these socioeconomic challenges that have opened a pathway to a growing HIV epidemic. This pathway, initiated and exacerbated by socioeconomic factors, has been seen in ASA communities as well. Therefore, we must start at the root of this shared pathway in order to maximize and sustain prevention of HIV in high-risk communities.

Increased access to culturally-appropriate medical services and treatment is also an important next step. Doctors, nurses and other health workers in rural Aboriginal communities need to be provided with thorough training on HIV/AIDS, as well as how it

specifically and differentially impacts Aboriginal communities. Likewise, increased support is required for Aboriginal people who live in large urban centres and who wish to access HIV/AIDS-related services. Urban AIDS service organizations, as well as specialist HIV/AIDS health personnel must be trained in providing services and support that recognize the unique needs of Aboriginal people.

Distrust of mainstream health services has already been highlighted as a concern in regards to Aboriginal health care in Canada. As previously mentioned, the dissemination of knowledge surrounding HIV/AIDS prevention and treatment is often confounded by a lack of incorporation of culturally-appropriate communication. In future, greater incorporation of traditional healing in HIV/AIDS prevention and treatment strategies, at local and national levels, could help yield more efficacious and cost-effective support. Such culturally-appropriate knowledge dissemination strategies have been acknowledged in recent years, with organizations such as the Canadian AIDS Treatment Information Exchange working to create partnerships with Aboriginal organizations in order to incorporate Aboriginal traditions with HIV/AIDS information sharing (Silversides, 2006). These traditions include “healing circles, talking sticks and the Medicine Wheel, which sums up the cycles of life” (Silversides, 2006:17). For example, “an HIV/AIDS Medicine Wheel adapts the traditional wheel to the physical and emotional stages of HIV” (2006:17).

As we move forward in our future approach to combating HIV/AIDS in Canada in general, and specifically within Aboriginal communities, an important shift must occur with who is managing future decision making and actions. For example, in Canada, Aboriginal populations have advocated for self-governance of health information (Smylie and Anderson, 2006). By this they mean that Aboriginal people have sought to control how health data is collected, how it is used and who keeps it. Furthermore, as Jackson (2008) discusses, contemporary public health has not been congruent with Aboriginal health philosophies and using Aboriginal tools of evidence is a necessary part of Aboriginal people reclaiming self-

governance over their health. Aboriginal people are diverse and so there may not be one approach or one set of tools. Jackson (2008) notes that “greater recognition of self-determination” by policy-makers is important as we move forward. Building on these efforts, in the past couple of years, the ushering of OCAP principles into national health research initiatives has served to protect the rights of Aboriginal people (First Nations Centre, 2007).

Conclusions

This thesis has compared the various biological and sociological HIV risk factors in African South African and Canadian Aboriginal communities. Shared histories of colonization have led to marginalization, discrimination and socioeconomic challenges in both populations. Inequalities in education, employment, income, housing, and the health care system remain the lot of the majority in South Africa and the Aboriginal minority in Canada. Therefore, comprehensive structural changes are necessary to protect vulnerable communities, to close the inequality gaps and to complement other forms of action directed specifically at preventing HIV and treating those affected by AIDS.

The thesis has produced strong evidence that there are similar socioeconomic conditions that underlie the epidemic risks, despite different population sizes, prevalence rates and histories. South Africa and Canada present very different epidemiological situations, but both countries have populations that live in great poverty. Despite the obvious differences between these populations, this comparative analysis has revealed a socioeconomically-influenced pathway of the epidemic that appears in both populations.

Canada's HIV prevalence is low and yet, the HIV rate is disproportionately higher among minority Aboriginal communities and incidence rates are on the rise, particularly among women and youth. South Africa's HIV rate is high, particularly among the ASDA population, which makes up the majority. Similar vulnerabilities within two very different populations are not due to race, but rather due to the socioeconomic challenges which both populations face.

Canada and South Africa have histories of colonization which have led to sharp inequalities in both societies. Aboriginal people in Canada and ASAs have been marginalized in a way that has left both populations living in higher levels of poverty than other people. This inequality has led to poorer housing conditions, lower employment rates and

disproportionately lower levels of educational attainment. Women and youth are particularly at risk of HIV in both populations.

Differential sexual cultures and sexual networking have been proposed as possible reasons for increased sexual exposure to HIV in vulnerable communities. However, much of sexual behavior research among ASAs and Aboriginal communities has noted associations between high-risk sexual behavior and socioeconomic conditions. Inequality and poverty that have resulted from histories of colonization have created situations where high risk sexual behaviours are more likely to occur. Although transactional and/or survivalist sex is one dimension of such socioeconomically-related sexual cultures, other behavioural aspects such as condom use, multiple concurrent sexual partnerships and poor self-esteem may also be related to socioeconomic factors.

Related to the discussion of high risk sexual behaviours are sexually transmitted infections other than HIV. STIs render people more vulnerable to contracting HIV for physiological reasons. High rates of STIs within Aboriginal and ASA communities are therefore an indication of high rates of HIV. Higher rates of STIs are attributed to sexual risk behaviours that have been shown to be associated with socioeconomic factors such as loss of cultural buffers, poverty and migration. Immune system responses expose people with STIs to greater likelihood of contracting HIV and likewise, lowered immune systems among people living with HIV put them at risk of contracting other STIs. Co-infections, including tuberculosis and HCV, are also problematic within impoverished communities. Tuberculosis is already a very large problem in South Africa, particularly in a growing co-epidemic with HIV. However, Aboriginal people are also over-represented in national tuberculosis estimates. Poverty-related conditions, such as overcrowding and poorly ventilated housing, exacerbate this problem and the potential for growing co-epidemics. These poverty-related conditions have in part been attributed to the high growth of HIV/AIDS and tuberculosis

infection in South Africa. Similar conditions in Aboriginal communities may produce a similar outcome.

The provision of antiretrovirals in South Africa has been notably problematic, although it has been much better in recent years. Access and availability have been particularly problematic within impoverished and rural communities. Aboriginal people in Canada also face widespread poverty, which has led to lack of universal access to antiretroviral medication despite Canada's universal health care program. Inequalities that are present within both health care systems place Aboriginal people and ASAs at high risk of poor health outcomes. Lack of access to appropriate health care and to antiretroviral therapy can lead to poor disease management, increased spread of HIV due to lack of testing and finding out one's status, increased spread of HIV due to higher viral loads among untreated patients, and growing antiretroviral resistance with lack of proper treatment adherence.

Thus, the apparent similarities between disease pathways in the Aboriginal and ASA populations are not attributable to race/ethnicity but rather to a dynamic interplay of contextual and structural co-factors that relate to inequality and socioeconomic indicators. Prevention and intervention strategies must therefore target these shared pathways to the epidemic in order to halt the spread of HIV.

The HIV pandemic has exposed massive and overwhelming socioeconomic vulnerabilities and our faltering ability to manage them. Even if a cure for HIV was discovered tomorrow, the social conditions that have made ASAs, Aboriginal and vulnerable populations uniquely at-risk for HIV will still exist. The interactions of history, society, culture, are complex. These risk factors must be given serious attention to not only halt the spread of HIV today, but also in order to prevent future disease spread and other catastrophes. The world must learn from its mistakes.

Considerations for Future Research

Rather than shy away from the often dangerous pitfalls that are associated with cross-cultural comparisons, it is important to place a renewed focus in charting new and more effective ways of conducting such analyses. Future collaborative comparative studies could help to reveal similarities, including what works and what doesn't work in communities with similar backgrounds and/or socio-economic conditions. If these partnerships among researchers are developed, then future research could identify how such collaborations might take place effectively and also how one population's strategies may be employed and followed up within another context when it comes to ways to prevent and treat HIV/AIDS. We need to investigate the best means of information sharing in order to propagate optimal prevention and treatment strategies.

Although more and more research has focused specifically on HIV/AIDS within the Aboriginal community in Canada in recent years, the high incidence and prevalence rates necessitate an even greater research emphasis in this area. Future research needs to explore not only the historical factors that may shape and promote increased risk-behaviour in Aboriginal communities, but also specifically how such risk-behaviours can be prevented through healing and support.

Further studies which broaden the examination of shared disease pathways must also take place. Comparisons between other populations are important to test the hypothesis that there is a common pathway to the HIV epidemic that is shared by vulnerable populations the world over. This shared pathway to HIV should also be researched in comparison to previous disease pathways in order to determine important similarities and differences that go beyond the unique biological characteristics of the HI virus. Contemporary HIV research has focused on why HIV is different, but perhaps future research should be re-visiting how pathways to HIV may be similar to pathways to other epidemics, as this may yield important insights into how to prevent new diseases that may arise in the future.

An important next step is to explore intervention research that shifts the focus from why we should be targeting the HIV sub-epidemic in Aboriginal communities, to how. Research that explores innovative intervention strategies such as microfinance programs to target poverty or incorporation of traditional healing in prevention campaigns may be vitally important to informing effective ways to combat HIV at the community level.

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