

Saskatchewan's HIV Strategy 2010-2014

Final Evaluation Report

Acknowledgements

This report was finalized with the valuable contributions of multiple individuals and organizations. Key contributors to this report were the Saskatchewan HIV Provincial Leadership Team (PLT) and HIV Strategy Coordinators; Lisa Lockie (Ministry of Health); Amanda Galambos (Program Coordinator, SK HIV PLT); Caroline Beck (University of Regina); Kesiena Akbiogbe (University of Saskatchewan); the Saskatchewan Prevention Institute; and the many community-based organizations involved in providing programs and services to Saskatchewan residents.

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List of Abbreviations and Acronyms

AIDS	Acquired Immunodeficiency Syndrome
ARV	Anti-retroviral Medications
CAAN	Canadian Aboriginal AIDS Network
CBO	Community-Based Organization
CD4	Helper immune cells
CIHR	Canadian Institutes for Health Research
CM	Case Management
CMA	Canadian Medical Association
CTN	Canadian HIV Trials Network
DPEBB	Drug Plan & Extended Benefits Branch
EMR	Electronic Medical Record
FNIHB	First Nations Inuit Health Branch
FNJ	First Nations' Jurisdiction
FTE	Full-time equivalent
HESQ	HIV Enhanced Surveillance Questionnaire
HIV	Human Immunodeficiency Virus
ICU	Intensive Care Unit
ID	Infectious Disease
IDC	Infectious Disease Clinic
LGBT2Q	Lesbian, Gay, Bi-Sexual, Transgender, 2-Spirited, Queer
MICU	Medical Intensive Care Unit
NIHB	Non-Insured Health Benefits
NITHA	Northern Inter-Tribal Health Authority
PAPHR	Prince Albert Parkland Health Region
PHAC	Public Health Agency of Canada
PLT	Provincial Leadership Team
POC	Point of Care Testing
PWID	People Who Inject Drugs
RHA	Regional Health Authority
RQHR	Regina Qu'Appelle Health Region
SES	Socioeconomic Status
SDCL	Saskatchewan Disease Control Laboratory
SICU	Surgical Intensive Care Unit
SIDCN	Saskatoon Infectious Disease Control Network
SkHR	Saskatoon Health Region
STIs	Sexually Transmitted Infections
SUN	Saskatchewan Union of Nurses
VL	Viral Load

Executive Summary

In 2009, the incidence of new HIV cases in Saskatchewan was identified as being more than twice that of the prevailing rate in the Canadian population (PHAC 2009) and had been steadily increasing since 2005, at which time it was the same as the Canadian rate. As a result, a provincial HIV Strategy was created based on consultations between the Saskatchewan Ministry of Health and provincial stakeholders. The strategy was a multifaceted initiative that sought to improve health and well-being in relation to HIV/AIDS in Saskatchewan while working towards the following goals: to reduce the number of new HIV infections in the province, to improve quality of life for HIV-infected individuals, and to reduce risk factors for the acquisition of HIV infection.

The Ministry of Health sought the expertise of key interdisciplinary health professionals throughout the province to implement the goals of the HIV Strategy, resulting in the formation of the Saskatchewan HIV Provincial Leadership Team (HIV PLT). The HIV PLT worked collaboratively with representatives from the Ministry of Health to spearhead efforts to research, plan, implement and evaluate a cross-provincial strategy. Through its activities, the strategy aimed to engage and improve clinical care and support for people living with HIV, provide targeted prevention and awareness programming, educate Saskatchewan residents about HIV/AIDS, build advocacy and awareness around HIV/AIDS, and collaborate more effectively with agencies and organizations working to reduce the impact of HIV in the province.

Actions and Initiatives

The Saskatchewan HIV Strategy spanned a period of four years (2010-2014) and was built upon four strategic pillars. These collectively comprised a holistic health model which encompassed not only the biomedical aspects of health and the existing health care system, but also integrated the broader determinants of health and wellbeing. These pillars were (1) Community Engagement and Education, (2) Prevention and Harm Reduction, (3) Clinical Management, and (4) Surveillance and Research. Major actions and initiatives within these pillars are listed in Table 1. A key consideration prioritized across all pillars was the involvement and engagement of First Nations communities and Elders, making services culturally appropriate.

Table 1: Summary of HIV Strategic Pillars and Main Actions and Initiatives

Pillar	Actions and Initiatives
(1) Community Engagement and Education	<ul style="list-style-type: none">❖ Community-based engagement sessions and information events;❖ School-based presentations and curriculum development;❖ Multi-dimensional social media and social marketing strategies;❖ Strengthening of community programming;❖ Implementation of peer-to-peer programming.
(2) Prevention and Harm Reduction	<ul style="list-style-type: none">❖ Expansion of harm reduction and prevention programming across the province;❖ Increasing HIV testing to prevent new infections;❖ Creation of supportive living programs to prevent high-risk behaviour.
(3) Clinical Management	<ul style="list-style-type: none">❖ Ongoing training and mentorship for healthcare providers based on needs assessment;❖ Training for healthcare providers in harm reduction and prevention;❖ Development and implementation of multidisciplinary team outreach clinics in rural and remote locations and non-traditional settings;❖ Development of programs that engage, retain, and improve access to health care for patients in order to improve clinical outcomes.
(4) Surveillance and Research	<ul style="list-style-type: none">❖ HIV surveillance;❖ Increased case detection;❖ Investigation of underlying social determinants driving disease incidence and risk behaviours;❖ Monitoring of phylogeny and drug resistance.

Outcomes and Impact

The observable outcomes and impacts to date of the HIV Strategy are limited, due to the short time elapsed since the implementation of the strategy. The strategy was implemented in 2010; however, the first year focused on planning and implementing the interventions. It is expected the complete effect of the HIV strategy may not be realized for years to come. However, there are seven key successes that are highlighted at this time.

(1) An Increase in HIV Testing

Providing opportunities for individuals to know their HIV status was a key priority area within the HIV Strategy. This was deemed imperative in order to enrol persons in care who may otherwise be unaware of their status and to also prevent transmission of new infections. Targets within the strategy were to not only increase the number of laboratory tests conducted for HIV but to also provide new and innovative opportunities for testing, i.e., in a greater range of settings and using methods that provide results in a more timely fashion.

Increases in testing were achieved in three main ways. First, community testing, education and awareness events were held. Second, a new Saskatchewan Routine HIV Testing Policy was implemented, explicitly stating that HIV testing should be offered to all individuals aged 13-64 and any persons above or below this age range for whom risk behaviours were

evident or suspected. Third, the widespread implementation of HIV Point-of-Care (POC) testing sites allowed healthcare providers to screen for HIV within a much shorter time frame. This is considered particularly important in settings such as Labour and Delivery units, in occupational settings where exposures to blood and bodily fluids occur, or in situations where it was suspected that individuals may not return to receive their test results.

A consistent increase in HIV testing patterns was observed during the Strategy.

(2) Increased Educational and Engagement Opportunities

Provincial and regional social marketing campaigns were utilized to promote HIV testing and reduce stigma and discrimination associated with HIV. Social media and social marketing served as a mechanism to provide information and resources to Saskatchewan residents.

The HIV PLT worked to disseminate information and educational resources in communities across Saskatchewan. In total, more than 1,000 community engagement, awareness, and information sessions were held for the general public. In addition to these, more than 655 presentations were made in schools to students and staff and more than 150 HIV-related training activities were offered. Together, these were shown to not only increase knowledge about HIV but also elucidate some of the complexities and challenges associated with the disease, including reducing stigma around HIV and improving quality of life. Imperative to these efforts was the involvement and collaboration with organizations, communities, and individuals within First Nations communities.

(3) Improved Focus on Patient Engagement and Patient-Centred Initiatives

Supporting and engaging people living with HIV was recognized as being key to shaping the future of HIV in Saskatchewan. It was considered essential to better understand the challenges faced by persons at risk of or living with HIV infection, to identify ways in which to lessen those challenges, and to find new ways to improve how persons interact with the health care system and other social programs. A number of key initiatives targeted these goals.

An HIV Enhanced Surveillance Questionnaire was created and implemented to collect data on new infections in Saskatchewan beyond what is currently captured by public health notifiable disease surveillance, i.e., the underlying causes of behaviours and access to services. The questionnaire captured information from respondents about socioeconomic information (e.g., level of education, type of housing, income level, type of employment), risk behaviours (e.g., sexual behaviours, drug use behaviours), and life challenges (e.g., barriers to accessing health care). Data from the Enhanced Surveillance Questionnaire and other sources helped to inform targeted interventions within the HIV Strategy. This included the creation of housing initiatives, provision of transportation for medical and non-medical appointments, and increased funding for community-based support

programs. Interventions in these areas were tailored to address the gaps in the existing continuum of services based on local need.

In addition, the development of new programs such as peer-to-peer programming, case management, enhanced community-based organization programming and enhanced adherence were intended to provide greater support to persons diagnosed with HIV. The goals of these programs were to reach out to newly diagnosed individuals or individuals not engaged in care to better support these persons to improve their health and wellbeing. Evaluations of some of these programs suggest that positive clinical outcomes have been observed, including improved adherence to medications, reduced viral loads, improved immune cell counts, and improved relationships between caregivers and patients. Most importantly, these programs were shown to have high patient acceptability and were viewed as mutually beneficial to patients and caregivers.

(4) Improved Access to Multidisciplinary Care in Rural Areas

A major challenge of addressing HIV across Saskatchewan is the concentration of health care services in the urban areas, especially in the area of Infectious Disease management. This was recognized to leave a significant gap for rural areas with especially high HIV prevalence. For this reason, through efforts of the Saskatchewan HIV Provincial Leadership Team, a process was formalized for the delivery of multidisciplinary team clinics in rural and remote locations as well as on First Nations communities. This resulted in the delivery of 42 multidisciplinary clinics between July 2011 and March 2014 in six locations.

(5) Decreased Healthcare Utilization in Regina Qu'Appelle Health Region

The numerous multi-sectoral actions and initiatives included within the provincial HIV strategy have been shown to coincide with remarkable impacts on the healthcare system, as evidenced by analyses conducted in the Regina Qu'Appelle Health Region based on Electronic Medical Record (EMR) data. For example, as seen in the clinical management outcomes (Figure 17, page 47), the total number of admissions for HIV-positive individuals was significantly lower in 2013 than in the preceding years – with admissions in 2013 being slightly more than half the number of admissions in 2012. There were also fewer admissions related to injection drug use, HIV complications, or any other reasons.

In addition to an overall reduction in the number of hospital admissions, total number of hospital days was significantly reduced among people living with HIV. As seen in Figure 18, page 48 in 2013, a total of only 634 days were spent in hospital by those previously diagnosed with HIV while 1,294 days were spent in the previous year by the same population subset. Reductions are notable among all reasons for admission.

While these reductions in health care utilization have only been formally evaluated in the Regina Qu'Appelle Health Region, it is reasonable to expect that these results could extend to other RHAs employing similar programming. In consideration of this finding, the impact

on health care spending is significant. For example, in RQHR alone, a reduction of 435 days in hospital from 2011 to 2013 at an estimated average cost per day in hospital of \$1,207¹, correlates to over \$500,000 in savings.

(6) No Vertical (Mother-to-Child) Transmission of HIV

A goal identified as part of the implementation of the Saskatchewan HIV Strategy is zero transmission from mother-to-child, i.e., to prevent all perinatal transmissions of HIV in the province. From 2003 to 2010, there were nine perinatal cases of HIV reported in the province. The last case of mother-to-child transmission of HIV in the province occurred in 2010. Since improvements in HIV testing, treatment and support were implemented, there has been no further perinatal transmission. The infant formula program has also been integral in preventing transmission of HIV that would occur through breastfeeding.

(7) Increased Access to HIV Medications

Significant work was done to engage patients in care and, especially, to enrol patients in pharmaceutical regimens that improved their health and reduced their likelihood of transmission. Part of this work occurred through the Drug Plan and Extended Benefits Branch (DPEBB) of the Ministry of Health as well as the Non-Insured Health Benefits (NIHB) program within Health Canada's FNIHB. Important changes included moving two first-line medications for HIV under the NIHB program to open benefit in Saskatchewan, meaning there is no formal approval process for patients to be eligible to receive this medication.

These and other changes were associated with important outcomes for patients. In a 2014 report on medication utilization for HIV and hepatitis C, DPEBB reported an increased number of patients utilizing HIV medications (see Figure in Clinical Management – Access to Medications (Figure 14, page 44). According to DPEBB, the number of First Nations patients who receive HIV prescriptions is growing at a faster rate than non-First Nations patients; the number of First Nations patients in 2008 was 150 compared to 566 in 2013.

A higher rate of dispensing was also found in 2013 as compared to 2008. The annual number of prescriptions to treat HIV or hepatitis C in First Nations patients grew from 13.1 prescriptions per patient in 2008 to 91.4 prescriptions per patient in 2013. This rise in number of prescriptions is mainly due to more frequent dispensing of antiretrovirals, an intervention aimed at improving compliance with treatment. It is reasonable to expect this and other interventions contributed, in part, to the improvements in clinical indicators as depicted in the Clinical Management section of this report.

¹ Estimate by Acute & Emergency Services Branch based on Saskatchewan hospital data within the Canadian Institute for Health Information's Discharge Abstract Database.

Conclusions and Future Considerations

While definitive outcomes and impacts of the Strategy are, at this time, still difficult to measure, broader achievements, including the unique leadership model and approach that were made within the Strategy, are perhaps most notable. Collectively, the approach of the Strategy broke ground on a number of important areas.

- 1) Community-level programming was strengthened and further developed to allow for grassroots initiatives to gain traction and build advocacy at the community level;
- 2) Gaps between the health care system and other sectors addressing broader social determinants were identified and prioritized in order to build bridges between siloed service delivery areas;
- 3) Capacity was built on multiple levels by engaging and working collaboratively with diverse stakeholders. These included healthcare providers, patients, communities, at-risk populations, and other important groups. This approach guided the HIV Strategy in disseminating information, building skills, and encouraging advocacy across the province while utilizing input of families and communities directly affected by HIV.
- 4) The patient voice was actively involved as part of the HIV PLT, through the peer mentorship programs, and through patient involvement in training events, information sessions, and awareness campaigns;
- 5) Relationships were strengthened between community-based organizations, First Nations Inuit Health Branch (FNIHB), Regional Health Authorities (RHAs), First Nations Jurisdictions (FNJs), Community-based Organizations (CBOs), between patients and providers, and among multidisciplinary teams.

The HIV Strategy, through its diverse and extensive work, encompassed a comprehensive set of interventions and provided an example of how addressing a health issue in a multidimensional way can affect various levels of the health care system, from patient to provider. While important successes are identifiable to date, further work is vital to the Strategy's success over the long term. Despite its many successes, it must be acknowledged that there are many areas of the province that require continued attention to combat HIV due to persistent high HIV rates and areas of the province where the HIV rate may be underestimated. Finding people living with HIV but who are unaware of their HIV status is a critical step in engaging people with the health care system. As more communities are engaged and more individuals are reached, it is expected that HIV prevalence will once again increase. However, in alignment with the HIV Strategy's goals, diagnosis is the first key step to engaging patients in care and reducing further infections.

Moving Forward with the HIV Strategy

While many of the initiatives within the Strategy were not formally evaluated, the interventions that were evaluated suggest significant impacts were made in terms of expanding prevention programs, disseminating information and resources, building capacity along the continuum of care, empowering patients, and supporting the ongoing HIV work done across the province. Moving forward, it is critical that support for HIV prevention and control programs be sustained to ensure continuity of the valuable progress made to date and to improve the health of Saskatchewan residents. It is also integral that the Ministry of Health and stakeholders continue to monitor the trends of HIV risk factors, client demographics and co-infection with hepatitis C and tuberculosis and adjust programming and policies to reflect the changing epidemiology.

A number of recommendations are put forth to build upon the vital work of the Strategy.

Community Engagement and Education

- 1) Continue education and awareness sessions across the province with a special focus on preventing transmission of HIV and reducing stigma. Cultural insensitivity and racism were noted in the community-based organization consultations as key factors impacting health service delivery and quality of life for people.
- 2) Improve and expand social media presence to reach a broader audience in the province.

Prevention and Harm Reduction

- 3) Continue to expand and promote testing for HIV with the knowledge that increased testing will lead to increased case finding. Targeted, risk-based approaches such as HIV Point of Care Testing in high-risk situations (i.e. Labour & Delivery) should be expanded, as well continuing to promote routine HIV testing with health care providers. Emphasis should be placed on addressing the barriers noted in the body of this report and recommendations of the HIV POC evaluation in order to continue to expand access to testing in the province.
- 4) Consider expansion of peer-to-peer, case management, and enhanced adherence programs into other cities and regions that currently do not have comparable programs.
- 5) Based on high success in Sunrise Health Region, conduct a needs assessment to identify where additional prevention and risk reduction services are required in the province including on-reserve.

- 6) Expand programs which provide transportation, housing, and other socioeconomic supports to individuals at risk of acquiring HIV and those living with HIV.

Clinical Management

- 7) Provide ongoing HIV training opportunities for healthcare providers and promote best-practices provincially.
- 8) Assess the need for additional multi-disciplinary team clinics in locations where services not currently available.
- 9) Engage and build capacity of Primary Health Care teams across the province through mentorship opportunities with infectious disease specialists, registered nurses and pharmacists who are knowledgeable in providing HIV care.

Surveillance and Research

- 10) Expand EMR throughout the province to monitor clinical outcomes of patients and implement the HIV cascade of care as a means to track patient outcomes. Achieving this recommendation will require work to define and establish a provincial dataset.
- 11) A new provincial target should also be established for HIV testing measures in the province, based on unique individuals being tested. The Ministry of Health will work with the health regions to establish these measures in 2015.
- 12) Invest in a data information system which allows for ongoing monitoring and evaluation of HIV prevention and control strategies in the province.

General

- 13) Integrate HIV prevention and control with that of TB, hepatitis C and STIs, as coinfection with two or more of these infections is not uncommon. Often, the risk factors associated with these conditions overlap and impact the same populations and communities.
- 14) Develop synergies with other strategies, i.e. Connecting to Care, Mental Health & Addictions Action Plan, etc.
- 15) Continue to partner with First Nations' organizations and Health Canada to allow ongoing synergies between provincial, federal and community-based programs.

Collectively, these recommendations leverage the programs already in place with hopes to reach a greater proportion of the Saskatchewan population. However, HIV is a disease that spreads most prevalently among populations marginalized and living in lower

socioeconomic conditions. Moreover, HIV is only one example of the vast health inequities prevalent among these populations. It is therefore imperative to continue to invest in areas that transcend and drive the diseases that affect at-risk populations to improve population health overall, i.e., the socioeconomic conditions that underscore health and disease. Therefore, to make significant progress into the future, continued intergovernmental and intersectoral work will be crucial. The HIV Strategy demonstrated the possibilities of partnerships through valuable work with CBOs, peers, FNIHB, NITHA, and other major groups, leveraging the efforts of all parties to create better health opportunities and outcomes for the Saskatchewan population. Without this continued effort, the impact of the HIV Strategy in the future will be compromised.

The HIV Strategy has allowed for acquisition of some baseline data to measure our progress moving forward. Continuing to set targets will be imperative in order to continue the momentum created by the targeted strategy for HIV and other communicable diseases. In December 2013, the Joint United Nations Programme on HIV and AIDS (UNAIDS) established new targets for HIV treatment scale-up. In response, stakeholder consultations have been held in all regions of the world and the following target was established:

- By 2020,
 - 90% of all people living with HIV will know their HIV status.
 - 90% of all people with diagnosed HIV infection will receive sustained antiretroviral therapy.
 - 90% of all people receiving antiretroviral therapy will have viral suppression.

The overall impact of the HIV Strategy is yet to be realized as the ongoing efforts of the increased, dedicated resources continue to impact Saskatchewan. Over the longer term, it will become clear as to how the Strategy has affected the overall burden of HIV in the province and how it has impacted the lives of those affected by the disease.

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Introduction

Human Immunodeficiency Virus (HIV) is a communicable disease transmitted through contact with infected bodily fluids, including blood, semen, pre-seminal fluid, rectal fluids, vaginal fluids, and breast milk.

HIV is a lifelong condition with no true “cure”; however, advancements in modern medicine now allow HIV-positive individuals to lead long healthy lives, with life expectancies nearly that of non-HIV infected individuals (Samji et al 2013). This is primarily achieved through anti-retroviral (ARV) pharmaceutical regimens which reduce viral load and boost the immune system in order to reduce the risk of transmitting the virus and to prevent infection with opportunistic diseases.

While biomedical interventions have been important in the clinical management of HIV-positive patients, prevention efforts over the past decades, such as education, advocacy, and health promotion, have had the greatest impact on reduction of disease burden globally by reducing incidence, mortality, and rates of transmission.

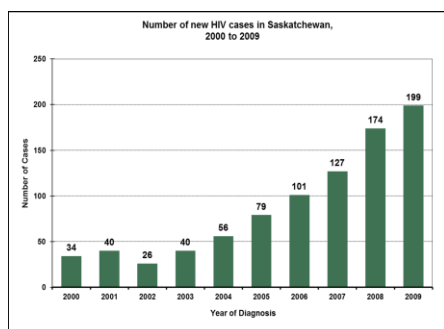
Despite low HIV rates in Canada compared to other developing countries, many Canadians are still affected by HIV. The disease; however, disproportionately affects those of lower socioeconomic status (SES), or persons living with vulnerabilities such as poverty, unstable housing, lack of education or job training, issues of mental health, addictions, abuse or violence. Persons of lower SES are also often more likely to be engaged in higher risk activities such as intravenous drug use (IDU) and high-risk sexual activity. Compounding the increased risk of infection among this sub-population is reduced access to healthcare and prevention/support services, a gap that can further drive disease incidence and progression if HIV-positive individuals unknowingly transmit the disease to others.

While HIV has significant impact on persons who become infected, in terms of managing the condition, adhering to medication, combating societal stigma, and countless other challenges, HIV also has a significant impact on the publicly-funded health care system. Previous estimates by the Saskatchewan Ministry of Health approximated a \$40M annual direct cost of HIV in the province, based on data available in the provincial Drug Plan and from hospitalization data (Ministry of Health 2010). Indirect costs were estimated to be approximately 2.4 times the direct costs of HIV. Elsewhere, researchers have estimated lifelong costs of over \$1M in direct and indirect costs per individual infected with HIV (Kingston-Riechers 2011). Prevention is therefore considered key to reducing the personal and societal burden of disease in the population.

Background

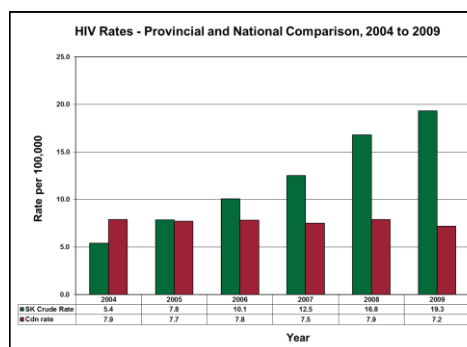
In Saskatchewan, it was identified that the number of new cases of HIV was steadily increasing each year since 2004 and that the rates were quickly exceeding the rate for Canada. This was especially pronounced in 2009, when Saskatchewan's HIV rate of 19.3 cases per 100,000 more than doubled the national rate of 7.2 per 100,000 (PHAC 2009).

Figure 1: Number of New HIV Cases in Saskatchewan, 2000 to 2009



Source: Population Health Branch, Ministry of Health

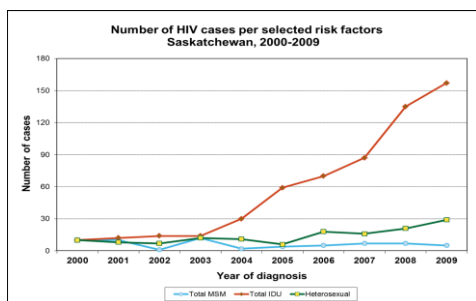
Figure 2: HIV Rates - Provincial and National Comparison, 2004 to 2009



Source: Statistics Canada/ Public Health Agency of Canada. HIV and AIDS in Canada. Surveillance Report to December 31, 2009. Surveillance and Risk Assessment Division, Centre for Communicable Diseases and Infection Control, Public Health Agency of Canada, 2010.

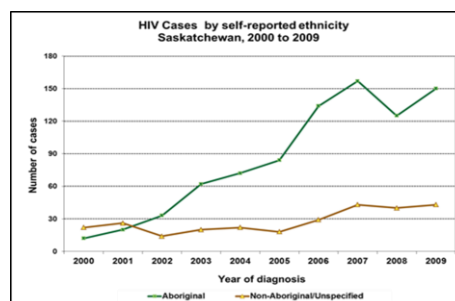
HIV incidence in Saskatchewan was uniquely identified to be driven primarily by injection drug use, with over 77% of new cases in 2009 predominantly associated with that risk factor. Also, HIV was disproportionately represented among First Nations individuals in Saskatchewan, i.e., to a much greater extent than in the rest of Canada. According to PHAC, approximately 12.5% of new HIV cases in Canada in 2008 were among persons self-reporting as being of Aboriginal ethnic background; in Saskatchewan, 79% of new cases in 2009 were among persons self-reporting as Aboriginal.

Figure 3: Number of HIV Cases per Selected Risk Factors, Saskatchewan, 2000 to 2009



Source: Population Health Branch, Ministry of Health

Figure 4: HIV Cases by Self-reported Ethnicity in Saskatchewan, 2000 to 2009



Source: Population Health Branch, Ministry of Health

The Saskatchewan HIV Strategy was an initiative developed in response to the unique profile of HIV within the province's geographical boundaries. The Strategy was created based on consultations between the Saskatchewan Ministry of Health and provincial stakeholders. The Strategy was a multifaceted initiative that sought to improve health and well-being in relation to HIV/AIDS in Saskatchewan while working towards the following goals: to reduce the number of new HIV infections in the province, to improve quality of life for HIV-infected individuals, and to reduce risk factors for the acquisition of HIV infection.

The strategy spanned a period of four years (2010-2014) and was built upon four strategic pillars. These collectively comprised a holistic health model which encompassed not only the biomedical aspects of health and the existing health care system, but also integrated the broader determinants of health and wellbeing. These pillars were (1) Community Engagement and Education, (2) Prevention and Harm Reduction, (3) Clinical Management, and (4) Surveillance and Research. Actions and initiatives under each pillar are outlined in Table 2 below and will be described in detail in the body of this report:

Table 2: Summary of HIV Strategic Pillars and Main Actions and Initiatives

Pillar	Actions and Initiatives
(1) Community Engagement and Education	<ul style="list-style-type: none"> ❖ Community-based engagement sessions and information events; ❖ School-based presentations and curriculum development; ❖ Multi-dimensional social media and social marketing strategies; ❖ Strengthening of community programming; ❖ Implementation of peer-to-peer programming.
(2) Prevention and Harm Reduction	<ul style="list-style-type: none"> ❖ Expansion of harm reduction and prevention programming across the province; ❖ Increasing HIV testing to prevent new infections; ❖ Creation of supportive living programs to prevent high-risk behaviour.
(3) Clinical Management	<ul style="list-style-type: none"> ❖ Ongoing training and mentorship for healthcare providers based on needs assessment; ❖ Training for healthcare providers in harm reduction and prevention ❖ Development and implementation of multidisciplinary team outreach clinics in rural and remote locations and non-traditional settings; ❖ Development of programs that engage, retain, and improve access to health care for patients in order to improve clinical outcomes.
(4) Surveillance and Research	<ul style="list-style-type: none"> ❖ HIV surveillance; ❖ Increased case detection; ❖ Investigation of underlying social determinants driving disease incidence and risk behaviours; ❖ Monitoring of phylogeny and drug resistance.

Saskatchewan HIV Provincial Leadership Team (HIV PLT)

The HIV Strategy prioritized the issue of HIV and sought to find means and expertise with which to target programming and services to improve health outcomes in this area of health.

An integral part of the Saskatchewan HIV Strategy was the development of a Provincial Leadership Team (HIV PLT), consisting of a multidisciplinary group of health professionals, administrators, coordinators, and individuals with pertinent HIV knowledge. These individuals spearheaded the development and implementation of the HIV Strategy.

Established in 2011, the HIV PLT consisted of two Clinical Directors (0.4 FTE), a Medical Health Officer (0.6 FTE), a Pharmacist (0.5 FTE), a Program Coordinator (1.0 FTE), and HIV Strategy Coordinators in six of the RHAs (Regina Qu'Appelle, Saskatoon, Prince Albert Parkland, Prairie North, Sunrise, and the North – representing Athabasca, Keewatin Yatthé, Mamawetan Churchill River). In 2012, an additional Clinical Director (0.2 FTE) and a Nursing Consultant (0.8 FTE) joined the HIV PLT and in 2013, three Peer Advisors joined the team from Northern, Central, and Southern Saskatchewan.

The HIV PLT met regularly via conference call to discuss implementation of initiatives. Integral to the coordination of programming was the participation of representatives from Northern Inter-Tribal Health Authority (NITHA) and First Nations Inuit Health Branch (FNIHB). Partnerships such as these helped to ensure that service delivery, programming, and monitoring reflected the unique geography and populations represented in the province of Saskatchewan. Collectively, the larger HIV stakeholder group worked to identify and address barriers and gaps in programming and services, and helped to bridge jurisdictional gaps that affected access.

In addition to the HIV PLT, since 2010 the Ministry of Health funded RHAs for an additional 30.5 FTEs of frontline staff. New personnel included registered nurses (RNs), pharmacists, social workers (some who work as HIV case managers), outreach workers, a methadone case manager, a medical office assistant and community development coordinators. An additional primary care physician was also allocated to the Westside Community Clinic in Saskatoon.

Funding

Total funding at the end of 2013-14 for the Strategy was in excess of \$10M. Total Ministry funding to support HIV programs and services is over \$3.9M annually.

The Population Health Branch budget of \$2.54M includes the following RHA initiatives:

- Over 30 frontline staff (physicians, nurses, pharmacists, outreach/case managers, housing coordinators)
- Community-Based Organization (CBO) funding
- Needle & Syringe Program enhancements
- Client Transportation
- HIV peer-to-peer programs

Provincial initiatives funded through the Population Health Branch included:

- Expanding access to HIV testing, treatment and care
- Social marketing
- Training & education
- Infant formula program

The Ministry also provides \$416K through the Primary Health Services Branch (PHSB) to support enhanced physician and outreach services at the Westside Clinic in Saskatoon.

Through the SUN Partnership Agreement 10 Registered Nursing positions were added at a cost of approximately \$100K per position or \$1.0M annually.

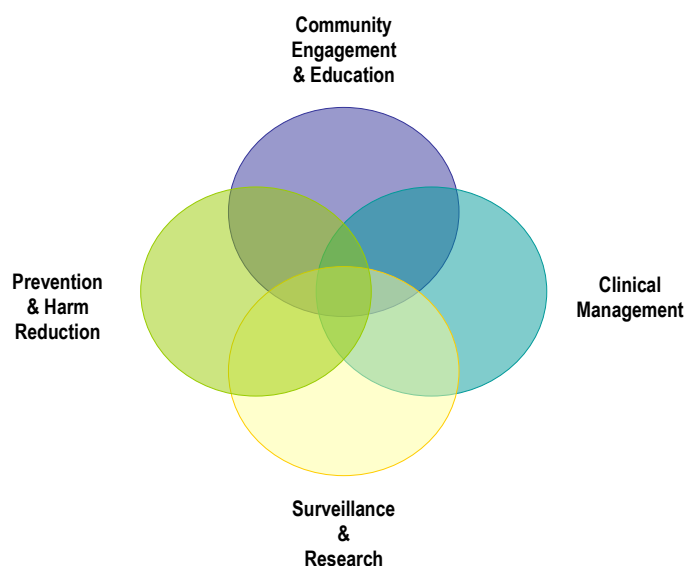
Objectives

The goals of the provincial HIV Strategy were to:

- ❖ Reduce the number of new HIV infections;
- ❖ Improve quality of life for HIV infected individuals; and
- ❖ Reduce risk factors for the acquisition of HIV infection.

In order to achieve these goals, a holistic, patient-centred approach to HIV was required. The HIV Strategy was aligned under four main pillars in order to ensure a comprehensive and integrated approach to addressing HIV in Saskatchewan. The four strategic pillars were:

- (1) Community Engagement and Education;
- (2) Prevention and Harm Reduction;
- (3) Clinical Management; and
- (4) Surveillance and Research.



The four pillars comprising the Saskatchewan HIV Strategy were selected for their role in reducing all aspects of HIV burden.

- To build capacity, advocacy, and ownership of the issue, community engagement and education are considered crucial, particularly in First Nations communities. This pillar also sought to better inform the public about HIV in Saskatchewan in order to reduce stigma of the condition and to create support and advocacy within communities.
- Prevention and harm reduction was included to increase access to HIV prevention and education and reduce the harmful consequences associated with drug use and other high-risk activities. Prevention activities include interventions at the primary (avoid the development of a disease), secondary (early detection of a disease) and tertiary (reduce the impact of an already established disease) levels.
- Clinical management was considered critical to engage persons in better care, allowing persons to become more involved in improving their condition, to build better relationships with their care providers, and to increase overall access to health care services.
- Finally, surveillance and research were important components to continue to monitor how the disease is progressing not only in Saskatchewan but also in the rest of Canada and to evaluate the Strategy.

The following sections provide a discussion of the strategic pillars and their components, listing the main activities and initiatives that were taken to address each of the proposed areas outlined in the HIV Strategy.

Technical Notes

A mid-term Implementation and Progress report provided an update on some of the initiatives in 2012. Based on preliminary data presented at that point, there were recommendations made for continued focus to the end of the strategy. Those recommendations included:

- 1) Continue to enable people to know their HIV status early by increasing access to testing.
- 2) Maximize HIV prevention efforts through continued social marketing and awareness campaigns and access to infant formula.
- 3) Increase access to treatment and care by engaging primary care providers, developing standardize guidelines in labour and delivery and clinical care, and addressing challenges to adherence to antiretrovirals.
- 4) Consider system redesign to address issues of access by formalizing deployment of rural and remote HIV clinics, multidisciplinary mentorship programs, integrated approaches to manage HIV/hepatitis C/addictions/STIs/TB, and interministerial work with Corrections, Education and Social Services.

- 5) Invest in strategic information to guide a more effective response, such as an EMR to measure the HIV cascade of care, evaluation of peer to peer and housing pilots and the overall Strategy.

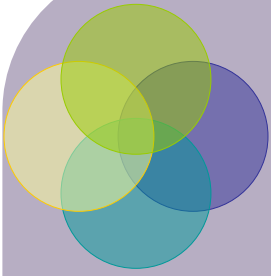
To access the full mid-term evaluation report, please go to <http://www.saskatchewan.ca/government/government-structure/ministries/health/other-reports/annual-report-archive#step-4>

The timeframe for this report encompasses the four years of the strategy (2010-14) and includes data prior to 2010 for the purposes of comparison.

This report is a compilation of multiple data sources based on the HIV Strategy Evaluation Framework. Data sources utilized for this report included the following:

- Manual data submission from various groups, including the HIV PLT, HIV Strategy Coordinators, and Prevention and Risk Reduction sites;
- Clinical data gathered by Regional Health Authorities and health services sites across the province;
- Epidemiological and surveillance data from the Ministry of Health and the Public Health Agency of Canada;
- Pharmaceutical utilization data collected and analysed by the Drug Plan and Extended Benefits Branch of the Ministry of Health;
- Laboratory testing data from the Saskatchewan Disease Control Laboratory;
- Formal evaluations conducted within various events and programs within the HIV Strategy, including the Peer-to-Peer program, the Enhanced Adherence program, the Northern Data Project, and Case Management programs; and,
- Other data submissions and evaluations.

Accordingly, there are a number of important limitations to note. These include limitations in validity and reliability of self-reported data, limited data collection timeframes, the lack of baseline information available against which to assess the impact of some interventions, as well as other limitations as noted throughout this report.



Community Engagement and Education

The focus of the Community Engagement and Education Pillar was to:

- ❖ Engage Elders of First Nations and Metis communities to promote ownership of and involvement in addressing HIV;
- ❖ Establish HIV-positive peer to peer networks to provide knowledgeable and acceptable supports to those HIV positive or at risk;
- ❖ Provide public awareness and education campaigns aimed at prevention of HIV to reduce risk of acquiring HIV and to reduce stigma in the broader population;
- ❖ Ensure targeted prevention, treatment, and healthy living programming for HIV-positive individuals;
- ❖ Increase capacity across disciplines to more effectively provide HIV prevention, education, treatment and support services; and
- ❖ Strengthen prevention measures that protect children and youth.

The Community Engagement and Education pillar was deployed through five major approaches, each described below.

(1) Community Engagement and Education Campaigns (Including those that Engage Elders)

Local HIV strategies have been developed in six health regions that have HIV Strategy Coordinators and seven health regions with an active HIV Strategy stakeholder group that meets on a regular basis.

In total, more than 1,000 community-based information events and engagement sessions were reportedly held during the HIV Strategy by HIV Strategy Coordinators and FNIHB case managers. This included 52 events that reportedly involved First Nations Elder participation. Sessions reached diverse groups within the population, including youth and adolescents, new Canadian immigrants, men who have sex with men (MSM), people who inject drugs (PWID), incarcerated populations, First Nations communities (on and off-reserve), Metis communities, street-involved youth, mental health facilities, and other groups.

Education was also provided for healthcare providers and their teams. This is included and described within the Clinical Management Pillar.

(2) Implementation of Peer-to-Peer Programming

Peers are defined as non-licensed, community-based service providers, who either work as volunteers or receive honorariums in the community. Their qualifications and roles rest on their connection with the community they serve and their lived experience with managing all the complexities of living positively with HIV. Peer Mentors work to help engage and retain people living with HIV in health care and in doing so will bridge the gap between persons living with HIV and the medical system.

The HIV Strategy prioritized the creation of peer-to-peer programs in Saskatchewan and, through its work, provided funding for the development of peer-to-peer pilot projects in four health regions: Regina Qu'Appelle, Saskatoon, Prince Albert Parkland, and Prairie North.

In addition to these programs, one community-based organization also developed a peer support program using community-supports funding. A formal evaluation of the Peer-to-Peer Programs will be conducted in 2015-2016.

(3) Public Awareness Campaigns

Social marketing and social media strategies were utilized to disseminate information and promotion of HIV-related awareness, education, testing, and information events and services. This involved the development of the Saskatchewan HIV PLT website (www.skshiv.ca) which provided information and resources; an HIV PLT Facebook page promoting events and ongoing campaigns; targeted social marketing campaigns related to World AIDS Day (December 1), AIDS Awareness Week (November 24-December 1), and Aboriginal AIDS Awareness Week (December 1-5); and the creation of two targeted social marketing campaigns involving YouTube videos, posters, television cable scrolls, radio advertisements, Facebook advertisements, and captive audiences advertising. In some cases, additional social media and social marketing campaigns were developed in the RHAs.

(4) Strengthening of Community Programming

As part of the HIV Strategy, funds were allocated to support and enhance the ongoing work of community-based organizations (CBOs) in the province. Funding for HIV-related programming in CBOs was approved for a total of twenty-six organizations in nine RHAs. These organizations provide services such as nutritional programs, educational/training resources, cooking programs, outreach support initiatives, social case management, testing, and counselling. Examples of projects funded include:

- Creation of the Enhanced Education of Service Providers Program by the Avenue Community Centre for Gender and Sexual Diversity in Saskatoon. This program works to address health and social issues in the lesbian, gay, bisexual, transgender, two-spirit and queer (LGBT2Q) community. The pilot project

created with these funds provided training to 368 health care professionals working in the LGBT2Q community and allowed for an additional clinical health nurse to be positioned at the Centre during weekly evening clinics, to provide additional sexual health services including HIV point-of-care testing.

- Partnerships developed with StreetGraphix, a web-based HIV prevention project for youth aged 12-24 years in Saskatoon. Through additional funding, digital stories were produced which interactively illustrate common challenges of street-involved youth in day-to-day life.
- Prince Albert Métis Women's Association incorporated a youth ambassador program, and provided HIV awareness and education through a website.
- The Battlefords Family Health Centre developed workshops and a toolkit for the school division and health region staff to reduce stigma and discrimination associated with HIV/AIDS.

(5) Prevention Measures for Youth - School-Based Presentations and Curriculum Development

During the provincial HIV strategy, over 400 health-based presentations were made in school settings to students and over 255 presentations were made to staff, as reported by HIV Strategy Coordinators. In addition to presentations held within schools, a number of valuable partnerships were formed between school divisions and RHAs to deliver ongoing sexual health programming. An example of this is the Positively Parenting Education and Support Program in Meadow Lake.

Measured Outcomes

By its nature, the effectiveness of Community Engagement and Education initiatives is difficult to measure. However, some evaluative work was undertaken to assess quality of the work done within this pillar and its impact.

Peer-to-Peer Programming

A total of 29 referrals were made to Peer-to-Peer Programming in RQHR from spring 2012 to fall 2013. Referral sources for the RQHR noted improved communication between patients, mentors, and providers involved in care; greater awareness of program staff of complexities faced by peer mentors and mentees; putting a "face" to HIV; and strengthening of linkages within the RQHR community to provide support and care to HIV-positive persons. Satisfaction surveys were conducted in June 2014 to understand participant experience in the program. According to participants, the program was assessed to be useful, especially in terms of dealing with emotional effects of diagnosis. Participants stated that having a peer mentor allowed HIV positive persons to grow stronger emotionally and mentally as they have the benefit of seeing someone with HIV who leads a normal life. Mentors in the program also believed they benefited from participation in the program as they have the opportunity to help others overcome similar circumstances that they themselves have gone through. Quotes from these surveys include the following:

“[The best part of the program is] seeing [mentees] being successful in regaining health and acquiring new skills like being more assertive with their families, stronger adherence to their meds, and less relapsing on addictions”.

“...it’s a good program, as it lets those living positive [with HIV] know “they are not alone”. Great for support.”

Social Media and Social Marketing

Usage of social media and online resources was tracked, though this does not necessarily reflect its overall impact. For example, measures including the total number of users and visits to the HIV PLT website and online resources were tracked and there was an observable increase over time – from 869 visits by 637 users in the first year to 8,000 visits by 5,119 users by April 2014. The Ministry of Health produced YouTube videos along with public advertising to promote HIV testing (2011) and reduce stigma and discrimination associated with HIV (2012). Both campaigns resulted in approximately 650,000 views of the online advertisements, approximately 12,000 views of the videos and over 7,500 clicks on the HIV/AIDS page of the Ministry of Health website.

The usage statistics do not identify who visited the site (i.e., health care providers vs. patients) and whether or not this led to increased testing, engagement in care, or other important markers of the Strategy’s success.

Funding for Community-Based Organizations

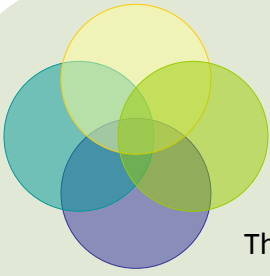
In April and May 2014, an independent facilitator conducted in-person consultations and telephone interviews with representatives from 21 CBOs who had received HIV Strategy Funding. Feedback from these representatives was positive overall, stating that the provincial HIV Strategy helped to increase awareness and understanding of HIV by providing resources to complement ongoing work being done. Participants had suggestions for additional opportunities, which included more awareness and service resources, programming initiatives and opportunities for collaboration. There were four themes contained in the recommendations that were consistent in at least half of the CBO participant comments.

- 1) Stigma regarding HIV and AIDS, cultural insensitivity and in some cases racism still impact health service delivery and quality of life for people living with HIV and AIDS. Participants suggested that the Province needs to take leadership to address this issue.
- 2) Communication between CBOs, the Ministry of Health and the Health Regions could be improved regarding reporting requirements, improved access to Strategy direction and sharing of program information and outcomes.
- 3) A process needs to be in place to continue to improve collaborative working relationships, partnerships and respect for the CBOs working in the front lines.
- 4) CBOs and persons affected by HIV and AIDS should have a stronger presence on the leadership team and all policy and program discussion forums.

Concluding Remarks

The Community Engagement and Education pillar was an important part of promoting the work of the HIV Strategy and informing communities, targeted groups, and the general public about HIV in the province. While there is evidence to suggest these efforts were impactful, it must be recognized that HIV is most prevalent among marginalized populations. As a result, many of the channels used to disseminate information about the Strategy may not have reached those most at risk (i.e. those who do not access mainstream health services). Thus, utilization and enhancement of existing programs that engage these populations (such as Prevention and Risk Reduction Programs) may be beneficial to increase awareness.

There is also a need for messaging to reach the broader population. Continued efforts should focus on campaigns aimed at the prevention of HIV. Specifically, consideration should be made to preventive approaches with school-aged children, as a more upstream approach. While a social marketing campaign was introduced with a goal of increasing education to reduce stigma, more work could be done on interventions that reduce stigma, which is often a barrier for individuals being tested or seeking care and treatment.



Prevention and Harm Reduction

The focus of the Prevention and Harm Reduction pillar was to:

- ❖ Establish prevention and wellbeing centres with expanded access to harm reduction measures and to promote and encourage safe behaviours;
- ❖ Enhance medical/nursing curricula to ensure adequate education and knowledge of substance abuse and chemical dependency;
- ❖ Increase access to HIV testing for at-risk populations;
- ❖ Continue to enhance addictions prevention initiatives and increase capacity and accessibility to treatment services through improved service delivery;
- ❖ Reduce homelessness for those at-risk of or those living with HIV, by developing a supportive housing model; and
- ❖ Incorporate mental health and addictions programming with prevention and wellbeing centres, using a holistic client/patient-centred approach.

The Prevention and Harm Reduction pillar was deployed through three major approaches, each described below.

(1) Expanded Access to Harm Reduction and Prevention Programming

Using multiple approaches, harm reduction was expanded and improved to better serve at-risk clientele. Two new prevention and risk reduction sites were introduced during the HIV Strategy, located in Yorkton and La Ronge. Both sites incorporated prevention and risk reduction programming into centres that offer a variety of basic health and social services, including addictions and mental health outreach/outpatient services, public/sexual health programming and other adjunct services. Prince Albert Parkland Health Region also received additional funding for a methadone case manager.

As well as additional prevention and risk reduction sites, a new area for prevention programming was identified as an important access-point to engage persons at risk of acquiring HIV infections. Through a partnership with the Provincial Corrections System and regional HIV Strategy Coordinators and HIV PLT, strategies were implemented to improve the management of HIV treatment and support services for inmates upon admission to and release from provincial correctional facilities. The Ministry of Corrections, Public Safety and Policing implemented a policy in order to provide the framework for implementation and evaluation of an HIV Strategy field study at Pine Grove Provincial Correctional Center. The intent of the field study was to increase community engagement and education, prevention and harm reduction, clinical management and surveillance with offenders regarding HIV, hepatitis C (and other blood-borne and sexually transmitted infections). As part of this policy, release planning for inmates includes the provision of “release kits” consisting of condoms, dental dams, lubricant, and a list of community

resources with contact information. The policy has been extended to other facilities across Saskatchewan.

Other efforts within this pillar contributed to broader harm reduction programming going on across Canada. As part of the Working Group on Best Practice for Harm Reduction Programs in Canada, the Ministry of Health was involved in the development and release of “Best Practices for Canadian Harm Reduction Programs”. This document set out standards for improving harm reduction programming to best serve clients.

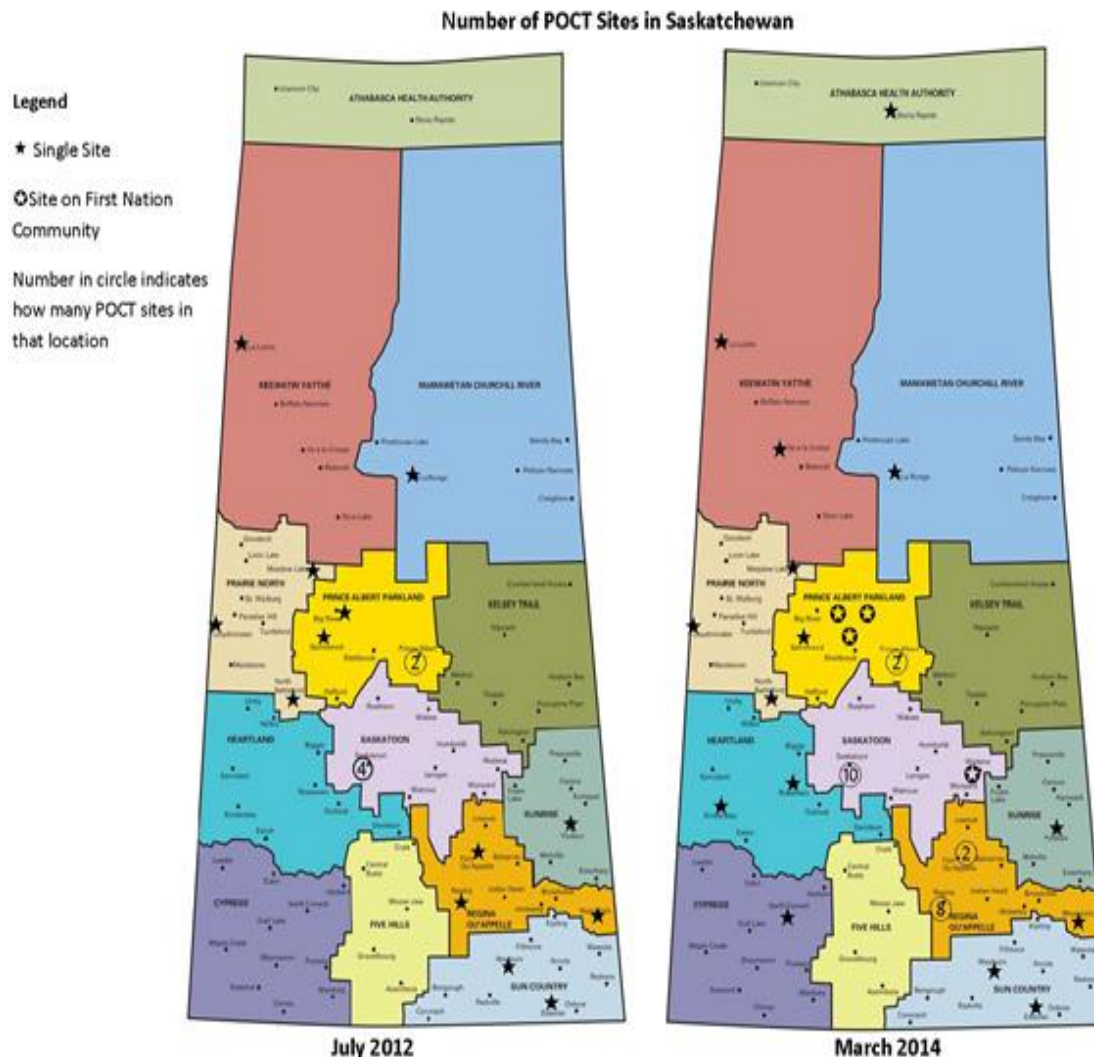
(2) Increase in Access to HIV Testing

A major initiative taken within the HIV strategy was the implementation of HIV point of care (POC) testing. A process evaluation conducted with HIV POC testing sites in 2012 indicated that risk-based HIV testing has been an important innovation that has played a key role in diagnosing individuals with HIV. Some of the benefits of HIV POC testing noted during the evaluation were immediate knowledge of result, linkage to treatment, testing in non-clinical and non-institutional settings, and ease of administration. In addition to stressing the importance of the compliance with provincial guidelines for HIV POCT, some additional recommendations stemming from the evaluation include:

- Developing a work standard around follow-up care for reactive HIV POC tests;
- Improve reporting processes, both from a legislative requirement to formally report all confirmed and suspect HIV cases to local public health authorities and by adopting a process to electronically document the non-reactive HIV POC tests in the medical record;
- Address resource limitations by allowing other personnel to perform HIV POC testing in select sites, with specific, specialized training, in addition to RNs and lab personnel.

While the tests were introduced in 2009, by 2012 there were over 19 testing sites established in seven RHAs (including First Nations communities) and by April 2014 this number had increased to 40 licensed sites in all but two RHAs (see figures below).

Figure 5: Point-of-Care (POC) Testing Sites in Saskatchewan, July 2012 and March 2014



A new Saskatchewan Routine HIV Testing Policy released in January 2013 sought to increase availability and public acceptance for routine HIV testing for all Saskatchewan residents. The new policy states that all persons aged 13-64 years should be offered HIV testing, as well as, older or younger individuals if there is evidence or indication of risk activity. A resource kit for patients and health care providers was created, along with information on slides in physician waiting areas to disseminate this new policy and provide guidance for its implementation.

Finally, a number of opportunities were utilized to offer HIV testing to individuals across the province. These included offering testing in conjunction with other HIV awareness or informational sessions, as well as, specialised HIV testing events. Collectively, over 300 such opportunities were made available throughout the HIV strategy, some of which targeted at-risk or hard-to-reach groups at venues outside clinical settings.

(3) Enhancement of Addictions Initiatives

All prevention and risk reduction sites have incorporated mental health/addictions programming, either by providing on-site counselling or referrals to regional mental health and addiction services. LEAN² initiatives, implemented by the RHAs and Ministry of Health, have resulted in a number of improvements to the quality and timely access of mental health and addictions services in the province. The Ministry of Health, in collaboration with RHAs, developed and refined pathways, protocols, screening tools and intervention approaches related to the early detection and treatment of mental health and addiction issues into primary health care

In 2013, the government initiated an inter-sectoral review of mental health and addictions services, led by an independent Commissioner and supported by an inter-ministerial project team housed within the Ministry of Health. The Commissioner's public consultations guided the development of a Mental Health & Addictions Action Plan which was announced in 2014.

More information on the action plan can be found at:

<http://www.saskatchewan.ca/live/health-and-healthy-living/mental-health-and-addictions-action-plan>

(4) Development of Supportive Living Programs

New opportunities were identified for which additional supports could be arranged to reduce risk of HIV infection, offer greater stability and support, and further engage persons to improve quality of life in individuals at risk.

- Through a partnership with the Saskatchewan Prevention Institute, the **Saskatchewan Infant Formula program** was developed and implemented. This program engages expectant and new mothers living with HIV to reduce the likelihood of vertical transmission of HIV from mother to baby through breast milk. Included in this program is the provision of infant formula for the first year of the infant's life at no cost to the mother. To facilitate involvement in the program, Formula Coordinators are located in Regina, Saskatoon and Prince Albert. Depending on the location of residence, formula can be accessed at a variety of locations arranged through the Coordinator (health center, pharmacy, or delivered to the home).
- Provincial funding was provided for **Community Development Coordinators** to address unstable housing in RQHR, SkHR, and PAPHR. Throughout the duration of the HIV Strategy, a significant number of individuals or families who had at least one family member living with HIV were close to losing their current accommodations or were already homeless.

² LEAN is a patient-centred approach to identifying and eliminating all non-value-adding activities and reducing waste within an organization

- Funding for **client transportation** was provided in RQHR, SkHR and PAPHR. Over 10,000 instances of transportation (some examples include bus tickets, taxi vouchers, or funding for staff to provide transportation) were provided for medical and non-medical appointments with the additional funding.

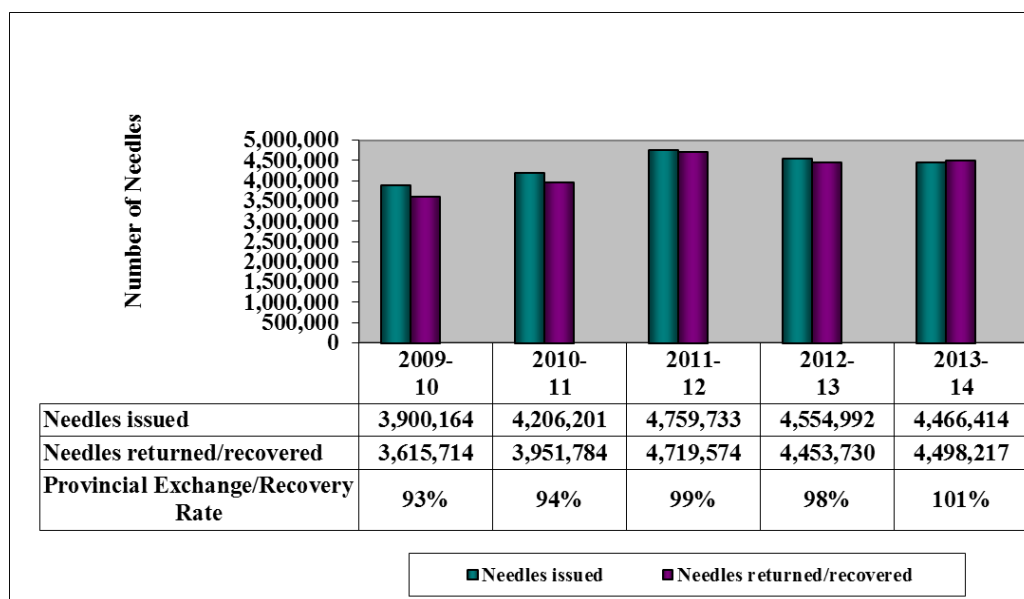
Measured Outcomes

Prevention & Risk Reduction

Prevention and risk reduction programs are part of a comprehensive public health disease prevention strategy to reduce the spread of HIV, hepatitis C, and other blood-borne infections. The distribution of supplies by these programs is intended to reduce the sharing of used needles/syringes and other injecting equipment among people who use injection drugs. In addition to supplies, clients receive other health-related education, services, counseling and referrals to other service providers.

With the addition of two new sites, there are a total of 20 prevention and risk reduction sites (17 fixed and three mobile) that are provincially-funded and located in eight health regions across the province. There are also a number of other programs, in addition to the provincially-funded prevention and risk reduction programs in the province where supplies and services are provided. The number of needles distributed has increased by 15% and the exchange/recovery rates have increased by 8% from 2009-10 to 2013-14 (See Figure 6 below).

Figure 6: 5-year Provincial Needle Exchange/Recovery Rate, Ministry of Health April 1, 2009 to March 31, 2014



Source: RHA Prevention & Risk Reduction reports

Note: The chart above only captures statistics received from provincially-funded prevention and risk reduction sites. Given there are other sources of supply distribution and collection, the numbers above are an underrepresentation of the provincial totals.

The overall provincial recovery rate, as seen in the chart above, is greater than the number of needles issued. Returns/recovery rates include needles purchased privately or obtained at other sites (i.e. those not provincially-funded), resulting in exchange rates exceeding 100%.

As part of the annual report on prevention and risk reduction programs, information was made available on the newly-implemented sites established through the HIV Strategy. For the 2013-2014 Fiscal Year, Sunrise Health Region reported a needle exchange and recovery rate of 169%. This means that significantly more needles were returned to safe disposal sites and drop boxes associated with the program than were being provided for clients. Stated differently, contrary to popular belief, the establishment of the prevention and risk reduction site in Sunrise Health Region actually appeared to reduce the number of needles discarded in the community rather than increase. Qualitative results from the new prevention and risk reduction sites are also very positive, as quoted below:

“Happy to have a program here so I don’t have to travel to Regina”

“Now there is a safe place to put used needles”

“We have people [here] who we can trust...”

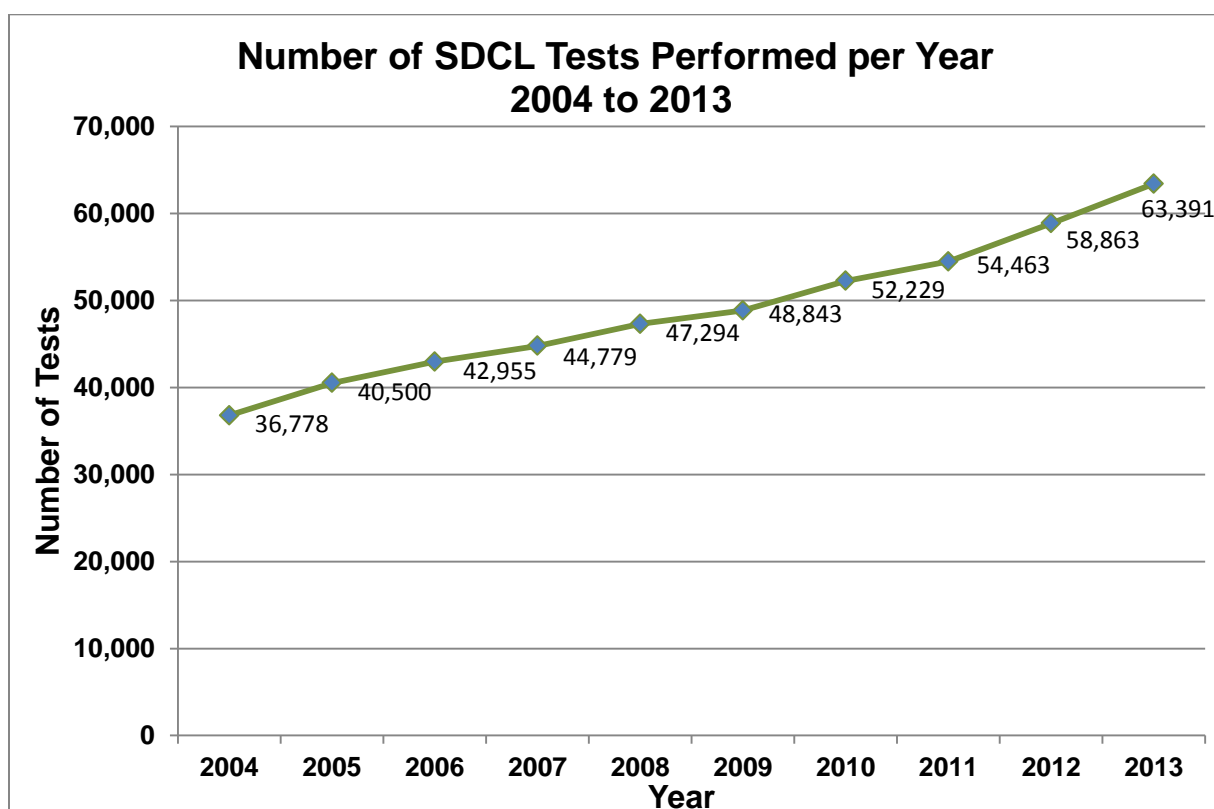
Testing for HIV

Provincial

HIV testing statistics suggest significant progress was made in increasing the number of tests performed, both provincially and regionally for HIV (see Figures 7 to 11 below). The most pronounced increase in HIV testing occurred in 2011 to 2013 when the effects of much of the programming through the Strategy were most likely seen.

The establishment of HIV POC Testing was also important in order to create more opportunities for persons to determine their HIV status, especially in non-traditional settings, such as community-based organizations or food banks. The utilization of POC testing increased throughout the HIV Strategy as more sites were established.

Figure 7: Annual number of tests for HIV conducted at Saskatchewan Disease Control Laboratory (SDCL), 2004-2013



Source: Saskatchewan Disease Control Laboratory

Note: Numbers do not depict discrete individuals, but are the total number of screening tests performed at SDCL.

To interpret this chart, the following factors should be considered:

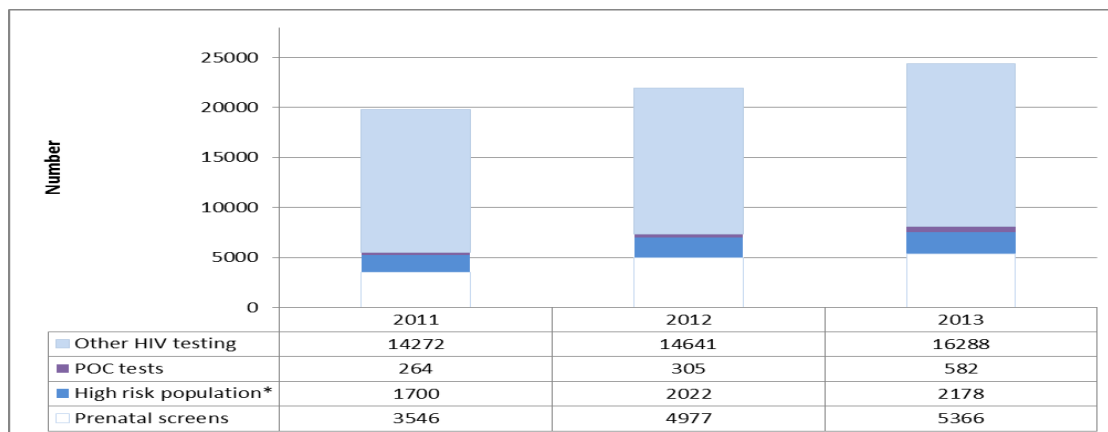
- 1) The population of Saskatchewan has increased by 10% over this time period, yet the number of HIV tests has increased by 72% over the same ten-year time period; and
- 2) The chart above does not capture HIV POC non-reactive tests; therefore the total number of HIV tests is under-estimated. The number of HIV POC tests are very small compared to overall testing, so bias is small. HIV POC testing sites reported a total of 1,994 HIV POC tests from October 1, 2012 to March 31, 2014; of those, 38 were reported to be reactive (preliminary positive result) and confirmatory testing would have been conducted at SDCL.

Further analysis provided by SDCL for the 2013 testing numbers suggests that of the total number of HIV tests, 82% of those (51,946) are completed on unique individuals. When calculating the percentage of the population being tested based on unique individuals 5% of the Saskatchewan population was tested in that year. Going forward, this will be used as a baseline to compare the annual percentage of the population tested for HIV.

Regional

Saskatoon Health Region (SkHR) conducted 24,414 HIV blood tests in 2013, a 50.3% increase over testing volumes in 2011 (see Figure 8 below).

Figure 8: HIV Tests by type, Saskatoon Health Region, 2011 to 2013

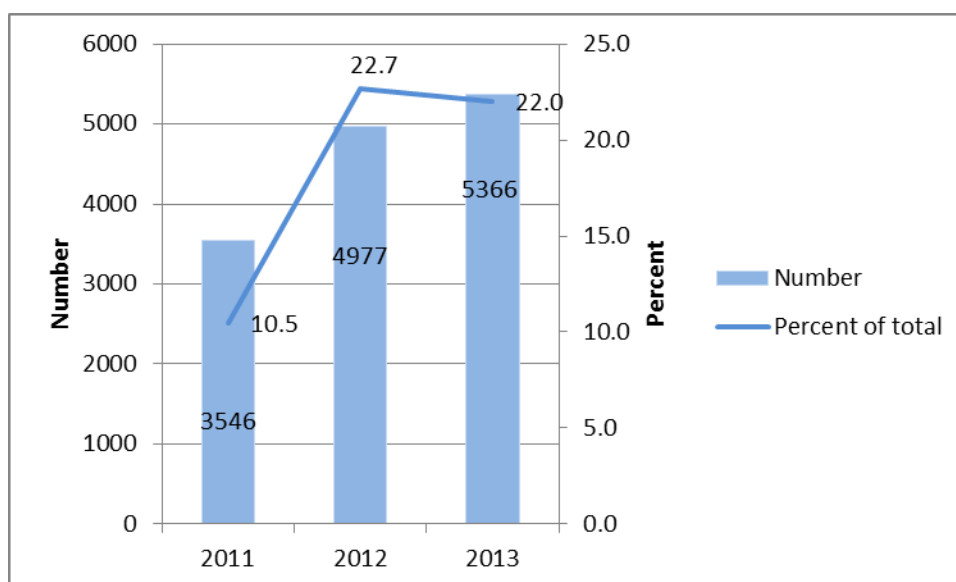


Source: Public Health Observatory, Population and Public Health, Saskatoon Health Region, 2014.

*High risk populations are clients seen by Population and Public Health. There may be other high risk clients seen by general practitioners; these are not included in the designation High Risk Populations.

Prenatal testing is key to preventing mother to child transmission of HIV; identifying an HIV positive pregnant woman enables timely provision of appropriate treatment and supports. There have been no cases of perinatal transmission in Saskatchewan since 2010. Prenatal HIV testing increased by 51% in the SkHR in 2013 (5,366 tests) compared to 2011 (3,546 tests). (See Figure 9 below). Prenatal tests made up 22% of the total number of HIV tests in SkHR in 2013.

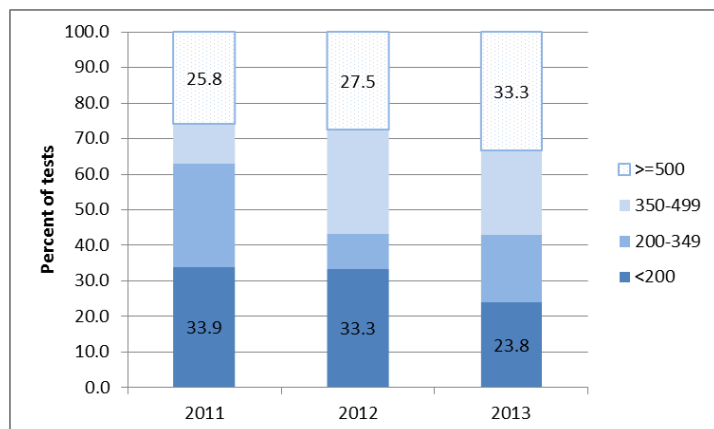
Figure 9: Prenatal Tests and Percentage of Total HIV Testing, Saskatoon Health Region, 2011 to 2013



Source: Public Health Observatory, Population and Public Health, Saskatoon Health Region, 2014.

CD4 cells are a type of white blood cell that fights infection and their count indicates the stage of HIV or AIDS in a patient. With treatment, the amount of HIV in the blood can be lowered, and this allows the CD4 cells to reproduce and increase in number. The higher an individual's CD4 count is, the better the immune system functions. Saskatoon Health Region reports that a slightly greater proportion of individuals are being diagnosed with HIV while they are still healthy. One third of patients had initial CD4 cell counts of 500 or more, which is an increase over the previous two years (see figure below).

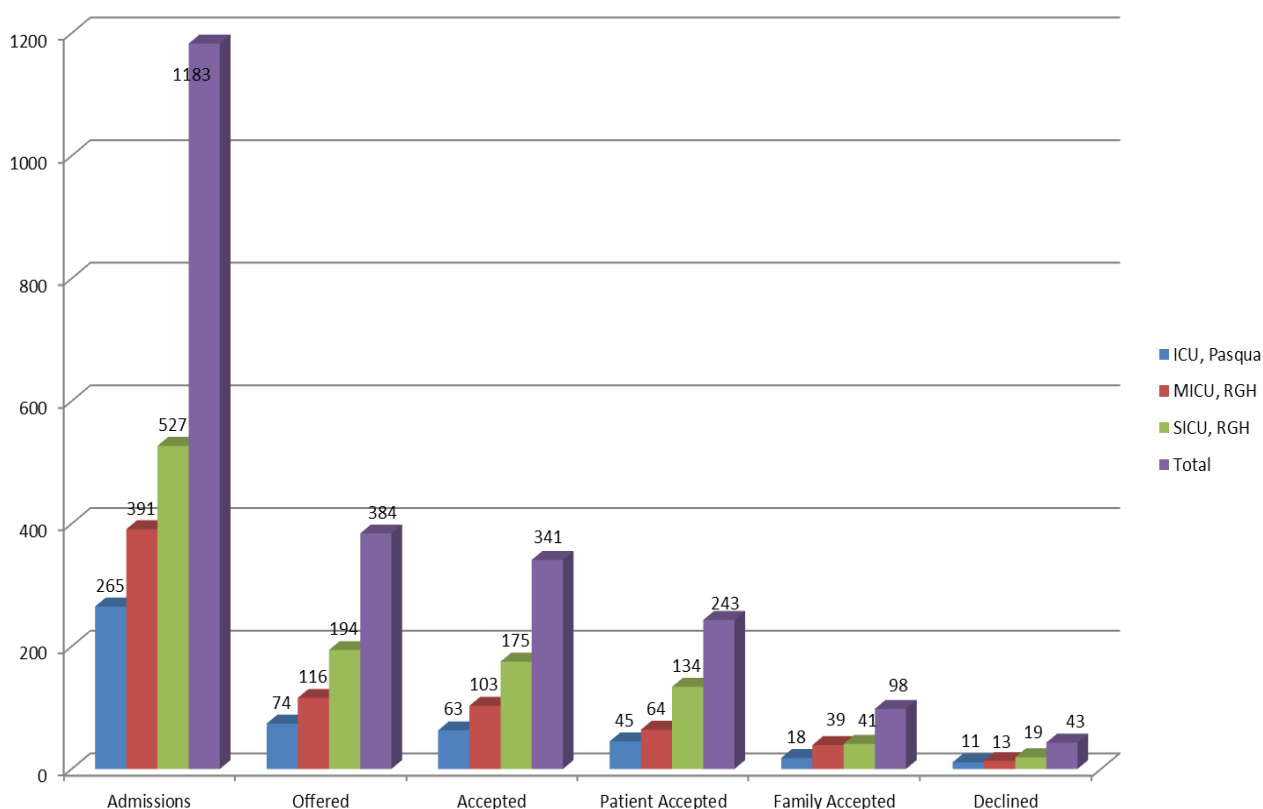
Figure 10: Initial CD4 Cell Count Test Results by Year of HIV Diagnosis, Saskatoon Health Region, 2011 to 2013



Source: Public Health Observatory, Population and Public Health, Saskatoon Health Region, 2014.

An area regarded as being particularly successful was the promotion of HIV testing in intensive care unit (ICU) settings, including surgical ICU (SICU) and medical ICU (MICU) at the Regina General Hospital and the ICU at Pasqua Hospital. The strategy in RQHR created an environment where routinely offering an HIV test became part of the standard care provided to all patients who were admitted to the ICUs. RQHR conducted the pilot from September 2013-March 2014. In cases where patients were unable to consent, the nearest relative was approached for consent; however relatives did not have access to the test results. Findings from the pilot suggested that approximately one-third of patients in ICUs were offered an HIV test and 89% of those offered the test accepted it (either the patient or family).

Figure 11: Uptake of Routine HIV Testing in the Intensive Care Units within the RQHR



Source: Regina Qu'Appelle Health Region

Mental Health and Addictions Programming

System improvements to regional Mental Health & Addiction Services have led to the following:

- Standardized screening and prioritization of services to eliminate duplication of data collection and efficiently stream clients to appropriate services;
- Standardized primary assessments to eliminate duplication of assessments and reduce the number of clients waiting to be assessed;
- Standards developed for admission to detox services to improve client flow;
- Best Practices (Clinical Principles) and Clinical Pathways developed and distributed for Addiction Services and Clinical Pathways for depression and anxiety;
- Principles for Mental Health/Addictions integration developed;
- Integration of Mental Health and Addiction Services regarding shared leadership and integrated intake; and
- Trauma and Culturally-informed materials developed for frontline service providers.

RHAs are focusing on reducing waiting time for Mental Health/Addictions Adult and Child and Youth Outpatient Services through LEAN processes. As of November 2014, all RHAs were meeting the triage benchmarks for client waiting times (very severe – 24 hours; severe – 5 working days; moderate – 20 working days; mild – 30 working days) for outpatient services.

Supportive Living Programs

Community Development Coordinators:

With the additional support of the outreach, case management and community development coordinators, 242 individuals were engaged with housing support in their current living arrangement and 131 were successfully placed in a suitable housing situation.³

Infant Formula Program

The Infant Formula program is a cost-effective prevention program to reduce the risk of mother to child transmission of HIV which may occur through breastfeeding. In 2013-14, a total of 33 mothers/34 infants accessed the program, with varying lengths of time per infant. At an average cost of approximately \$900 per infant per year, the cost of providing formula as a means to prevent mother-to-child transmission is substantially less than the estimated \$400,000 lifetime health care costs to treat HIV infection in infancy (CDC, 2013).

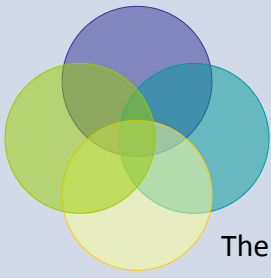
According to surveys completed by mothers who accessed free formula for their infant, they were very appreciative to have access to free formula. One mother indicated “we were so blessed by this program”. All mothers rated the friendliness and respect of the staff and access to formula when needed as “very good”. All mothers also indicated the program exceeded their expectations. When asked how to improve the program, those surveyed suggested a longer program (for children older than 1 year), more locations to access formula and a better explanation of the program to understand it better. As infant formula is not recommended for children greater than one year, the request to have access to infant formula beyond 1 year may be an indicator that parents may not have sufficient money to buy milk to provide adequate nutrition or that more education is needed on nutrition for infants older than 1 year.

Concluding Remarks

The Prevention and Harm Reduction pillar was an important component of the HIV Strategy as it resulted in the development and expansion of programs that address risk factors and improve supports for persons in need. Indeed, many of the points of focus within this pillar were met and successfully developed through the HIV Strategy. This includes the valuable work done improving knowledge and awareness of healthcare providers in harm reduction; increasing availability of HIV testing; implementing an Infant Formula Program; expanding prevention and risk reduction programs provincially; and improving access to mental health and addiction services.

³ Includes data to September 30, 2013

Despite these successes, an area that did not receive attention during the Strategy is the enhancement of medical/nursing curricula to ensure adequate education and knowledge of substance abuse and chemical dependency. As well, work is required to continue in all areas mentioned above. Underscoring the success of these and other supports is the need to stabilize socioeconomic factors in the lives of vulnerable populations.



Clinical Management

The focus of the Clinical Management pillar was to:

- ❖ Provide a non-discriminatory, patient-first approach to care;
- ❖ Adopt cross-disciplinary teams to provide a continuum of support to HIV-positive individuals;
- ❖ Ensure focused learning opportunities for all health care providers; and,
- ❖ Incorporate best practice plans and standard protocols for enhanced case management and clinical management of HIV.

The Clinical Management pillar was deployed through three major approaches, each of which are detailed further below. All of these approaches incorporated best practices and required standard protocols to be developed in order to ensure consistency and to measure client outcomes.

(1) Patient-First Approaches to Care

Improving patients' engagement in care and adherence to treatment were considered critical to improve clinical indicators of HIV across the province. This was targeted through the development of case management and enhanced adherence programs, as well as, through work to improve access to health services including pharmaceuticals.

- A number of health regions implemented case management to improve patient care and re-engage those who were “lost to care”. Case management involves a team-based approach to individualized assessment, planning, implementing, coordinating, monitoring, and evaluating options for care provision and services for individual patients. Case Management teams involve health care providers, outreach staff, CBOs, and case managers.
- An Enhanced Adherence program was also piloted in RQHR, which worked to engage, educate, and connect multiple providers and stakeholders involved in a patient's care to improve adherence to anti-retroviral treatments. Led primarily by the HIV PLT Pharmacist, the program is highly integrated with client methadone programs and involved frequent interactions between pharmacists, nurses, and other team members involved in patient care.
- Improved access to medications for the treatment for HIV among First Nations patients in Saskatchewan was identified and prioritized. Upon request by the HIV PLT, the Non-Insured Health Benefits program in Health Canada moved two first-line medications for HIV to open-benefit in Saskatchewan, meaning a patient is eligible to receive these medications without waiting for a formal approval process.

(2) Development of Multidisciplinary Team Clinics

Cross-disciplinary teams provide a combination of organized clinics and drop in, patient-centered services in many areas of the province. There were 27 sites provincially enhanced to provide a more **integrated model** of care, including housing support, risk support, social support, and case management. These sites are located within hospitals, clinics, health centers in First Nations communities, and within community-based organizations. Examples of these sites include the Scattered Site Outreach Program (La Ronge), Door of Hope (Meadow Lake), Meadow Lake Sexual Health, Access Place (Prince Albert), and the OASIS Project in Saskatoon (Opportunity, Acceptance, Support, Invitation, and Safety). The Door of Hope Clinic in Prairie North Health Region has visiting professionals – a Nurse Practitioner, RNs, a dietitian and a mental health and addictions counselor. The clinic is noted to have made a considerable impact on linking individuals who are homeless and struggling with addictions/mental health issues with medical and social supports. Access Place in Prince Albert provides primary care through on site Nurse Practitioners, nurses and visiting specialists who provide HIV/Hepatitis C care. Prevention and risk reduction/sexual health services are provided on site and the 601 outreach program is based out of Access Place as well.

Through collaborative efforts of the HIV PLT, FNIHB, the Ministry of Health, SDCL, RHAs, infectious disease physicians, pharmacists, and individual communities and sites, it was possible to formalize a process for having multidisciplinary teams (including infectious disease physicians) deliver combined HIV/hepatitis C outreach clinics in rural, remote and isolated communities in Saskatchewan. Since 2011, 42 multidisciplinary team clinics were held in six rural locations.

(3) Focused Learning Opportunities for Healthcare Providers and Allied Professionals

In July 2011, a needs assessment was conducted in order to identify the level of knowledge and confidence of healthcare workers for treating and counselling patients with HIV. Completed by over 600 health care and allied health care professionals, respondents indicated a need for training in basic/introductory HIV information, best practice clinical guidelines, treatment protocols, harm reduction strategies, counselling for HIV clients, training in cultural competence, and strategies aimed at reducing stigma. Following this survey, a number of targeted training and information sessions were made available across the province. In total, over 150 HIV-related training activities were held between July 2011 and March 2014. Notable training activities and sessions included:

- Forty (40) HIV Grand Rounds presentations offered in-person and via Telehealth, where healthcare professionals from diverse fields discussed an area of HIV programming, treatment, case studies, research, or best practice.

- An online course entitled “Community-Based and Culturally Appropriate HIV and AIDS Diagnosis and Treatment in Rural and Aboriginal Communities” developed by the Canadian Institutes for Health Research (CIHR), the CIHR Canadian HIV Trials Network (CTN), and Canadian Aboriginal AIDS Network (CAAN) was utilized in Saskatchewan during the Strategy. The course provided professionals knowledge and resources to enhance primary care of HIV-positive persons and to assist in understanding cultural context. In-person delivery of this course was also offered through the adaptation of course material by the HIV Strategy Coordinators and physicians/infectious diseases specialists and involved an Aboriginal person living with HIV and/or a First Nations Elder in delivery.
- On November 4-5, 2013 the first annual Prairies HIV Conference was held in Saskatoon. The event reached maximum capacity and attracted presenters from Saskatchewan, Ontario, Manitoba, and British Columbia.
- HIV and Sexual Health “Train-the-Trainer” workshops were held to educate participants on how to present workshops on sexual health, HIV, sexually transmitted infections, testing, counselling, reporting, disclosure, treatment, harm reduction, communication, language, culture, creating safer spaces and identity.
- The Ministry of Health supports the annual Face to Face HIV & Hepatitis C Education Event. This event brings together Registered Nurses & other Health Care Providers interested in HIV and hepatitis care, treatment and support to provide a forum to explore issues of mutual concern, as well as exchange knowledge, share evidence and ideas, and generate solutions. The event enables evidence-informed practice, and inspires excellence.

The Ministry of Health co-sponsored various mentorship events through the Pacific to Prairies Partnership (PPP), an initiative led by the Canadian Association for Nurses in HIV/AIDS Care (CANAC), in partnership with Providence Health Care (British Columbia) and the Regina Qu’Appelle Health Region. The PPP is an inter-provincial Knowledge Exchange Program aimed at strengthening connection, networking and best practice in HIV care in both British Columbia and Saskatchewan.

- “Harm Reduction Within a Continuum of Care: Knowledge Exchange” – two events were held – one focused on health care and allied professionals and the other for the public.

Measurable Outcomes

Patient-First Approaches to Care

I. RQHR Enhanced Adherence Programming and Case Management

Impressive results have arisen from the enhanced adherence program, which spanned from September 2012 to January 2014. Enrollment criteria for the program included HIV-positive individuals: (1) receiving antiretrovirals (ARVs) at a participating pharmacy, (2) receiving methadone maintenance, (3) with suboptimal virologic control due to chaos for those on ARVs, or (4) whose lifestyle was not conducive to initiating antiretroviral therapy. Enrollment was voluntary and patients were free to withdraw at any time. 50 HIV-positive individuals were enrolled in the program from September 2012 through December 2013. 11 of 50 patients were newly recruited and therefore did not have laboratory investigations available at least three months after enrollment.

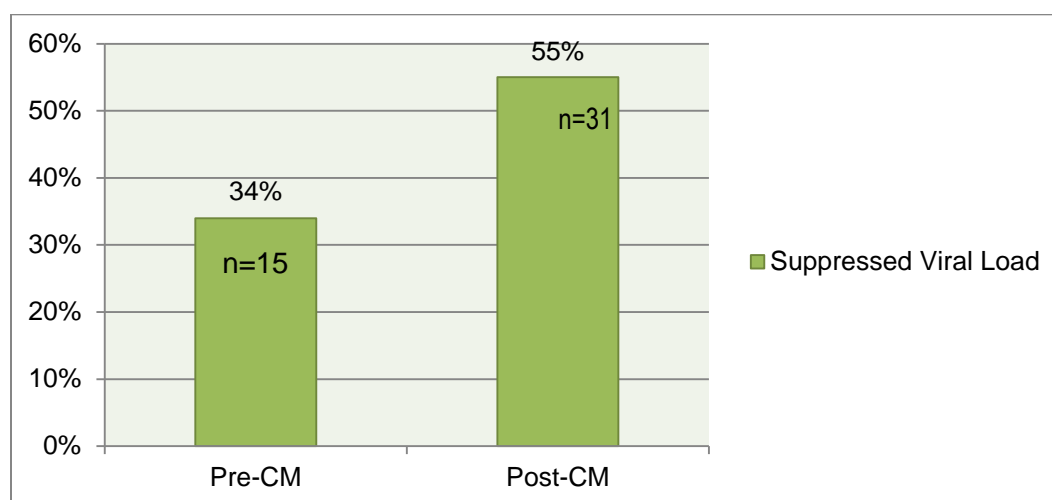
Of the 39 individuals in the program and receiving ARVs, 77% of enrollees had an undetectable viral load (less than 40 copies/ml). All participants had a viral load less than 200 copies/ml. Average CD4 (immune) cell count increased from 334cells/mm³ to 475cells/mm³. Increased competence expressed by community pharmacists in managing drug interactions and adverse effects of ARVs were a result of the educational programming and support from the Infectious Disease Clinic (IDC). More frequent contacts and higher comfort level in contacting the IDC staff has contributed to improved knowledge of HIV management in the community and likely provided for expanded and sustainable compliance with ARV regimens.

A total of 60 individuals have been enrolled into the RQHR case management program from March, 2012 to January, 2014 which was evaluated to be highly effective for patients. Notable outcomes include:

- Twenty-eight pregnancies case managed with no vertical transmission of HIV; and
- The interventions as a result of case management likely make patients more apt to follow treatment regimens. Out of 44 patients who were assessed prior to receiving interventions through case management, 15 individuals (34%) had suppressed viral loads. 56* of the 60 individuals who were case managed (which includes the 44 patients in the pre-case management cohort) were assessed in January 2014. 31 (55%) of the 56 patients had suppressed viral loads. (see Figure 12, page 43)

*Note: 4 patients did not have comparable laboratory results available post-case management.

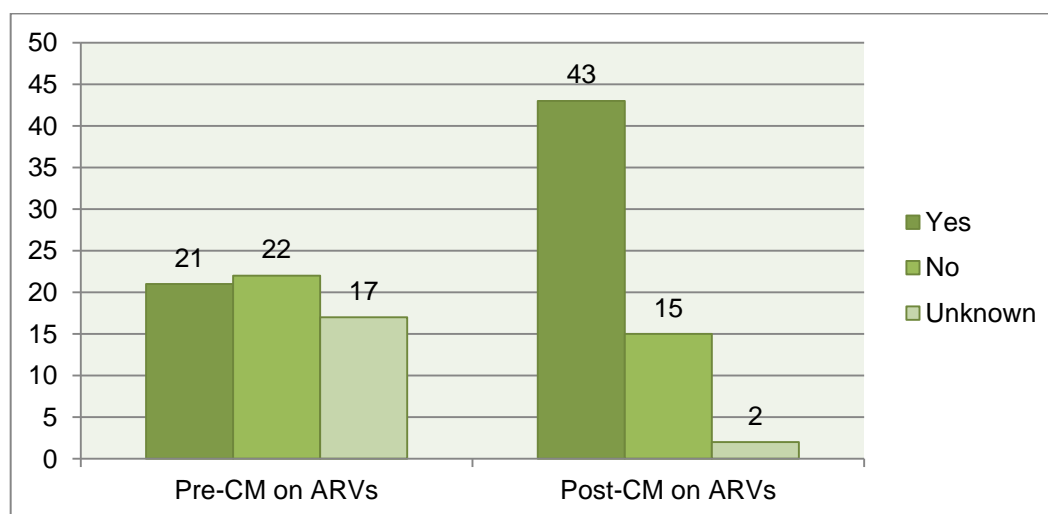
Figure 12: Number of Individuals with Suppressed⁴ Viral Loads, Pre- and Post- Case Management (CM), RQHR



Source: Assessment and Evaluation of the Outcomes for Clients in the RQHR, Infectious Diseases Clinic, Regina General Hospital, 2014.

Figure 12 above shows the proportion of individuals having suppressed viral loads increased by 21% in the post-case management cohort compared to the pre-management cohort.

Figure 13: Number of Individuals on Anti-Retroviral Medications (ARVs), Pre- and Post- Case Management (CM), RQHR



Source: Assessment and Evaluation of the Outcomes for Clients in the RQHR, Infectious Diseases Clinic, Regina General Hospital, 2014.

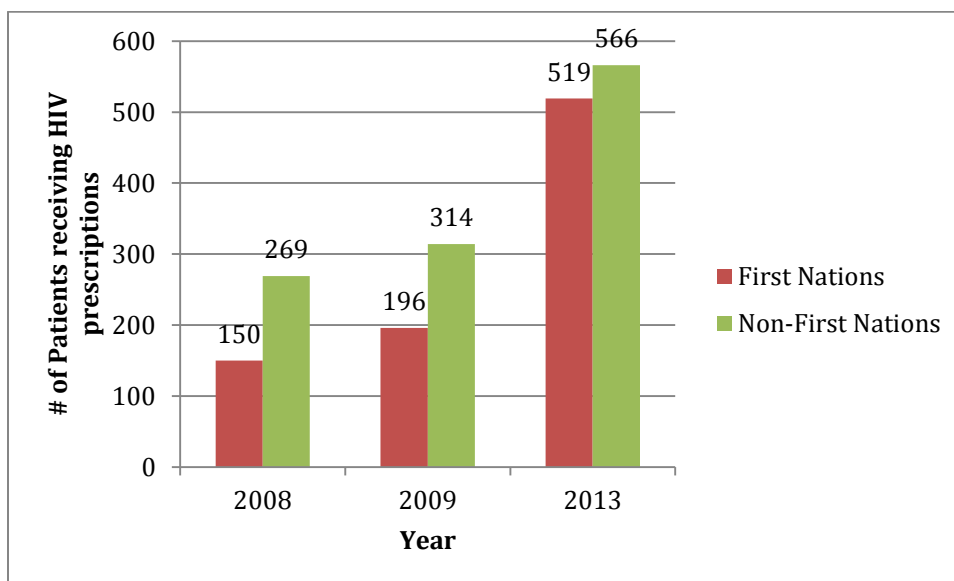
Note: The time of HIV diagnosis for individuals involved in case management is unknown. Figure 13 above shows the number of individuals actively taking anti-retroviral medications (ARVs) before and after the implementation of the Case Management program. Significantly more individuals were confirmed to be on ARVs within the post-CM cohort, suggesting an important role of case management in engaging patients into care.

⁴ Suppressed Viral Load defined as “most recent viral load \leq 200 copies/mL, or undetectable viral load, confirmed through laboratory test within last calendar year” (PHAC 2013).

II. Improved Access to HIV Medications

Evidence from the Drug Plan and Extended Benefits Branch of the Ministry of Health suggests that the number of patients who receive HIV prescriptions in Saskatchewan has grown between 2008 (n=419) and 2013 (n=1,085) (Figure 14 below). This suggests that the number of individuals enrolled in pharmaceutical therapies that improve health and quality of life, and therefore reduce viral load and likelihood of transmission of the virus to others is increasing.

Figure 14 – Distribution of the Number of Patients Receiving HIV prescriptions, 2008 to 2013



Notes: These totals include patients who may or may not be Drug Plan beneficiaries. While most First Nations patients are covered under Health Canada's Non-Insured Health Benefits (NIHB) program, the provincial Drug Plan covers prescriptions for First Nations individuals when they are wards of the province or incarcerated in a provincial penitentiary.

Interpret with caution as the number of individuals diagnosed with HIV has also increased over this time period.

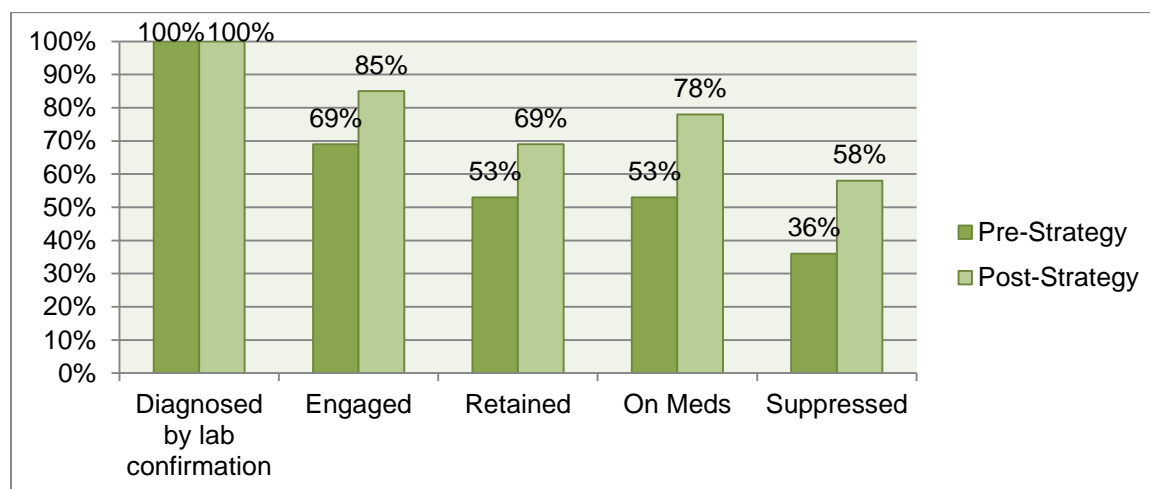
Source: DPEBB 2014. 2010-2012 not shown.

III. HIV Cascade of Care⁵

The RQHR Infectious Disease Clinic completed an assessment and evaluation of their patients accessing care pre- and post-HIV Strategy. The pre-strategy cohort includes individuals diagnosed and having at least one RQHR ID clinic visit between January 1, 2007 and December 31, 2008 (n=61). The post-strategy cohort includes individuals diagnosed and having at least one RQHR ID clinic visit between January 1, 2011 and December 31, 2012 (n=74). The same patients were measured pre- and post-strategy. In the absence of a provincial EMR, the RQHR evaluation was a case study which was made possible due to the implementation of an EMR (see section on surveillance later in this report).

The Regina Qu'Appelle Health Region Infectious Disease Clinic identified key changes among their patient cohorts through in-depth analyses using clinical data. Figure 15 below shows the number of patients within each particular area of the Cascade of Care, before and after the HIV Strategy was implemented. Based on these data, it appears the number of patients accessing care after diagnosis increased as did the number of patients who were engaged in care, retained in care, on medications, and reaching a suppressed viral load.

Figure 15: Cascade of Care Indicators, RQHR Infectious Disease Clinic, Pre- and Post- HIV Strategy



Source: Assessment and Evaluation of the Outcomes for Clients in the RQHR, Infectious Diseases Clinic, Regina General Hospital, 2014.

Note: There are likely differences between the pre- and post-strategy cohorts. For instance, the pre-strategy cohort may have been further advanced in their infection before being diagnosed; whereas the post-strategy cohort may have benefitted from some of the interventions resulting from the strategy, i.e. increased access to testing and enhanced adherence programming.

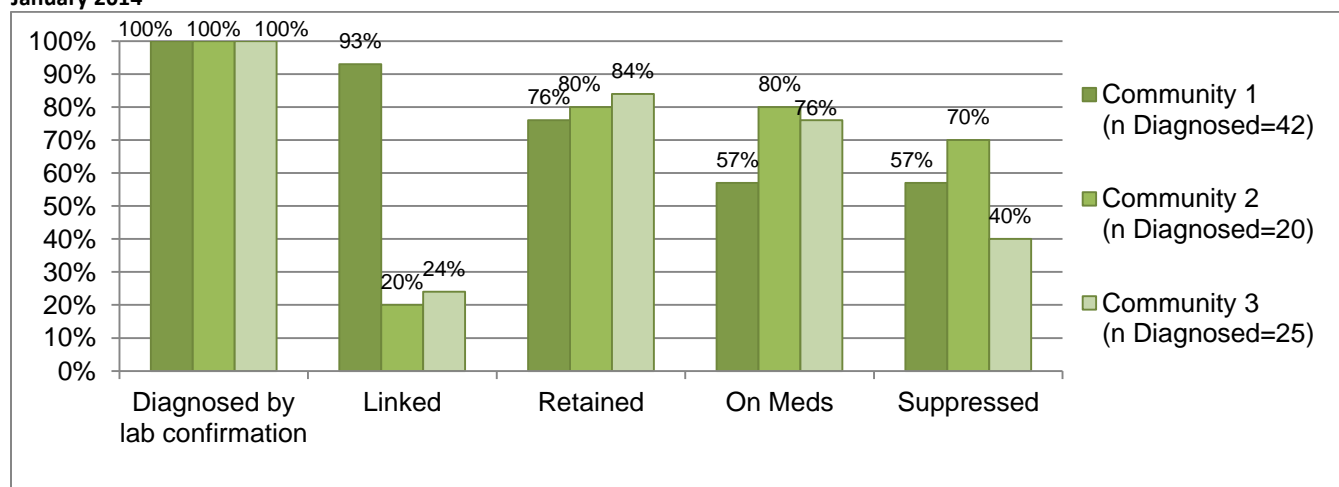
⁵ Cascade of Care Indicators (adapted from PHAC 2013):

- Diagnosed: "confirmed HIV antibody indeterminate or positive and confirmed by Western Blot positive laboratory test"
- Engaged or Linked into Care: "attended an HIV-specific medical visit within 3 months of diagnosis"
- Retained in Care: "attended at least two HIV specific medical visits within the last year, at least 90 days apart"
- On Medication: "prescribed at least one prescription for ARVs within the last calendar year"
- Suppressed: "most recent viral load \leq 200 copies/mL, or undetectable viral load, confirmed through laboratory test within the last calendar year".*

*The Cascade of Care was evaluated and assessed for the pre-strategy cohort from January 1 to December 31, 2009 and the post-strategy cohort from January 1 to December 31, 2013.

The Saskatchewan HIV Northern Data Project reviewed data from Saskatoon and Prince Albert, along with three northern communities (two of these were First Nations communities). The data was analyzed on active patients and measured them at a point in time on the elements of the Cascade of Care (January to March 2014).

Figure 16: Cascade of Care Indicators, Northern/First Nations Communities, January 2014



Source: Dr. Kris Stewart, 2014

All of the patients in Community 1 (northern community) on treatment have undetectable viral loads. Many patients have their antiretroviral therapy linked to daily dispensed methadone. The clinic in this community is extremely high functioning and is well supported by an exceptional social worker who works to maintain engagement of the patients. The clinic receives regular (about every other month) support from infectious disease specialists (on site and by telehealth) and is run by interested and knowledgeable primary care physicians. Significantly, the EMR in the clinic helps to keep track of patients' pending investigations and therapies. By all measures, even while dealing with significant issues related to poverty and addiction, the clinic is a model of success.

Communities 2 and 3 are First Nations communities in northern Saskatchewan. The staff from the health centres at these sites recognized high rates of HIV risk factors and petitioned the communities' leadership to support a coordinated testing campaign. This campaign led to high numbers of individuals being diagnosed with HIV. The data for communities 2 and 3 suggest a delay in linkage but ultimately quite impressive retention and even more impressive high numbers of people on treatment. The willingness of these communities' leadership to address HIV, the efforts of the visiting specialist and the daily hard work of the nursing team have achieved remarkable success. The availability of methadone significantly facilitates the engagement of patients who are otherwise almost impossible to reach.

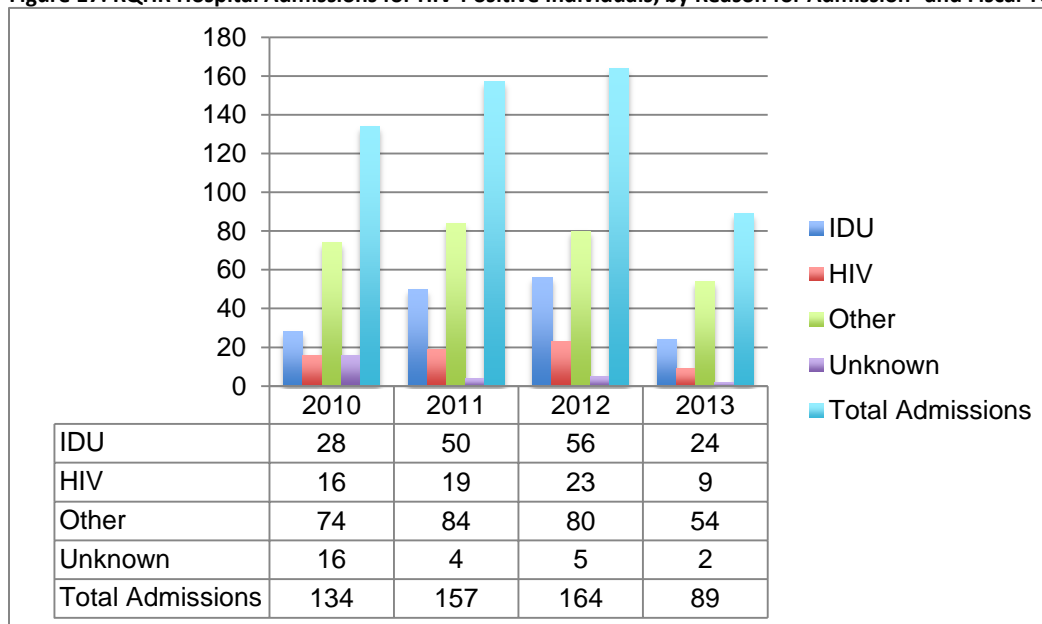
Notes: At the time of data collection for the Saskatchewan HIV Northern Data Project, gaps existed in the likely number of individuals with suppressed viral loads. This is the consequence of not having dedicated staff to manage data at sites outside of the urban centres. The labor intensive work required to gather information on patient outcomes, along with the gaps experienced in obtaining data speak to the importance of having a provincial Electronic Health Record in place.

Multiple interventions had impacts on the results of the HIV Cascade of Care in both RQHR and the Northern/First Nations case studies. The results cannot be attributed only to case management and enhanced adherence programs; however, it is likely that the increased resources available to patients as a result of these programs contributed to improved clinical outcomes.

IV. Utilization

In addition to improved clinical outcomes among patients, it appears there were also important impacts on health care utilization patterns based on data from RQHR. For example, as seen in Figure 17, the total number of admissions for HIV-positive individuals was significantly lower in 2013 than in preceding years. Admissions in 2013 were slightly more than half the number of admissions in 2012. There were also fewer admissions related to injection drug use, HIV complications, or other reasons.

Figure 17: RQHR Hospital Admissions for HIV-Positive Individuals, by Reason for Admission⁶ and Fiscal Year



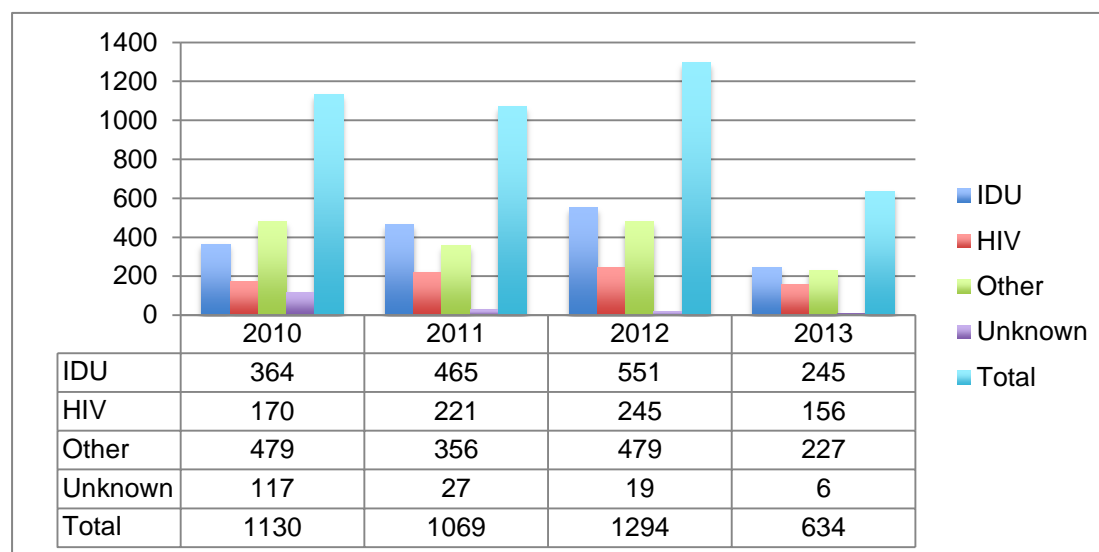
Source: Acute Care Utilization in RQHR for HIV+ Individuals: 2010-13, Population & Public Health Services/Infectious Diseases Clinic, RQHR, 2014

Note: The number of active patients in the Infectious Disease Clinic for 2010-2013 was unavailable.

⁶ IDU: skin and soft tissue infections, osteomyelitis, septic arthritis, bacteremia, endocarditis. HIV: complications of advanced HIV/AIDS including opportunistic infections, AIDS-related malignancies, wasting syndrome, neurocognitive impairment/decline. Other: everything else, with respiratory tract infections and pneumonia being most common.

In addition to an overall reduction in the number of hospital admissions, total number of hospital days was significantly reduced among HIV positive persons. As seen in Figure 18, in 2013, a total of only 634 days were spent in hospital by HIV positive persons while 1,294 days were spent in the previous year by the same population subset. Reductions are notable among all reasons for admission.

Figure 18: Total Number of Hospital Days per Fiscal Year, by Reason for Admission



Source: Acute Care Utilization in RQHR for HIV+ Individuals: 2010-13, Population & Public Health Services/Infectious Diseases Clinic, RQHR, 2014

Note: The number of active patients in the Infectious Disease Clinic for 2010-2013 was unavailable.

While these reductions in health care utilization have only been formally evaluated in the Regina Qu'Appelle Health Region, it is reasonable to expect that these results would extend to other RHAs employing similar programming. In consideration of this finding, the impact on health care spending is significant. For example, in RQHR alone, with a reduction of 435 days in hospital from 2011 to 2013 at an estimated average cost per day in hospital of \$1,207⁷, this correlates to over \$500,000 in savings.

Attendance at Learning Opportunities

- Professions reached through training events included physicians, nurses, nursing students, pharmacists, social workers, laboratory staff, mental health and addictions personnel, community-based organization personnel, and members of the broader community, including HIV-positive persons, Elders, and peers.

⁷ Estimate by Acute & Emergency Services Branch based on Saskatchewan hospital data within the Canadian Institute for Health Information's Discharge Abstract Database.

- Attendance at HIV Grand Rounds presentations increased over time and significant satisfaction and positive feedback were gathered through participant evaluations of the sessions from April 2012 to March 2014. Quotations from participants included the following:

“All presentations were excellent information. Although I do not have a medical background, learning about the medications and resistance and the medical tracking (data collection) of HIV was useful in understanding the whole issue about HIV and the importance of working toward reducing the incidence as well as providing a more clear understanding about what patients are going through and how to best support them.”

- Over 150 physicians, nurse practitioners, registered nurses and other health care professionals attended the Community-Based and Culturally Appropriate HIV and AIDS Diagnosis and Treatment in Rural and Aboriginal Communities presentations.
- Feedback from the Prairies HIV Conference was also very positive, with over 90% of respondents indicating they were “satisfied” or “very satisfied” with the event. Over 80% of respondents indicated they found the conference “useful” or “very useful” for their work.

“I found it helpful to hear from Aboriginal people about what they found helpful to create a culturally competent environment to delivery holistic healthcare”

“Amazing! It’s always beneficial to hear words of wisdom from the Elders. Please include this concept in every future gathering”

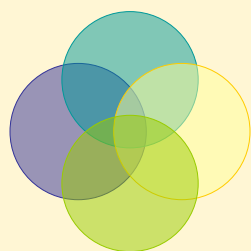
“Informative, provided a lot of information about HIV risk and transmission in an accessible format”

“Great presentation, content brings Hep C context to our work”

Concluding Remarks

The improvement of clinical management within the HIV Strategy enabled many individuals with HIV access to the best quality care possible in a timely manner. The increased resources, such as FTEs for outreach and frontline service delivery and enhanced community-based supports funding have likely impacted clinical outcomes for individuals living with HIV. Also, the introduction of mobile clinics has increased access to areas where testing and treatment for HIV were not previously available. The EMR pilot project in RQHR resulted in tracking patients’ outcomes over the duration of the Strategy and would be a useful tool to implement province-wide.

Especially important in this was the involvement of patients living with HIV in training events for healthcare workers. This provided a candid examination of the day-to-day experience of individuals living with HIV and the treatment they receive. Incorporating the viewpoint of patients and taking a more inclusive approach to treatment has shown to be valuable, as demonstrated by the impressive clinical results of the RQHR Case Management and Enhanced Adherence programs. A continued focus on these initiatives is required to improve access and delivery of services to all persons throughout the province diagnosed with HIV.



Surveillance and Research

The focus of the Surveillance and Research pillar was to:

- ❖ Understand disease characteristics in order to inform prevention and treatment plans;
- ❖ Increase understanding of risk factors for HIV; and,
- ❖ Improve knowledge translation and communication at all levels.

The Surveillance and Research pillar was deployed through four approaches, each of which are detailed further below.

(1) HIV Surveillance to Understand Disease Characteristics

The Ministry of Health conducts surveillance of HIV incidence in the province to understand patterns of the disease in Saskatchewan. An annual HIV/AIDS report is posted to the Ministry of Health website, with the most recent available data collected in the Ministry. The report includes newly diagnosed cases of HIV, rates of incidence of HIV provincially, by gender, by age groups, by regions, by self-reported ethnicity, and by risk factors associated with infection. Included is also an analysis of new cases of AIDS in the province. This information allows the Ministry to track HIV/AIDS on a year-to-year basis and to assess whether broad population-level changes are occurring in relation to the disease. For instance, although IDU remains the most common risk factor for HIV in Saskatchewan, we have begun to see a decrease in the percentage of new cases reporting IDU as the main risk factor while we have seen a steady upward trend in new cases reporting heterosexual activity since 2005.

(2) Increase Understanding of Risk Factors for HIV

The notifiable disease surveillance system does not collect information regarding the social determinants of health. Consequently, there was a gap identified for understanding how those factors drive disease incidence and progression in the province. As such, an HIV Enhanced Surveillance Questionnaire was implemented to collect information for individuals newly diagnosed between June 1, 2011 and November 30, 2012.

(3) Electronic Medical Record (EMR) Pilot in RQHR

In Saskatchewan, there is no provincial clinical database for HIV patients. The process of obtaining data for the case studies in Regina and the north for measuring patient outcomes and elements of the HIV Cascade proved to be labor intensive without an EMR. The Infectious Diseases Clinic in RQHR created an EMR for HIV patients using Med Access to assist clinicians in the clinical and case management of their patients and monitoring their clinical outcomes.

Clinicians believe that having electronic data collection expanded provincially through an EMR will allow for comprehensive, accurate and efficient data handling, both from a clinical perspective and as a foundation upon which effective HIV related policy will be developed in the future (*Stewart, 2014*).

(4) Knowledge Translation

The Canadian Institutes for Health Research (CIHR) partnered with the HIV PLT to host an event titled “Café Scientifique: How can Saskatchewan get to Zero New HIV Infections”. The discussion centered around how research can assist Saskatchewan communities in addressing HIV, with solutions taking into account colonization, poverty and intergenerational trauma, to name a few.

Measurable Outcomes

Work done in this area has provided valuable information required for the planning and delivery of the various initiatives within the HIV Strategy. Of particular value for these initiatives was the information collected through the HIV Enhanced Surveillance Questionnaire and the EMR pilot in RQHR (highlighted in the Clinical Management pillar).

HIV Enhanced Surveillance Questionnaire (HESQ)

The HESQ collected information regarding social determinants of health and other relevant data from newly diagnosed HIV patients in the province from June 2011 to November 2012. A total of 137 questionnaires were completed (see Appendix B for full analysis).

Key findings indicate that just over half of respondents:

- had less than high school completion;
- had a monthly income level of less than \$1,000;
- reported social assistance or year round regular work as their main source of income;
- indicated they never or occasionally used a condom in the year prior to diagnosis. The most common reasons cited for not using a condom was that they had a regular partner and were “high or drunk”; and
- identified using injection drugs. When asked questions about needle sharing/exchange practices, the most common reason given for not accessing needle-exchange services was inconvenient location or hours of operation and the main reason for not using clean needles/equipment was that needles were not available when needed.

Other significant findings were:

- although the majority of respondents (83%) lived in permanent housing during the year prior to HIV diagnosis, those who were in temporary housing situations cited lack of suitable housing and cost as barriers to permanent housing.

- the majority of respondents accessed health care through the hospital/Emergency Room, their regular family doctor and walk in clinics. This signifies the importance of the family doctor as a key connection to treatment and other services.
- the major barrier in accessing health care services was identified to be transportation, even in the urban centers.
- before diagnosis, respondents reported the three most popular sources of information about HIV were the media, “nowhere” and a friend/partner.
- after diagnosis, respondents indicated they would like to access support from a health care provider, clinic staff and an AIDS service organization. Transportation, confidentiality and a mentor were identified as necessary to access these supports,

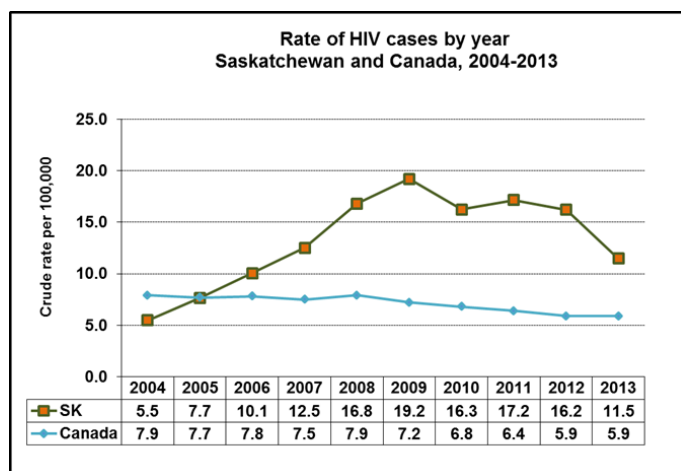
Concluding Remarks

The information from the Surveillance and Research pillar is critical to better understand disease characteristics. Increasing available information via expansions in surveillance methods such as the HESQ results in better guidance for program planning and delivery.

Broad Outcomes of the Saskatchewan HIV Strategy

The Saskatchewan HIV Strategy, through a broad and intersectoral approach, created significant opportunities to increase prevention and awareness efforts and improve the lives of people living with HIV and those most at risk of acquiring infection. Overall impacts of the strategy are yet to be determined; however, Saskatchewan has begun to see a decline in the number and rate of new HIV cases. Since 2009, a sustained decrease in HIV cases has been seen provincially (see Figure 19); however, the provincial rate still remains at twice the national rate. Ongoing testing will lead to more case finding, especially in rural, remote and First Nations communities where community mobilization and increased testing efforts are currently underway.

Figure 19: Rate of newly diagnosed HIV cases, Saskatchewan versus Canada, 2009 – 2013



Source: Population Health Branch, Ministry of Health (2014). Public Health Agency of Canada, (2013).

Conclusions and Future Steps

While definitive outcomes and impacts of the Strategy are, at this time, still difficult to measure, broader achievements, including the unique leadership model and approach that were made within the Strategy, are perhaps most notable. Collectively, the approach of the strategy broke ground on a number of important areas.

- 1) Community-level programming was strengthened and further developed to allow for grassroots initiatives to gain traction and build advocacy at the community level;
- 2) Gaps between the health care system and other sectors addressing broader social determinants were identified and prioritized in order to build bridges between siloed service delivery areas;
- 3) Capacity was built on multiple levels by engaging and working collaboratively with diverse stakeholders. These included healthcare providers, patients, communities, at-risk populations, and other important groups. This approach guided the HIV Strategy in disseminating information, building skills, and encouraging advocacy across the province while utilizing input of families and communities directly affected by HIV.
- 4) The patient voice was actively involved as part of the HIV PLT, through the peer mentorship programs, and through patient involvement in training events, information sessions, and awareness campaigns;
- 5) Relationships were strengthened between community-based organizations, First Nations Inuit Health Branch (FNIHB), Regional Health Authorities (RHAs), First Nations Jurisdictions (FNJs), Community-based Organizations (CBOs), between patients and providers, and among multidisciplinary teams.

The HIV Strategy, through its diverse and extensive work, encompassed a comprehensive set of interventions and provided an example of how addressing a health issue in a multidimensional way can affect various levels of the health care system, from patient to provider. While important successes are identifiable to date, further work is vital to the Strategy's success over the long term. Despite its many successes, it must be acknowledged that there are many areas of the province that require continued attention to combat HIV due to persistent high HIV rates and areas of the province where the HIV rate may be underestimated. Finding people living with HIV but who are unaware is a critical step in engaging people with the health care system. As more communities are engaged and more individuals are reached, it is expected that HIV prevalence will once again increase. However, in alignment with the HIV Strategy's goals, diagnosis is the first key step to engaging patients in care and reducing further infections.

Moving Forward with the HIV Strategy

While many of the initiatives within the Strategy were not formally evaluated, the interventions that were evaluated suggest significant impacts were made in terms of expanding prevention programs, disseminating information and resources, building capacity along the continuum of care, empowering patients, and supporting the ongoing HIV work done across the province. Moving forward, it is critical that support for HIV prevention and control programs be sustained to ensure continuity of the valuable progress made to date and to improve the health of Saskatchewan residents. It is also integral that the Ministry of Health and stakeholders continue to monitor the trends of HIV risk factors, client demographics and co-infection with hepatitis C and tuberculosis and adjust programming and policies to reflect the changing epidemiology.

A number of recommendations are put forth to build upon the vital work of the Strategy.

Community Engagement and Education

1. Continue education and awareness sessions across the province with a special focus on preventing transmission of HIV and reducing stigma. Cultural insensitivity and racism were noted in the community-based organization consultations as key factors impacting health service delivery and quality of life for people.
2. Improve and expand social media presence to reach a broader audience in the province.

Prevention and Harm Reduction

3. Continue to expand and promote testing for HIV with the knowledge that increased testing will lead to increased case finding. Targeted, risk-based approaches such as HIV Point of Care Testing in high-risk situations (i.e. Labour & Delivery) should be expanded, as well continuing to promote routine HIV testing with health care providers. Emphasis should be placed on addressing the barriers noted in the body of this report and recommendations of the HIV POC evaluation in order to continue to expand access to testing in the province.
4. Consider expansion of peer-to-peer, case management, and enhanced adherence programs into other cities and regions which currently do not have comparable programs.
5. Based on high success in Sunrise Health Region, conduct a needs assessment to identify where additional prevention and risk reduction services are required in the province including on-reserve.
6. Expand programs which provide transportation, housing, and other socioeconomic supports to individuals at risk of acquiring HIV and those living with HIV.

Clinical Management

7. Provide ongoing HIV training opportunities for healthcare providers and promote best-practices provincially.
8. Assess the need for additional multi-disciplinary team clinics in locations where services not currently available.
9. Engage and build capacity of Primary Health Care teams across the province through mentorship opportunities with infectious disease specialists, registered nurses and pharmacists who are knowledgeable in providing HIV care.

Surveillance and Research

10. Expand EMR throughout the province to monitor clinical outcomes of patients and implement the HIV cascade of care as a means to track patient outcomes. Achieving this recommendation will require work to define and establish a provincial dataset.
11. A new provincial target should also be established for HIV testing measures in the province, based on unique individuals being tested. The Ministry of Health will work with the health regions to establish these measures in 2015.
12. Invest in a data information system which allows for ongoing monitoring and evaluation of HIV prevention and control strategies in the province.

General

13. Integrate HIV prevention and control with that of TB, hepatitis C and sexually transmitted infections, as coinfection with two or more of these infections is not uncommon. Often, the risk factors associated with these conditions overlap and impact the same populations and communities.
14. Develop synergies with other strategies, i.e. Connecting to Care, Mental Health & Addictions Action Plan, etc.
15. Continue to partner with First Nations' organizations and Health Canada to allow ongoing synergies between provincial, federal and community-based programs.

Collectively, these recommendations leverage the programs already in place with hopes to reach a greater proportion of the Saskatchewan population. However, HIV is a disease that spreads most prevalently among populations marginalized and living in lower socioeconomic conditions. Moreover, HIV is only one example of the vast health inequities prevalent that propagate among these populations. It is therefore imperative to continue to invest in areas that transcend and drive the diseases that affect at-risk populations to improve population health overall, i.e., the socioeconomic conditions that underscore health and disease. Therefore, to make significant progress into the future, continued intergovernmental and intersectoral work will be crucial. The HIV Strategy demonstrated the possibilities of partnerships through valuable work with CBOs, peers, FNIHB, NITHA, and other major groups, leveraging the efforts of all parties to create better health opportunities and outcomes for the Saskatchewan population.

The HIV Strategy has allowed for acquisition of some baseline data to measure our progress moving forward. Continuing to set targets will be imperative in order to continue the momentum created by the targeted strategy for HIV and other communicable diseases. In December 2013, UNAIDS established new targets for HIV treatment scale-up. In response, stakeholder consultations on new targets have been held in all regions of the world and the following target was established:

- By 2020,
 - 90% of all people living with HIV will know their HIV status.
 - 90% of all people with diagnosed HIV infection will receive sustained antiretroviral therapy.
 - 90% of all people receiving antiretroviral therapy will have viral suppression.

The overall impact of the HIV Strategy is yet to be realized as the ongoing efforts of the increased, dedicated resources continue to impact Saskatchewan. Over the longer term, it will become clear as to how the Strategy has affected the overall burden of HIV in the province and how it has impacted the lives of those affected by the disease.

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Appendix A



**Saskatchewan
Ministry of
Health**

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HIV STRATEGY FOR SASKATCHEWAN 2010 - 2014

**A COMPREHENSIVE PROVINCIAL
STRATEGY IS REQUIRED TO PREVENT
THE TRANSMISSION OF HIV IN
SASKATCHEWAN AND TO IMPROVE
THE QUALITY OF LIFE FOR HIV-
POSITIVE PEOPLE**

I Executive Summary

Saskatchewan has seen a substantial increase in new cases of HIV since 2003 and as of 2010 has the highest rates in Canada at twice the national average at 20.8 vs. 9.3/100,000 (Public Health Agency of Canada [PHAC], *HIV and AIDS in Canada; Surveillance Report, December 31, 2008*). The epidemiology of HIV in Saskatchewan is different from the rest of Canada, with 75% of new HIV cases in 2009 predominantly associated with injection drug use. Aboriginal women under age 30 account for a disproportionate number of all new HIV-positive cases in the province (Ministry of Health, PHB, 2010).

HIV/AIDS has the greatest impact on Canadian populations already vulnerable to a range of health, social, and economic inequities. The social determinants of health that impact risks of acquiring HIV, especially injection drug use, include factors such as poverty, inadequate housing, lack of education or job training, child abuse and family violence. Addressing the social determinants of health, injection drug use, and HIV requires a concerted effort, and a coordinated and multisectoral commitment.

Cost

The impact of HIV/AIDS on provincial health services and social systems is significant. A conservative estimate of direct costs to the Saskatchewan health care system is approximately \$40 million per year (calculated amount based upon Drug Plan and hospitalization data). Indirect costs attributable to HIV/AIDS have been estimated to be 2.4 times direct costs.(1)

Goals

The goals of the Saskatchewan HIV Strategy are to:

- Reduce the number of new HIV infections;
- Improve quality of life for HIV infected individuals; and
- Reduce risk factors for acquisition of HIV infection.

In order to achieve these goals throughout Saskatchewan, a comprehensive and integrated, approach to HIV (with consideration of hepatitis C, tuberculosis and sexually transmitted infections) is required. Several of the recommendations made in this strategy are broad in scope and will take a concerted effort over a period of time to make the changes necessary to achieve its objectives.

This strategy forms the framework for current and planned efforts to address HIV/AIDS issues in Saskatchewan.

The Saskatchewan HIV Strategy builds upon current knowledge and provides an outline for steps to address the challenge of rising HIV rates in the province over the next four years. Continued research and the discovery of new evidence may reveal new opportunities or practices which will refine the strategy to the needs of individuals with HIV and those who are at risk. The complex nature of addictions, which usually includes a host of other

challenges such as poverty, housing and mental health issues, needs to be considered within a comprehensive strategy. This strategy will benefit from current actions underway in the area of prevention and treatment of addictions. A multi-disciplinary team approach is well suited to the focus of preventing, assessing, treating and controlling HIV/AIDS and other specific communicable diseases in Saskatchewan.

Improvements to address the transmission of HIV/AIDS are already underway, with, for example, strengthened case management and increased access to rapid Point of Care Testing (POCT). Currently, five health regions have implemented POCT, and have achieved 100% proficiency in meeting quality assurance standards.

It is anticipated that implementation of the strategy will see increased HIV rates due to enhanced surveillance and increased testing. It is expected that the HIV rates will decline in year four as the intervention/prevention initiatives start showing results. However, the strategy will require continued involvement of many sectors in order to ensure success.

In addition to work underway to ensure early diagnosis of HIV, steps are being taken by regional addictions services to improve client access to alcohol and drug services and improve client flow between services to keep clients actively participating in programming.

Several initiatives to achieve this improvement are under development, with implementation scheduled to begin early in 2011. These initiatives include:

- Standardized recovery support planning to improve client flow from one service to the next;
- Standardized screening and prioritization of services to eliminate duplication of data

collection and efficiently stream clients to appropriate services;

- Standardized assessments to eliminate duplication of assessments and reduce the number of clients waiting to be assessed;
- Standardized admission criteria for detox and inpatient services to reduce inappropriate referrals and improve client flow to appropriate services;
- Identification of housing supports and establishment of protocols to link clients to appropriate housing options to reduce the number of clients occupying treatment beds who are in need of supportive housing;
- Identification of average discharge rates to pull clients through the system and estimate current system capacity when operating efficiently; and
- Review and revision of models of care to identify and validate best practices for specific client groups.

Health regions are at various stages of planning for establishing linkages with needle exchange programs and addiction services. Prince Albert Parkland Health Region has recently located addiction counselors at needle exchange and outreach services. The Prince Albert Parkland model includes co-located services for needle exchange, the hepatitis C/HIV clinic, and sexual health clinic. Addiction services are available at the same location. The co-location of services provides knowledge exchange opportunities for staff and allows addiction counsellors to establish rapport with clients in a number of different settings. In this best practice model, addiction counselors apply harm reduction principles and programs as part of the recovery process, recognizing that abstinence may be the end result but not the starting point and it is important to meet clients “where they are at.”

The Addiction Advisory Committee's term is nearing completion and a final report with recommendations will be submitted to the Minister in the next few months. A number of areas have been identified to help strengthen the continuum of care for alcohol and drug services.

The Four Strategic Pillars

The HIV strategy is aligned under four main pillars in order to ensure a comprehensive approach to addressing HIV in Saskatchewan. These four strategic pillars are

- *Community Engagement and Education*
- *Prevention and Harm Reduction*
- *Clinical Management*
- *Surveillance and Research*

Clear communications among stakeholders, regions, partners and the Ministry will be key to ensuring that knowledge, capacity, and ownership increase among those involved in addressing HIV/AIDS.

The following describes the detailed components of each pillar of the HIV strategy.

1. Community Engagement and Education

The focus of community engagement and education is to:

- Engage elders of First Nations and Métis communities to promote ownership of and involvement in addressing HIV;
- Establish HIV-positive peer to peer networks (HIV-positive teens, IDUs, and HIV-positive mothers) to provide knowledgeable and acceptable supports to those HIV positive or at risk;
- Provide public awareness and education campaigns aimed at prevention of HIV to reduce risk of acquiring HIV and to reduce stigma in the broader population;

- Ensure targeted prevention, treatment, and healthy living programming for HIV-positive individuals; and
- Strengthen prevention measures that protect children and youth, such as Kids-First programming, which focuses on areas such as home-visiting, parent engagement, and promoting linkages with mental health and addictions services

2. Prevention and Harm Reduction

The focus of prevention and harm reduction is to:

- Establish prevention and wellbeing centers with expanded access to harm reduction measures and to promote and encourage safe behaviours;
- Enhance medical/nursing curricula to ensure adequate education and knowledge of substance abuse and chemical dependency;
- Increase access to HIV testing for at risk populations;
- Continue to enhance addictions prevention initiatives; and increase capacity and accessibility to treatment services through improved service delivery;
- Reduce homelessness for those at-risk of or those living with HIV, by developing a supportive housing model through Regional Intersectoral Committees and other inter-Ministerial forums such as the Human Services Integration Forum. The Prince Albert Horizontal Project Pilot, a holistic model that integrates supportive services with housing, and is aimed at improving a variety of life aspects, including decreased involvement with acute health services

and the criminal justice system, could be considered as a promising practice; and

- Incorporate mental health and addictions programming with prevention and wellbeing centres, using a holistic client/patient-centered approach.

3. *Clinical Management*

The focus of clinical management is to:

- Provide a non-discriminatory, patient-first approach to care;
- Adopt cross-disciplinary teams to provide a continuum of support to HIV-positive individuals;
- Ensure focused learning opportunities for all health care providers; and
- Incorporate best practice plans and standardized protocols for enhanced case and clinical management of HIV.

4. *Surveillance and Research*

The focus of surveillance and research is to:

- Understand disease characteristics in order to inform prevention and treatment plans;
- Increase understanding of risk factors for HIV; and
- Improve knowledge translation and communication at all levels.

II HIV in Canada

As of 2008, the number of Canadians diagnosed with HIV was estimated at 67,442 (a 7.0% increase from the previous year). Additionally, it was estimated that as of 2008, over 13,000 Canadians had died from HIV/AIDS.(2)¹

In 2008, more than 80% of all positive tests were reported from the three provinces with the largest populations: 42.7% from Ontario, 24.7% from Quebec and 13.6% from British Columbia. However, in this same year, rates of new infections per 100,000 were the highest in Saskatchewan (20.8), more than twice those of Ontario (10.3), British Columbia (9.5) and Quebec (9.8), while the lowest rates were reported in Newfoundland and Labrador (0.7), Northwest Territories (0.0) and Nunavut (0.0). See Figure 1 on the following page for a comparison of 1998 and 2008 data from Statistics Canada and PHAC regarding the diagnosis rates of HIV infection.

In 2008, approximately 25% of newly diagnosed cases in Canada were among women. The exposure category of men who have sex with men (MSM) accounted for the largest proportion of positive HIV tests (45.1%), followed by heterosexual exposure at 30.8% and injection drug use (IDU) at 19.1%. From 1999 to 2008, IDU accounted for approximately 49.3% of women diagnosed with HIV and only 17.6% of cases among HIV-positive men.

It is important to note that not all jurisdictions report ethnicity, in particular, Ontario and Quebec. Noting this data limitation, in 2008, the majority of positive tests (44.6%) were non-Aboriginal, and 29.4% were of Aboriginal descent.

While MSM remain the highest proportion of HIV test reports in adults (2008), HIV/AIDS is increasingly affecting other populations at risk, in particular,

¹ Unless otherwise indicated all data in section "II: HIV in Canada" has been adapted from the Public Health Agency of Canada's 2009 report: *HIV and AIDS in Canada Surveillance Report to December 31, 2008*.

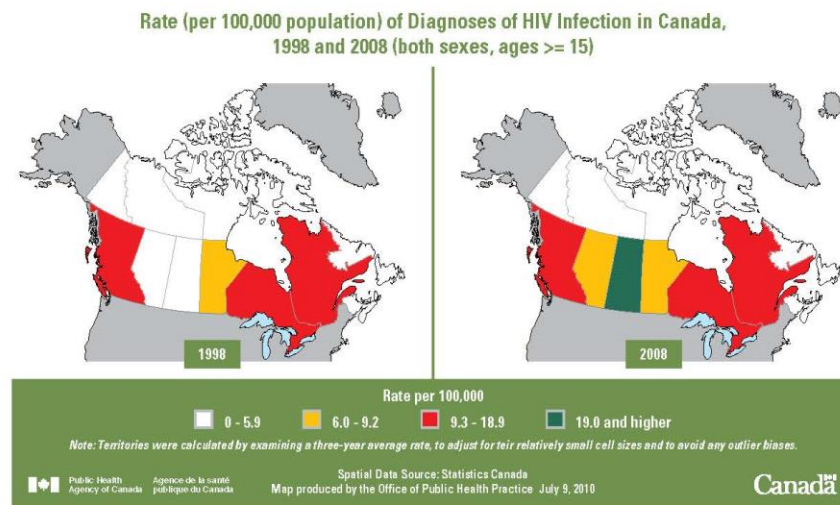


Figure 1: Diagnosis of HIV Infection in Canada, 1998 and 2008.
Source: © Statistics Canada & PHAC/Office of Public Health Practice, July 2010

Aboriginal people. Over the past decade there has been a steady decrease in the proportion of positive tests attributed to non-Aboriginal Canadians and an increase in the proportion of Aboriginal and Black Canadians, 23.4% to 29.4% and 7.3% to 14.5%, respectively. Of note, women, IDUs, youth, and people from countries where HIV/AIDS is endemic are also experiencing increasing rates of infection.

In 1998, an escalation of HIV occurred in British Columbia which was primarily associated with IDU. Other social risk factors such as unstable housing, poverty and unemployment also played significant roles in the positive HIV and data results. The majority of these British Columbia cases were of Aboriginal descent.⁽³⁾ Recent studies in Edmonton, Alberta identified similar characteristics among a group of predominately male HIV-positive IDUs.⁽⁴⁾

In Canada, of the 238 babies born to HIV-positive mothers in 2008, four babies (1.7%) were confirmed to have been infected with HIV. This proportion is the lowest since the peak in 2001, when 17 babies of a possible 168 (10%) were born infected with HIV. The trend has decreased every year since 2001, with the exception of 2005, when 13 babies of a potential 189 (7.0%) were born HIV-positive. The cumulative proportion since 2001 is 93 positive babies of a potential 1543 babies (6.0%) born to HIV infected mothers. The proportion of HIV-positive mothers receiving antiretroviral therapy has increased steadily in the last 9 years, to 87.8% in 2008.

In Canada, Acquired Immune Deficiency Syndrome (AIDS) has steadily declined over the last ten years (from 1998 to 2008) with 255 cases reported in 2008.

III HIV in Saskatchewan

Historical Perspective

Since 1996, there has been an increase in new HIV-positive cases in Saskatchewan; various clusters and outbreaks of new HIV cases have been documented.

In 2002, a Saskatchewan report, *At Risk: Recommendations for a Strategy on HIV, Blood-borne Pathogens and Injection Drug Use*, identified 75 recommendations to address the increasing rates of HIV in the province. Of the 75 recommendations, many have been accomplished; however, some continue to be emphasized in this HIV strategy with a more formalized structure.

The epidemiology of HIV in the Saskatchewan population is different from that seen elsewhere in Canada, with its new HIV cases predominantly associated with IDU. This trend of increasing new HIV cases that are IDU related increased from 50% in 1997 to 75% in 2009. Since 2005, Aboriginal

females under the age of thirty have accounted for a disproportionate number of female HIV cases under the age of thirty. Saskatchewan's 2009 data indicates that Aboriginal women under the age of 30 account for a disproportionate number (93%) of the reported female cases of HIV under the age of thirty (Ministry of Health database, retrieved in 2010). In 2009, the majority of new HIV cases were in Regina, Saskatoon, and Prince Albert; see Figure 2.

Incidence

The number of new HIV cases in Saskatchewan has steadily increased from 26 new cases in 2002 to 200 new cases in 2009 (Ministry of Health database, retrieved in 2010). The incidence of new HIV cases, 2000-2009 is described in Figure 3.

In 2008, there were 174 new cases of HIV reported in Saskatchewan; 94 males and 80 females. Throughout 2009, the number of new male cases (111) continued to increase compared to the number of new female

Proportion of HIV Cases Reported by Health Jurisdictions.
Saskatchewan, 2009

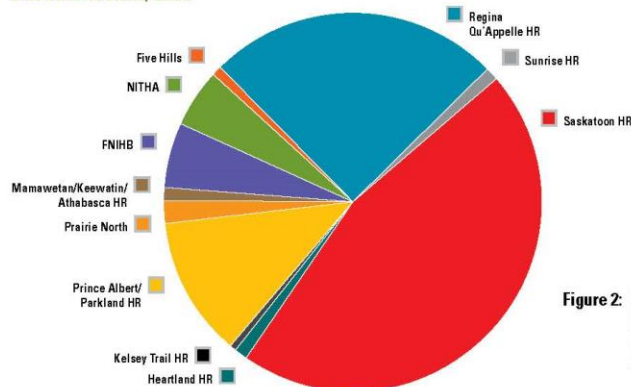


Figure 2: New HIV Cases by Regional Health Authority
Reference: Ministry of Health-PHB, 2010

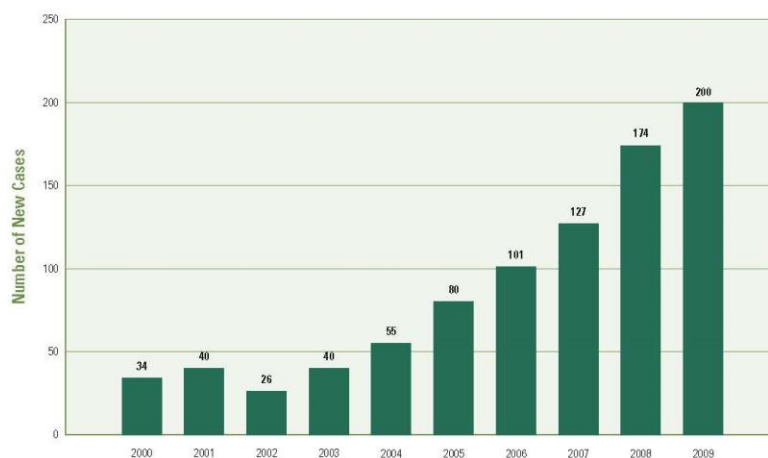


Figure 3: New HIV Cases reported in Saskatchewan, 2000 to 2009.
Reference: Ministry of Health-PHB, 2010. Data for 2009 is preliminary.

cases (88). There was also one perinatal case for a total of 200 new cases reported in 2009. (Saskatchewan Ministry of Health database, retrieved, 2010).

In 2009, the average age for cases reported in women was younger than that reported for men, with approximately 50% of the females being under the age of 30 compared to 23% of the males in the same age

group. For additional detail on age group and gender for HIV cases see Table 1.

Ethnicity of all cases indicates an over-representation of those of Aboriginal ethnicity (79% in 2009). See Figure 4 for additional information. In 2009, the new cases were predominantly found to be IDU (77%); and of this group, 84% were of Aboriginal ethnicity.

Table 1: Number of HIV cases reported by Age Group and Gender in Saskatchewan, 2004 to 2009.

Age Group	2004		2005		2006		2007		2008		2009	
	male	female	male	female	male	female	male	female	male	female	male	female
0 to 4			1	2			2	2				1
5 to 14						2		1				
15 to 29	2	17	16	24	11	25	16	37	18	39	25	45
30 to 39	18	7	9	8	19	15	19	12	37	25	40	30
40 to 49	6	1	6	7	14	10	17	7	27	15	28	9
over 50	4		5	2	4	1	11	3	12	1	18	4
Total	55		80		101		127		174		200	

Reference: Ministry of Health-PHB, 2010

Canadian iTrack studies, a series of surveys that collects information regarding IDU, show that 38% of IDUs (both HIV-positive and HIV-negative) in Regina inject with their families compared to an average of 12.7% across seven other Canadian cities. Approximately 50% of Regina IDUs inject with sex partners compared to less than 30% in other Canadian cities.(5)

See Figure 5, on the following page for additional information regarding IDU among those with HIV by age group in Saskatchewan.

The disproportionate number of HIV-positive cases among Aboriginal women under 30 years of age compared to the number of reported cases among non-Aboriginal women under 30 years of age indicates the influence of many complex factors of vulnerability, such as unstable housing, addiction, and elevated risk of sexual and drug-related harms.(7-8) It is important that the Saskatchewan HIV strategy consider all of these vulnerability factors.

Prevalence

The exact prevalence (number of individuals living with HIV) in Saskatchewan is unknown. Approximately 1,200 cases have been diagnosed since the year 1984 and the 2008 PHAC surveillance report predicts that a further 27% could remain undiagnosed. PHAC estimates that in Saskatchewan the prevalence would be approximately 1,420. (PHAC correspondence, January 2010).

Drug Use and Risk Factors in Saskatchewan

According to data from the Alcohol and Drug Services Client Information System, in 2008-09, 1,222 admissions occurred in which IDU was identified as the presenting problem. This compares to 1,158 admissions in 2007/08, 645 in 2006/07, and 619 in 2005/06. Cocaine has been identified as the most frequently injected drug by those accessing addictions services, followed by morphine/Demerol*, and Talwin*/Ritalin*. Cocaine has been consistently

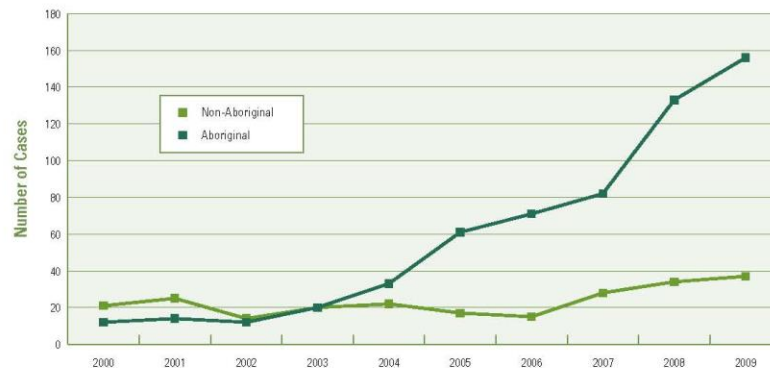


Figure 4: HIV Cases by Selected Self-reported Ethnicity in Saskatchewan, 2000 to 2009.
Reference: Ministry of Health-PHB, 2010.

reported as the drug of choice in recent years.(5) However, morphine/Demerol® showed a significant increase in frequency of use in 2007/08 over the previous year: 34% of admissions compared to 18%. IDUs in Saskatchewan utilize a high and increasing number of needles from Saskatchewan’s Needle Exchange Program (NEP). The number of needles distributed through the NEP has increased from 3.0 million in 2004-05 to 3.9 million in 2008-09.

Risky sexual behaviours were shown to be associated with IDU in the 2006 iTrack study. Most (86%) of the male participants in Regina, reported having a regular sex partner in the previous six months; only 14% of these males always used a condom, and 68% reported having never used a condom with their regular sex partner. Additionally, almost 30% of male participants indicated that they had casual female sex partners in the previous six months and about 25% of

these never used a condom during vaginal sex in the previous six months. For females, 88% of participants reported having a regular sex partner; 70% reported never using a condom with their regular partner in the previous six months. Again, about 24% of female participants indicated having casual sex partners, and about one third of them reported never using a condom with their casual partners during vaginal sex.

Social Determinants of Health

The social determinants of health also greatly influence the development of health inequities that disproportionately place vulnerable and marginalized populations at risk of poor health outcomes. Factors such as housing, income, education, employment and social support substantially impact the health of individuals and communities. Saskatoon, a city with the highest rates of new reported cases of HIV

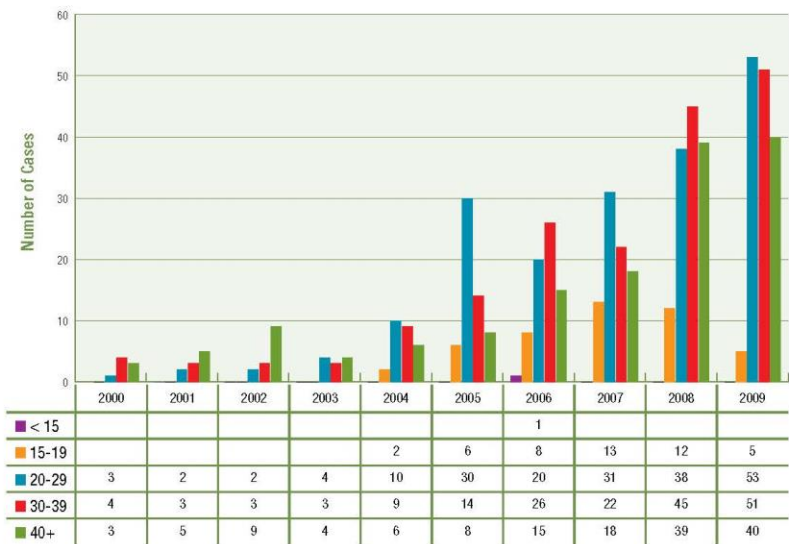


Figure 5: Injection Drug Use among HIV cases reported by Age Group, 2000 to 2009, Saskatchewan.
Reference: Ministry of Health-PHB, 2010.

infection, has identified substantial health disparities in low income neighborhoods compared to higher income neighborhoods of Saskatoon. These areas have shown to have higher rates of unemployment, lower education levels, a higher proportion of residents living below the Low Income Cut-Off (47% in 2006), higher rates of inadequate housing and limited access to nutritious and affordable food.(9) Subsequently, these areas have also shown higher rates of health disparities.(10-11)

An effective provincial HIV strategy will require a comprehensive understanding of the broader determinants of health and their impact on vulnerable populations in order to identify and address barriers that produce poor health outcomes and increased risk of HIV among Saskatchewan residents. One such determinant of health noted among many stakeholders as a priority is housing. Reducing homelessness for those at-risk of or infected with HIV is a goal that can be addressed with committed inter-sectoral partners. It is recommended that a supportive housing strategy be developed using the "Horizontal Project" model currently used in Prince Albert. This holistic model integrates intensive supportive services with housing, and is aimed at improving a variety of life aspects, including decreased involvement with acute health services and the criminal justice system. The agencies involved in funding or supporting the project include the Homelessness Partnering Strategy under Human Resources and Skills Development Canada; Indian and Northern Affairs Canada; Justice Canada, Public Health Agency of Canada, Ministries of Social Services, Education, Corrections Public Safety and Policing; Prince Albert Grand Council; housing authorities; community-based organizations; regional HIV and Sexual Health clinics; as well as a number of organizations and individuals who have committed housing to the project.

Clinical Course

Clinicians in Saskatchewan have reported that patients are either presenting late in the disease process, or that they are presenting for diagnosis soon after exposure/infection but are showing rapid progression of HIV. An investigation to determine if this is a function of progression of disease, or of late presentation, is required. This could include an investigation into patient response to the virus and will assist in determining if some patients experience an insufficient antibody response to detect HIV with the current standard of antibody testing.

A study of 39 HIV-related hospital admissions in Saskatoon (30 cases) demonstrated a mean age of 40 years, a mean CD4 count of 136 (indicating advanced disease) and an average duration of hospital stay of 30 days. Seven of the cases were diagnosed with HIV on admission. Five of the 30 cases died while in hospital. This is a significant finding as patients are reporting to the hospital in an advanced stage of disease progression which requires complex care for treatment.

In 2008, 277 HIV-positive patients were recorded as receiving at least one antiretroviral drug treatment (Saskatchewan Ministry of Health, Drug Plan Branch data, 2008). In 2009, this number increased to 675 HIV-positive patients of which 238 (35%) were First Nations. This is estimated to be about one half of the total number of those who could be on antiretroviral (ARV) therapy.

From the year 1998 to the year 2008, out of 729 newly HIV diagnosed cases, a total of 556 HIV specimens (76%) from the province of Saskatchewan were analyzed for genotypic and phenotypic drug resistance (2a). Preliminary analysis showed a significant increase in the prevalence of transmitted drug resistance in samples from 2007 and 2008; the increase occurred primarily in a specific drug class, the Non-Nucleoside Reverse Transcriptase Inhibitors (NNRTI). The proportion with any NNRTI resistance mutations

was higher in recent years (14.0% in 2007 and 16.7% in 2008) compared to the range of 0% to 4.1% in the early years (1998-2004). The proportion of any drug resistance rose to 18.0% of samples in 2007 and 24.2% of samples in 2008 (2a). Available data from another Canadian province indicate that this trend in Saskatchewan is different from that province. The Saskatchewan data are preliminary and it is recommended that more analysis be completed with 2009/10 data, when available, to determine if the increased trend of drug resistance is continuing.

Co-infection

Co-infection of HIV and hepatitis C is common among those who inject drugs. Newly diagnosed cases of hepatitis C continue to be high in Saskatchewan with 600-700 new cases identified annually (in 2008, 706 new cases were reported). Saskatchewan has the second highest incidence of hepatitis C cases (70/100,000) in Canada after the Yukon Territory. The national average for hepatitis C incidence is 35/100,000. Co-infection of hepatitis C individuals with HIV is very common: 70% of those diagnosed with HIV in Saskatchewan are co-infected with hepatitis C (Saskatchewan Ministry of Health data, 2010).

Co-infection of HIV and tuberculosis (TB) is also common, particularly in countries or populations who have high rates of tuberculosis. The Aboriginal population in Saskatchewan has one of the highest rates of tuberculosis in Canada (44.3/ 100, 000 vs. 28.2/ 100,000 in Canada, 2008) (12). HIV testing is not yet routinely offered in Saskatchewan to people diagnosed with tuberculosis; however, steps are being taken to encourage routine HIV testing among TB patients.

IV Cost to the System

The impact of HIV/AIDS on the provincial social and health care services is substantial – and growing. In Saskatchewan, the monthly drug costs for Hepatitis C and HIV co-infection range from \$1,747 per month to \$3,484 per month. (Saskatchewan Ministry of Health, Drug Plan Branch data, 2009). Based on these numbers, the current conservative estimate of the direct cost to the health care system in Saskatchewan ranges between \$21 million and \$42 million per year (based on 1,000 individuals receiving ARV medications for one year).² Indirect costs, attributable to HIV/AIDS have been estimated to be 2.4 times direct costs.(1)

Studies in Alberta in 2004 demonstrate monthly drug costs of \$1,528 per AIDS patient compared to \$932 for non-AIDS patients. Costs increase as CD4 counts decrease; with a CD4<75, costs are at \$2,687 per person month. The mean base expenditure for combined HIV/AIDS, chronic mental illness and substance abuse is \$3,880.00 per person per month.(13)

V Case Management Across the Continuum

In order to reduce new cases of HIV, improve the quality of life for those living with HIV and to prevent new cases of HIV, the entire continuum of care must be considered. Upstream interventions that consider causative factors such as life experiences, unemployment, unstable housing and addictions should be employed. Prevention of HIV transmission through the use of clean needles, condoms, and antiretroviral therapy, including prenatally, needs to be considered in addressing the Saskatchewan HIV rates.

Clinical management requires prescribing the correct medication, diagnosing and treating co-infections, and providing other treatments for general wellbeing, such as dental care, nutrition and management of

² Cost estimates do not include direct hospitalization costs related to HIV

acute and/or chronic conditions. Patient management also includes social and family wellbeing, and effective integration of mental health, addictions and other adjunct services.

Social case management to reduce the barriers to accessing care for those who are HIV-positive will increase treatment adherence, and assist in reducing the risks of transmission (better treatment adherence will mean decreased viral load). Reported social barriers include: transportation, housing, legal issues, childcare, and coping with stigma and discrimination.

Factors, such as stigma and discrimination among care providers negatively impact clients accessing services, and a way to reduce discrimination needs to be clearly defined and implemented. In some cases this will require cultural sensitivity training.

Consideration of an amendment to regulations or policies within various government Ministries may be required. For example, many HIV-positive pregnant women, and those at risk of HIV, are not seeking prenatal care for fear of their infants being apprehended by Social Services; how the child protection legislation is being enacted and the perception of young mothers who fear apprehension needs to be investigated. This will increase uptake in prenatal care, and potentially avert HIV transmission to infants during delivery

VI Strategy Development and Consultation Process

Beginning in the winter of 2008/09, the Ministry of Health met with several regional health authorities to broadly map the issues and potential solutions to the issue of increased incidence of HIV cases in the province.

Stakeholder consultation commenced in May of 2009 overseen by the HIV Strategy Task Group and its four working groups. On March 10 – 12th, 2010, an intensive HIV Strategy workshop with health

and community leaders was held. The purpose of the workshop was to review the draft HIV strategy and refine the goals and objectives, and identify key partners who would ensure the successful implementation of the strategy.

At the March session, one of the underlying themes that emerged was the need for enhanced community engagement. To that end, the Ministry met with various First Nations and Métis organizations and community-based organizations to further discuss and refine strategies and initiatives as well as identifying next steps to clarify the strategy.

THE STRATEGY IN DETAIL

VII Strategy Overview and Overarching Goals

THE OVERARCHING GOALS OF THE SASKATCHEWAN HIV STRATEGY ARE TO REDUCE THE OCCURRENCE OF NEW CASES OF HIV, TO IMPROVE THE QUALITY OF LIFE FOR HIV-POSITIVE PEOPLE, AND TO REDUCE THE RISK FACTORS FOR ACQUISITION OF HIV INFECTION.

Fundamental to the strategy is:

- A patient first approach that focuses on the needs of the HIV-positive person
- A holistic, team approach among health care workers, community and service organizations that supports prevention efforts, and the treatment and support of HIV-positive persons
- An engaged and supportive community at all levels – senior leadership/ governance, operational, and grassroots

- A peer to peer model of mentorship and support throughout all aspects of the care continuum, including among those who are at risk of acquiring or who are HIV-positive and their communities
- A strong communications component that will occur within, across, and from all four pillars, as data, awareness, knowledge, capacity, and ownership increase among all those involved in addressing HIV/AIDS.

The strategy targets four main areas:

- *Community Engagement and Education*
- *Prevention and Harm Reduction*
- *Clinical Management*
- *Surveillance and Research*

VIII Community Engagement and Education

Community Engagement

The development of an integrated, transformative approach for sustained community and leadership engagement is key to addressing many issues associated with HIV infection including reduction of stigma and discrimination.

Anecdotal reports indicate that many HIV-positive people live in unsupportive environments and therefore choose not to disclose their HIV status due to the discrimination they might otherwise encounter. One goal of the Community Engagement and Education pillar is to increase ownership of HIV programming within communities to encourage locally relevant approaches to addressing HIV-related discrimination. Community activities would predominantly be best managed by community-based organizations (CBOs), tribal councils, or the communities themselves.

A cornerstone to this pillar is the development of peer to peer networks to provide support to various groups

of high risk population such as HIV-positive youth, pregnant women, and injection drug users to reduce stigma and build trusting relationships with the health care system. Peer networks provide mentorship and ultimately work with health care providers to enhance adherence with medications, appointment attendance and support, as well as improving knowledge of the risks of transmission.

Essential to community engagement and education:

- Engage elders of First Nations and Métis communities to promote ownership of and involvement in addressing HIV;
- Establish HIV-positive peer to peer networks (positive teens, IDUs, and HIV-positive mothers) to provide knowledgeable and acceptable supports to those HIV-positive or at risk;
- Ensure targeted prevention, treatment, and healthy living programming for HIV-positive individuals to reduce risk of acquiring HIV and to reduce stigma against those with HIV in the broader population; and
- Strengthen prevention measures that protect children and youth; e.g., KidsFirst programming focuses on areas such as home-visiting, parent engagement, and mental health and addictions services.

See Table 2 for the objectives for community engagement.

Table 2: Community Engagement Objectives

Objectives
increase knowledge of HIV among the residents of Saskatchewan
increase supportive home environments for HIV-positive people
increase community engagement to address community-related risk factors, e.g.: inadequate housing
increase leadership participation to address community-related risk factors, e.g.: inadequate housing

Activities related to community engagement will be achieved by:

- Engaging elders of First Nations and Métis communities through Elder and community discussion forums;
- Establishing HIV-positive peer to peer networks (positive teens, IDUs, and HIV-positive mothers);
- Developing broad campaigns focused on public awareness, education, and HIV prevention;
- Partnering with community-based organizations, tribal councils and communities to deliver targeted programs in their area of expertise; and
- Partnering with community-based organizations to develop and deliver targeted programs and services.

Education

A number of HIV education opportunities for health care professionals have been identified throughout the HIV strategy development consultation process. Health care and service providers across disciplines would benefit from HIV education – to reduce stigma and discrimination, and to improve frontline capacity. This can occur pre-service (i.e., at Colleges of Nursing, Pharmacy, and Medicine, School of Social Work, and at the Chemical Dependency Treatment program), or during service through a variety of accredited continuing medical education programs for health professionals and service providers. Participation in inter-disciplinary mentorship groups would be an expectation of continuing education credits.

Education and curricula development for pre and post service professionals can be developed utilizing existing materials. Education topics identified include: optimal treatment protocols, pharmaceutical support

programs, The Health Information Protection Act and its application with respect to the circle of care, and pre- and post-test counseling, as well as enhanced information about HIV prevention, treatment, support, and epidemiology. Sensitivity training (including both cultural and lifestyle) should be a strong component of all education opportunities.

Essential to education:

- Increase educational opportunities for health care professionals; and
- Establish peer mentorship networks among health care professionals to attract, support and maintain practitioners in HIV care.

See Table 3 for the objectives for education.

Table 3: Education Objectives

Objectives
increase capacity across disciplines to more effectively provide HIV prevention, education, treatment and support services
provide care that is client-centered non-judgmental and engaging to all those affected or infected with HIV.
harmonize/standardize practices related to HIV prevention, treatment and support services

Activities related to education will be achieved by:

- Consulting with existing service providers to identify education and curriculum development initiatives;
- Reviewing, adopting and disseminating existing materials (Public Health Agency of Canada -PHAC, Canadian HIV/AIDS Strategy, Canadian AIDS Treatment Information Exchange (CATIE), Centres for Disease Control and Prevention- CDC) that have already been developed; and
- Establishing peer mentorship programs for physicians, nurses and pharmacists.

IX Prevention and Harm Reduction

Prevention activities are usually aimed at avoiding the development of a disease (primary prevention), early detection of a disease (secondary prevention) or reducing the impact of an already established disease (tertiary prevention). Prevention of HIV can therefore include a range of activities from addressing the broader determinants of health, such as adequate income, housing, and education; or targeted education strategies to increase awareness and avoidance of risk behaviours; or more specifically-targeted prevention interventions. These activities can be population based or individualized to clients' specific needs.

Harm reduction, or harm minimization, refers to a range of public health policies designed to reduce the harmful consequences associated with drug use and other high-risk activities. Public health harm reduction measures are designed to reduce the harm that drugs can cause both to individuals and to the community. Examples of harm reduction initiatives include safe sex practices and general health education.

Essential to prevention and harm reduction:

- Review of medical/nursing curricula to ensure adequate coverage of substance abuse and chemical dependency in these programs;
- Establish prevention and wellbeing centers with expanded access to needle exchange programs and other harm reduction measures to promote and encourage safe and healthy behaviours;
- Strengthen addictions prevention initiatives; and increase capacity and accessibility to treatment services through improved service delivery;
- Incorporate mental health and addictions programming into a holistic center approach;
- Public awareness, education, and prevention of HIV campaigns; and
- Targeted prevention, treatment, and healthy living programming for HIV-positive individuals.

See Table 4 for the objectives for prevention and harm reduction.

Table 4: Prevention and Harm Reduction Objectives

Objectives
provide prevention (primary, secondary and tertiary) resources including best practices to the regions.
provide earlier school prevention education opportunities.
establish centers delivering holistic prevention/well being/harm reduction services.
provide comprehensive integrated services including health and social supports via mobile services.

Activities relating to prevention and harm reduction will be achieved by:

- Creating a dissemination strategy for prevention and education and best practice resources;
- Developing policies, program guidelines, and procedure manuals based on best practices and evidence from local, provincial, and national sources;
- Acquiring mobile units, where required, that provide outreach to HIV-positive individuals;
- Implementing a "one stop shop" concept for health services, that would include the needle exchange program, addictions and mental health outreach/outpatient services, as well as primary health care and public/sexual health programming, social services, or other required adjunct services, including access to food and nutrition education;
- Working with inter-Ministerial and inter-sectoral partners, implement a supportive housing model like the "Horizontal Project" in the three urban centres, and other appropriate areas;

- Reviewing the remaining recommendations of the Needle Exchange Program Review Report with a view to increasing opportunity for face to face contact with clients; and
- Providing safer sex education and supplies in appropriate and indicated settings.

X Clinical Management

Evidence from British Columbia demonstrates marked success in the use of Highly Active Anti-retroviral Therapy (HAART) for improving both the longevity and quality of life for HIV-positive patients, and also for reducing viral transmission in the community. (14-15) HAART has shown to reduce opportunistic infections and the incidence of other co-morbidities, such as vascular and neoplastic diseases.

Some of the concepts of the British Columbia program 'Seek and Treat' will be adapted to the Saskatchewan environment. The main concepts are the identification and testing of those at risk either through contact tracing, social networking or through an aware primary care frontline and early initiation of treatment.

The costs of antiretroviral medications are almost 100% covered through the Saskatchewan Drug Plan's special support programs, and the federal Non Insured Health Benefits program. Preliminary analysis indicates medications are not being adequately accessed, particularly by First Nations individuals. Further investigation is required with the desired outcome of ensuring all patients are accessing the most recent medications available (ie: HAART) and are adhering to their treatment regimes. Adherence to HIV medication is of particular importance as preliminary data in Saskatchewan suggest that the development of drug resistance is increasing among newly diagnosed HIV cases (Ministry of Health, preliminary data, 2010).

Early detection and management of other illnesses are important for optimal clinical management, as is appropriate additions and mental health management and access to good nutrition and stable living environments.

The research component of clinical management will include investigation of factors that improve clinical outcomes.

Essential to clinical management:

- Adopt a non-discriminatory, patient first approach with cross-disciplinary teams;
- Ensure focused learning opportunities for all health care providers; and
- Adopt best practice plans and protocols for enhanced case and clinical management.

See Table 5 for the objectives for clinical management.

Table 5: Clinical Management Objectives

Objectives
improve HIV client access to medical care
provide one stop diagnosis whenever appropriate
provide rapid initiation of treatment to HIV-positive clients whenever appropriate
increase frontline support including capacity, education and standards
promote the use of HAART regimes to optimally treat the patient and reduce transmissibility of the virus

Activities related to Clinical Management will be achieved by:

- Increasing the capacity and skills of primary care physicians to provide care to HIV-positive people;
- Amending remuneration of family physicians to reflect the complexity of the clinical management for HIV patients and those who have co-infections and other co-morbidities.

New payment schedule for insured services provided by a physician (e.g. complex care fees) and increased opportunity for alternative practice payments such as paid session work (e.g. sessional fees) will be explored;

- Monitoring the use of the various drug plan support programs;
- Improving client uptake of medications by providing education to pharmacists;
- Exploring the possibility of providing direct observed therapy and ensuring the presence of client outreach services;
- Streamlining administrative processes to increase access to HIV medications;
- Working with the Saskatchewan Registered Nurses Association and the Saskatchewan Medical Association to ensure nurses and nurse practitioners are functioning at the full scope of practice in clinic and mobile care;
- Increasing the number of frontline staff, including public health nurses, case managers, outreach workers and First Nations and Métis support workers to increase access to testing, follow-up, case management and care, including ensuring treatment adherence (e.g. providing transportation and community support);
- Providing preventive education and culturally appropriate support in health care settings and community;
- Encouraging and facilitating case management and a team approach through development of best practice models and structured forums. Case Management, clinical and social, refers to each client being assigned a case manager who ensures that all aspects of treatment from clinical management, addictions mental health and social service needs are best facilitated. The case manager may be a nurse who also provides a depth in clinical management and ensures

access to other services, but may be a social worker who provides depth in the social aspects but ensures access to clinical care; and

- Applying a team approach that includes all those involved in the care of a particular client, such as the physician, nurse outreach worker, addictions counselor, and pharmacist. Team members coordinate through the case manager and may meet regularly depending on number of shared cases and case complexity.

XI Surveillance and Research

Surveillance in the context of public health is the “ongoing and systematic collection, analysis, and interpretation of outcome-specific data for use in planning, implementation, and evaluation of public health practice”.⁽¹⁶⁾ Surveillance of HIV requires both routine and enhanced data collection, including linking datasets, and analysis of information collected to date and prospectively, to provide evidence for HIV strategic development and the implementation of various initiatives. Enhanced surveillance can include quantitative data, as well as qualitative data gathered through focus groups, surveys, or interviews.

Better descriptive surveillance to improve knowledge of risk factors such as housing, mobility, clustering relationships and potential transmission relationships will inform prevention and intervention strategies. Better clinical surveillance will improve understanding of the true extent of co-morbidities and progression to advanced HIV disease or AIDS and will inform case and clinical management.

Essential to surveillance and research:

- Increase access to testing;
- Increase understanding of the at-risk groups; and
- Improve sharing of surveillance information and communication at all levels.

See Table 6 for the objectives for surveillance and research.

Table 6: Surveillance and Research Objectives

Objectives
improve the provincial HIV surveillance system
increase knowledge of HIV epidemiology in appropriate audiences
increase sharing of HIV epidemiology information to appropriate audiences

Activities related to surveillance and research will be achieved by:

- Updating the provincial HIV surveillance system;
- Increasing epidemiology and provider support will be required in the health regions and in the First Nations authorities for interview processes and case reviews;
- Implementing an enhanced HIV surveillance system;
- Encouraging research including qualitative work (focus groups in core neighborhoods and communities) to determine the best interventions for each risk group;
- Evaluating the point of care testing and components of the clinical case reviews; and
- Expanding point of care testing to other non-laboratory supported settings, such as NEPs, sexual health clinics, and community clinics.

XII Conclusion

HIV rates in Saskatchewan are significantly increasing. Saskatchewan requires a comprehensive effort to address HIV trends: the highest rates of newly diagnosed cases, potential emerging resistance to some treatments, and the presentation of advanced/complex cases in hospitals.

HIV is a serious illness with a high cost to the individual, to society, and to the health care system. It is estimated there are over 1,400 people living with HIV in Saskatchewan. Many are not treated. Others have yet to be diagnosed. The major risk factor reported is intravenous drug use, but the risk of HIV being transmitted via unsafe sex within the IDU population, and all other populations, is high. Anecdotal evidence suggests that HIV-positive people, unsupported by their families and communities tend to gravitate towards core areas of urban centres. These areas tend to reflect the hopelessness of poverty, addictions and marginalization. These factors combined with the symptoms that make HIV a chronic disease make it difficult for individuals to remain committed to ongoing treatment.

A person who has HIV and who is treated consistently with HAART and who establishes other health and social stability can live a normal life with negligible risk of transmission. As a result, the cost to the individual, to society and to the health care system is minimized.

Over the past year, extensive consultation has resulted in a partnership between the province, health regions and First Nations and Métis authorities across disciplines of health, social services, education, and justice. This proposal reflects the recommendations from these consultations. Some recommendations are already in progress and there is an immense will among partners to commit to ensuring the initiatives are successful.

XIII Governance and Implementation

A combined clinical, population health, social, and community development approach is essential to address the HIV epidemic in Saskatchewan. A coordinated, province-wide implementation and response plan involving all health and community sectors is being developed at the time of this writing.

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XV APPENDIX A

Strategy Development

The HIV Strategy development has been guided by an HIV Strategy Task Group whose mandate was to oversee and direct four working groups:

- I. Surveillance;
- II. Clinical;
- III. Communications and community engagement; and
- IV. Harm reduction.

Each of these working groups was responsible for advising on details of specific components of the strategy. Components of the strategy were determined through a consultative process with a variety of stakeholders, including community-based organizations, First Nations and Métis organizations, municipal services such as police and fire, and regional health authorities.

On March 10 – 12, 2010, an HIV strategy and implementation working session was facilitated by the Syntegrity Group. A focus group of 32 participants was asked to review the draft HIV strategy with the goal of revising or adjusting as required and also looking at ways to ensure its implementation would be successful.

One of the main themes arising from the March meeting was a need for ownership and community engagement to ensure the success of the strategy. To that end, the Ministry has met with First Nations and Métis organizations as well as community-based organizations to discuss and refine communication and engagement strategies.

XVI APPENDIX B

Working Groups

I. Surveillance

Recommended actions include:

1. Update routine surveillance processes and reporting;
2. Update enhanced and targeted surveillance processes and reporting; and
3. Improve data sharing with stakeholders, including annual reporting.

DETAILS

- Update provincial surveillance data collection process and case report form. This will improve case detection and follow-up to allow programs to respond effectively to current and evolving conditions.
- Update provincial enhanced and targeted surveillance data collection processes and case reporting form. This will improve case detection and follow up to allow programs to respond effectively to current and evolving conditions.
- Update surveillance data sharing process to more effectively meet the needs of the Ministry, regional health authorities, First Nations health authorities, health care providers, and community-based partners.
- Ensure that comprehensive, timely and accurate HIV epidemiological information is available to appropriate individuals.
- Share epidemiological information to support targeted research and program initiatives to further reduce the incidence of HIV/AIDS.

II. Clinical

Recommended actions include:

1. Implement point of care testing for HIV;
2. Improve access to therapy (HIV antiretroviral medications) and client centered care;
3. Increase capacity and access to case management;
4. Increase linkages with and access to addictions and mental health services;
5. Improve clinical management of HIV-positive patients; and
6. Increase testing and case detection.

DETAILS

1. POINT OF CARE TESTING

- Implement Point of Care Testing to enhance the capacity of health care providers to improve access to testing, treatment and prevention services for those most at risk for HIV. Pilot for 6 – 12 months in high risk populations accessing community clinics, in pregnant women accessing obstetrics units, and in individuals with risk factors in emergency departments.

2a. ACCESS TO THERAPY

Ensure that all HIV-positive individuals have access to antiretroviral medications (ARV), including Highly Active Antiretroviral Therapy (HAART) – a combination of 3 – 4 medications with a synergistic effect, are essential for maintaining the physical well-being of an HIV-positive individual. They also reduce viral load significantly to potentially reduce infectivity. However, only 50% of all people diagnosed with HIV have ever accessed these medications. Saskatchewan currently has a number of health benefit options for patients to receive assistance for ARVs. One factor affecting access could be the

onerous amount of paperwork required to receive financial assistance. Cost is also a factor. A further consequence of sporadic access is an increase in drug resistance.

- Review options to streamline ARV accessibility, and options to provide all ARVs, including HAART, as 100% covered medications in Saskatchewan.
- Stay current with the most up-to-date North American Guidelines for the Saskatchewan Drug Plan to optimize ARV regimens based on most current evidence.
- Ensure that all citizens have access to HIV Post-exposure Prophylaxis (PEP) medications as indicated in the provincial PEP guidelines for occupational and non-occupational exposures.

2b. CLIENT-CENTERED CARE

Ensuring that all HIV-positive individuals have close-to-home access to infectious disease (ID) specialists for treatment and aftercare will increase health outcomes. This will require the involvement of a network of family physicians to provide care in rural and remote areas, and for ID specialists to offer satellite clinics. Mentorship through doctor to doctor peer coaching is required.

- Establish a provincial HIV group to lead best practice development.
- Establish a network of physicians, pharmacists, addictions medicine specialists to deliver HIV care in rural, remote, or resource-limited settings throughout province.
- Enhance training for health care providers to increase knowledge and comfort levels.

- Review current physician payment scheme to determine if a sessional fee would be appealing, and appropriate to recruit and retain Physicians in HIV care.
- Increase the number of satellite clinics available, and ensure capacity for service delivery.

3. CASE MANAGEMENT

Ensuring that HIV-positive patients can access medication and care is only one part of the process. Once an individual is diagnosed with HIV (usually at a public health site, or at a physician's office), much can be done to ensure patients initiate and maintain treatment at infectious disease clinics. For many patients, the barriers to accessing and maintaining themselves in treatment are social in nature, such as lack of transportation, lack of childcare, lack of familial or social supports, and lack of hope. Case management attempts to address these social barriers through a range of services from providing transportation, to coordinating childcare or housing.

- Deliver client-responsive case management that meets both the medical and social needs of HIV-positive clients.
- Utilize the Saskatchewan Union of Nurses – Provincial Government partnership to hire case managers in each of the three urban health regions, and the north. Review current staffing levels and ratios of case managers to patients. Determine best practices for case management services and case loads to determine optimal ratio.
- Review program eligibility and the definitions for indicators currently reported on for the case management pilot to determine if

still relevant. Clearly define the differences between case management, case detection, and clinical management.

- Enhance training for health care providers to increase knowledge and comfort level in testing/treating those infected with HIV.
- Expand case management services to community-based organizations.
- Develop a train-the-trainer manual for case management services.
- Utilize HIV-positive patient's perspectives in developing services.
- Utilize a peer to peer network of case managers to enhance knowledge exchange and skills building.
- Ensure all providers who deal with at risk groups have access to standard harm reduction training/education.
- Ensure all newly diagnosed HIV-positive individuals are assessed and assigned to a case manager.

4. ACCESS TO ADDICTIONS AND MENTAL HEALTH

Access to mental health services and counselling at the time of presentation (treatment readiness or willingness) of the person who uses injection drugs has been identified as a key step in enabling the process to recovery. Those who inject drugs, in particular, have a very short therapeutic window during which to take advantage of the desire to detoxify and stabilize. Issues regarding confidentiality and transfer of information between services have also been identified as barriers in providing timely treatment.

- Identify and share the numbers and types of beds/placement opportunities (real time tracking method) for clients who require access to short and long term inpatient facilities.
- Ensure Needle Exchange Programs have up to date information on types of services available, and active referrals are made from the program.
- Track wait times from referral to intake.
- Engage and train ex-injection drug users to be part of a network of peers.
- Improve access to methadone and suboxone maintenance programs.
- Decrease wait times to see counsellors or be admitted to detoxification, treatment or rehabilitation programs for those HIV-positive or at risk of HIV.
- Bring addictions and mental health counselors up-to-date on application of *The Health Information Protection Act* (HIPA) in relation to information sharing within the circle of care.

5. CLINICAL MANAGEMENT

All HIV-positive people (adult, children, and pediatric) should have access to client centered treatment close to home and free of stigma and discrimination.

- Develop regional referral process from testing and diagnosing centre to treatment locations that is standardized and time sensitive.
- Ensure transportation and support mechanisms are available to clients, and guidelines for treatment staff to work with case management staff.

- Collect data to monitor outcomes, quality assurance and surveillance.
- Engage pharmacist to lead investigation into effective medication and treatment options for ID specialists, family physicians, and pharmacists to utilize.
- Increase capacity for priority referrals and effective protocol to address co-infections and concomitant issues (e.g., TB, hepatitis C, STIs, dermatological issues, etc.).
- Develop forum for specialist to communicate with each other on co-infections and co-morbidity issues.
- Hold annual conferences for health care providers to increase knowledge exchange opportunities.
- Partner with existing education programs to ensure this is part of standard curriculum. Apply Continuing Medical Education (CME) credits or other accreditation or incentives for this training.

III. Communications and Community Engagement

Recommended actions include:

1. Increase community and leadership engagement through engaging champions and mentors;
2. Implement a social marketing campaign for both the general public and targeted, key populations; and
3. Increase prevention, education, and training for service providers and clients.

DETAILS

An integrated, transformative approach for sustained community and leadership engagement is key to reducing stigma and discrimination surrounding HIV, and will lead to better case detection, treatment and intervention activities.

1. COMMUNITY LEADERSHIP AND ENGAGEMENT

- Implement an engagement model that includes the commitment of provincial ministries to work together.
- Establish a standing provincial HIV Council or Coalition that is inclusive of RHAs, First Nations and Métis organizations, and community-based organizations. Models to consider are the Northern Health Strategy, the Saskatoon IDU Continuum of Care, or the Regina and Area Drug Strategy.

6. TESTING AND CASE DETECTION

Increasing regional capacity to perform testing and case detection, and increasing capability to meet pre and post test counseling requirements for at risk patients is key to controlling the HIV epidemic in Saskatchewan.

- Increase the number of health providers who perform counseling and testing.
- Develop and implement standard guidelines on when to use pre and post test counseling as part of a voluntary HIV testing protocol.
- Develop policy for health care providers that covers voluntary counseling and testing for new patients, repeat patients, prenatals, recently exposed, etc.
- Implement a program to support health care providers who offer testing to increase their comfort in discussing risk behaviours, sex, injection drug use, etc, and decrease or eliminate the barrier of health care provider stigma or discrimination. Work towards normalizing HIV testing.

- Establish HIV-positive peer to peer networks that include the following key populations: young Aboriginal females (link to infections in pregnancy), injection drug users (link to addictions and co-infections), elders (sharing inherent knowledge, story telling, link with co-infections), and Two-spirited/MSM.
- Develop standards for prevention, education, and training requirements for service providers, recognizing that different levels of training will be needed.
- Engage peer to peer networks and mentorship or volunteer groups, and include support to families in disclosure, etc.

2. SOCIAL MARKETING CAMPAIGN

Social marketing messages about HIV prevention should link with STI and co-infection messaging and should focus on 'seek testing and access treatment.' A social marketing campaign should have the following goals: raise awareness among target audiences, reduce the stigma of HIV and impact behaviour.

- Develop a social marketing plan that engages the four key audiences: clients, service providers, leadership, and the general population.
- Market appropriate messages to impact:
 - prevention and awareness of HIV;
 - at risk populations; and
 - treatment; and
 - healthy living for HIV-positive individuals.
- Partner with academia for social marketing evaluations.

3. PREVENTION, EDUCATION, AND TRAINING FOR SERVICE PROVIDERS

Assurance of knowledge transfer amongst community leaders, administrators, and service providers (including health care providers, outreach workers, fire and police) working with vulnerable populations will increase standard 'language' and will reduce stigma and discrimination.

- Perform environmental scan of best practices, and ensure evidence-based curriculum.

IV. Harm reduction

Recommended actions include:

1. enhance the needle exchange program, re-brand with an emphasis on 'recovery' so that it is a needle exchange and recovery program;
2. increase access to HIV prevention and education materials for both clients and services providers; and
3. develop a plan to address inequities in the social determinants of health.

DETAILS

Fold the needle exchange into a comprehensive harm reduction strategy.

- Enhance the Harm Reduction Services in Saskatchewan to include more rural areas.
- Consider the remaining recommendations of the Needle Exchange Program (NEPs) Review Report.
- Promote value-neutral messaging regarding harm reduction: not positive, not negative.
- Evaluate the benefit of other best practice harm reduction strategies currently employed in other jurisdictions.
- Educate community and regional partners on needle safety and needle recovery.

- Perform an environmental scan to establish accurate information on NEP in Saskatchewan, and neighboring provinces, to identify where expansion or enhancement is needed.
- Standardize harm reduction services.
- Establish a peer network of injection drug users.

1. ACCESS TO PREVENTION AND EDUCATION MATERIALS

Clients and providers have increased access to HIV prevention, education, and training materials. Reduce stigma associated with HIV through HIV-specific prevention, education, and training.

- Promote an annual conference or forum and include communities as partners in prevention. Supplement annual conference with online training and news bulletins.
- Explore local and provincial team approach to enhanced communication protocols to reach entire care provider and consumer community.
- Establish outreach team, or support existing models, that incorporates cultural relevance, and is inclusive of the client, family, and community.

- Develop train the trainer packages for peer networks.
- Review the curricula of the Colleges of Nursing, Medicine, Pharmacy and the Chemical Dependency program to ensure adequate coverage of HIV and addictions and mental health in order to increase comfort levels with students, grads.

2. SOCIAL DETERMINANTS OF HEALTH

Include the social determinants of health in all areas of the HIV strategy, as these are tantamount to a successful strategy. Awareness of the impact of the social determinants of health and how these are defined at the grassroots level is foundational.

- Promote, support, and encourage collaboration, integration, coordination, and accountability across all Ministries.
- Support HIV/AIDS research that has potential for provincial impact on improving the lives of people with HIV/AIDS.

XVII APPENDIX C

Needle Exchange Program (NEP) Overview

Saskatchewan Needle Exchange Program and Blood Borne Virus Rates

Saskatchewan has the highest rate of new infections of HIV, twice the national average. Saskatchewan also has the second highest rate of new cases of hepatitis C.

The high rates of HIV in Saskatchewan may be due to very high frequency of needle use, an underestimate of the number of intravenous drug users (IDU) in Saskatchewan, frequent sharing of needles by key positive individuals or high transmission of HIV sexually in the IDU group (using safe needles but not engaging in safe sex). Rate increases in HIV cases can also be attributed to more recent increased efforts at case finding in the province.

The profile of HIV increase in Saskatchewan is unique in Canada. A sudden increase in HIV in British Columbia in the late 1990s had similar characteristics to the current trend in Saskatchewan. The epidemic in Saskatchewan is associated with poverty, risk factors making populations of Aboriginal descent more vulnerable to HIV, and a large number of cocaine intravenous users who inject frequently each day.

The provision of clean needles through Saskatchewan's Needle Exchange Programs (NEPs) reduces the likelihood of transmission and hence, the number of new cases. Annually approximately 3.9 million clean needles are distributed in Saskatchewan with approximately 94% of the needles returned. More information is required on the pattern of needle use in Saskatchewan. This should precede any significant decrease in number of needles exchanged. NEPs provide a variety of services and referrals to clients who use injection drugs and are one component of a comprehensive approach to HIV prevention.

Needle Distribution and Return

Saskatchewan provides 3.9 million clean needles per year through 10 needle exchange sites in Saskatchewan. NEPs reports an average of approximately 93% needle exchange, varying from 100% in Moose Jaw to approximately 65% in Saskatoon. Ontario is the only other province or territory (P/T) which monitors needle return. Ontario distributes 5.5 to 6.5 million needles per year with an estimated return rate of 71%.¹

Most provinces and territories provide clean needle distribution and it is a mandatory public health service in BC and Ontario. Similar to other P/T, NEPs use a mixture of government and community organization operated distribution systems. Needles are also sold by pharmacies (for diabetes, etc) and this is a common source in the larger urban centers, particularly in higher income areas. Needles sold by pharmacies are not counted in the distribution system.

Figures available on numbers of needles distributed per year through government funded services are: British Columbia approximately 5 million and Quebec 1.5 million, Calgary 360,000 and Edmonton, 1 million.² Saskatchewan distributes only injecting equipment, while Manitoba, Alberta and British Columbia distribute additional supplies such as 'safer crack kits' for smoking.²

Drug Use

Consultation with police and injection drug users indicates the current drug of choice in Saskatchewan is cocaine as it is cheap and readily available. Use of stimulants and narcotics are more common in the south of the province. The iTrack study supports this observation for the city of Regina.³

Cocaine injectors have a higher usage of needles than other substances due to shorter duration of drug impact. Cocaine users can use between one to fifteen

needles per day. The number of needles used, on average, per year for a regular injection drug user is thought to be 2- 3 needles per day or approximately 730 – 1,095 needles per year.⁴ However, over 27% of Winnipeg injectors use 10 needles per day.⁴ A survey of 151 injection drug users in Saskatoon Health Region reported an average of 18.5 needles per day or approximately 129 needles per week per user.⁵

It is estimated there are 5000 injection drug users in Saskatchewan.⁶ Extrapolating from the above studies, and a small study in Regina which indicated a third of Saskatchewan users, are regular users, needle consumption is estimated to be in the range of 4 – 13 million per year.³

British Columbia in 1996 reported an ‘explosive rise’ in HIV. This was found to be due to high frequency of cocaine injection drug use. Unstable housing and marginalization were also key associations.⁷

Secondary Needle Distribution

In Saskatchewan there are approximately 2000 injection drug users registered with NEPs. Concern over the large numbers of needles distributed relates to possible secondary distribution. While secondary distribution may be beneficial when the injection drug user is known and trusted as a source to provide and return needles from a community which may not have a needle exchange, there is concern that needles may be being provided to drug dealers. Police confirm finding NEP needles in drug dealer apprehensions but note these are isolated incidents.⁸

A study in Chicago of 40,000 NEP visits demonstrated that secondary needle exchange was beneficial in reducing the risk of transmission of HIV but also reduced contact with services resulting in fewer injection drug users presenting for drug treatment.⁹

An additional concern is that the needle supply may be encouraging needle use because they are free and readily available. This is difficult to determine but US studies from the 90s and more recently in Alaska and British Columbia indicate this is not a factor.^{10, 11}

Blood Borne Virus Transmission

Saskatchewan has the highest rate nationally of new cases of HIV, twice the national average. Rates of new cases of HIV began to rise in 2003. Saskatchewan has the second highest rate of new cases of hepatitis C in Canada.

The pattern of HIV in Saskatchewan is different from any other province or territory in that the new cases are predominantly injection drug users (60%) and /or Aboriginal, (72%). Forty-four percent of new cases are young women. There is repeated and strong anecdotal evidence of encouraged sharing of needles for ‘loyalty’ reasons and shared family habits. ITrack study findings show that 38% of injection drug users in Regina inject with families compared to an average of 12.7% across seven Canadian cities. Approximately 50% inject with sex partners compared to less than 30% for other Canadian cities.

High frequency use of needles in an impoverished and vulnerable group with spillover of transmission through unsafe sex were key factors behind the 90s outbreak of HIV in an Aboriginal population in British Columbia.⁷

Conclusions

- I) HIV Rate Increase: This is due to high frequency cocaine injection drug use, and needle and injection equipment sharing within social contexts. This is different from elsewhere in the country. Additionally, some of the HIV rate increase is attributable to enhanced case finding efforts.

- II) Number of Needles Distributed: An analysis suggests that the numbers of needles distributed in Saskatchewan are what would be expected given the number of regular drug users, type of drug and frequency of injection. It is noteworthy that other jurisdictions do not count all the needles returned whereas Saskatchewan does. Community-based organizations distribute needles in Saskatchewan and these needles are included in the provincial count.
- III) Secondary Distribution: To meet our goal of reducing transmission of HIV and increasing client contact with the system, one strategy would be to reduce reliance on secondary distribution; where a small number of people pick-up needles for a large number of people. A means to accomplish this could be to limit the number of needles being distributed to individuals and establishing more sites where the user is located, i.e. rural locations.

References For NEP Overview (Appendix C):

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- (8) Jerome Engele Drug Squad Saskatoon. Saskatoon, Feb 2010.
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NEP Overview: ©Saskatchewan Ministry of Health, Population Health Branch – June 24, 2010



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Ministry of
Health

November 2010

APPENDIX B

Analysis of data collected through Human Immunodeficiency Virus Enhanced Surveillance Questionnaires (HESQ) in Saskatchewan

In order to gain a better understanding of the issues that lead to the acquisition of Human Immunodeficiency Virus (HIV) in Saskatchewan and to develop patient-centered and evidence-based programming, the Human Immunodeficiency Virus Enhanced Surveillance Questionnaire (HESQ) was developed. The HESQ collected information regarding social determinants of health and other relevant data from newly diagnosed HIV patients in the province from June 2011 to November 2012. A total of 303 new cases of HIV were identified during the survey time period and 137 questionnaires were completed.

This survey consisted of a convenience sample of HIV cases available for interview during the survey period. Responses were received from approximately 45 percent of the identified cases during the survey time period. Not all questions were answered by the respondents. The non-response/refusals varied with the individual questions, ranging between approximately seven and 30 percent. With these limitations, information in this survey should be interpreted with caution, especially if trying to generalize the results to all newly diagnosed individuals during the survey time period.

This report summarizes the responses to create a baseline for the evaluation of the provincial HIV prevention program/strategy.

KEY FINDINGS:

1. Time of HIV diagnosis:

The year of HIV diagnosis was reported to be 2011 for 40% of respondents, 2012 for 45% of responders and 15% did not indicate a year.

2. Demographics and Socio-economic Indicators of HIV patients:

- The vast majority of respondents reside in either Saskatoon (39%) or Regina (39%) health regions. Prince Albert Parkland and Prairie North health regions had 7% and 6% of the respondents and the remaining respondents were from NITHA, Sunrise and the northern health regions (less than 5% of the respondents per region). This distribution is significantly different with an overemphasis on urban cases from that for all newly diagnosed individuals during the survey time period.

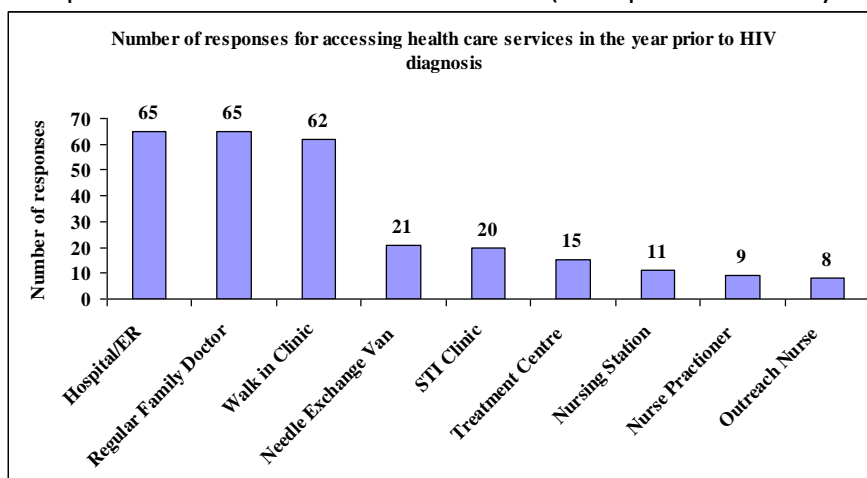
- The majority of respondents (53%) were between the ages of 30 to 49 years, with approximately equal percentages divided between the age groups of 30 to 39 years (27%) and 40 to 49 years (26%). Of the remaining, 26% were under 29 years and 20% were 50 years and over. The age distribution was not significantly different from all newly diagnosed individuals during the survey time period.
- Males accounted for 62% of the respondents whereas the percentage of female respondents was 37%. The gender distribution was not significantly different from all newly diagnosed individuals during the survey time period.
- The vast majority of respondents indicated their ethnicity to be First Nations (58%), followed by non-Aboriginal (26%) and Metis (13%). This distribution is significantly different with an overemphasis on non-Aboriginal cases from that for all newly diagnosed individuals during the survey time period.
- All responders had some level of education, with 54% having less than high school completion. Approximately nine percent of respondents left this question blank or refused to answer.
- The majority of respondents had some level of monthly income, with 83% reporting less than \$2000 per month. Of those, 52% had a monthly income of less than \$1000. Five percent indicated no monthly income. Approximately eight percent of respondents left this question blank or refused to answer.
- Over half (54%) of respondents identified either social assistance (majority) or year round regular work as their main source of income. In descending order, the remaining responses included: other, seasonal work, money from family/friends, disability, sex work and pension/employment insurance/workers compensation. Multiple responses per respondent were indicated and a number of respondents did not identify their source of income. Approximately 30% of respondents left this question blank or refused to answer.

3. Housing Profile prior to and at time of HIV diagnosis

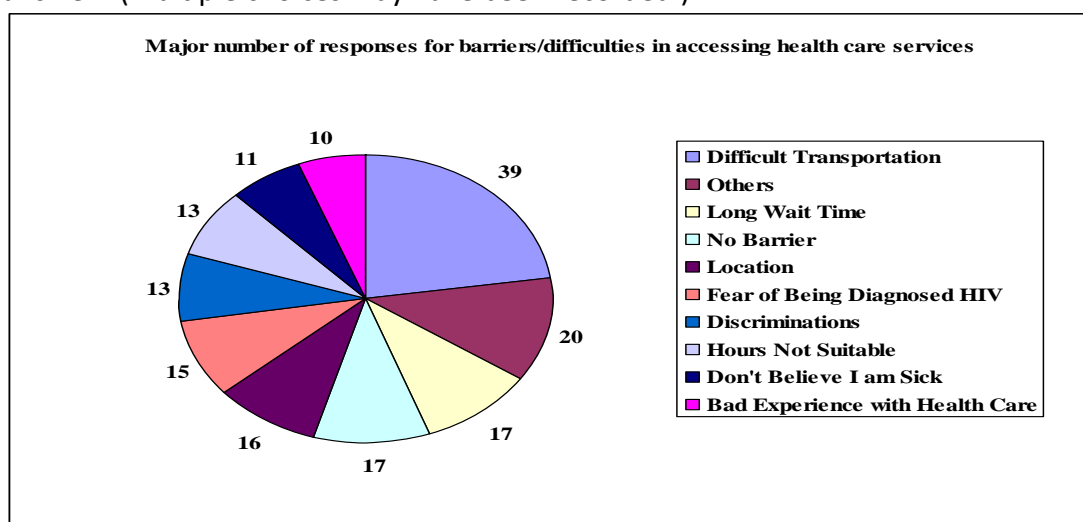
- Majority of respondents (83%) lived in permanent housing during the year prior to HIV diagnosis. Of those, the majority lived in an apartment/house, followed by living with parents/relatives or a caregiver home. Approximately 10% of respondents left this question blank or refused to answer.
- Friend's place/couch surfing and correctional facility were the major temporary housing cited.
- Lack of suitable housing and cost were identified as the major barriers to permanent housing prior to diagnosis.

4. Access to Health Care in the Year prior to HIV Diagnosis

- The majority of respondents accessed health care through the Hospital/ER, Regular Family Doctor and Walk in Clinics. Approximately seven percent of respondents left this question blank or refused to answer. (Multiple choices may have been recorded.)



- The major barrier in accessing health care services was identified to be transportation difficulties. Approximately 15% of respondents left this question blank or refused to answer. (Multiple choices may have been recorded.)



5. Preventative Behavior

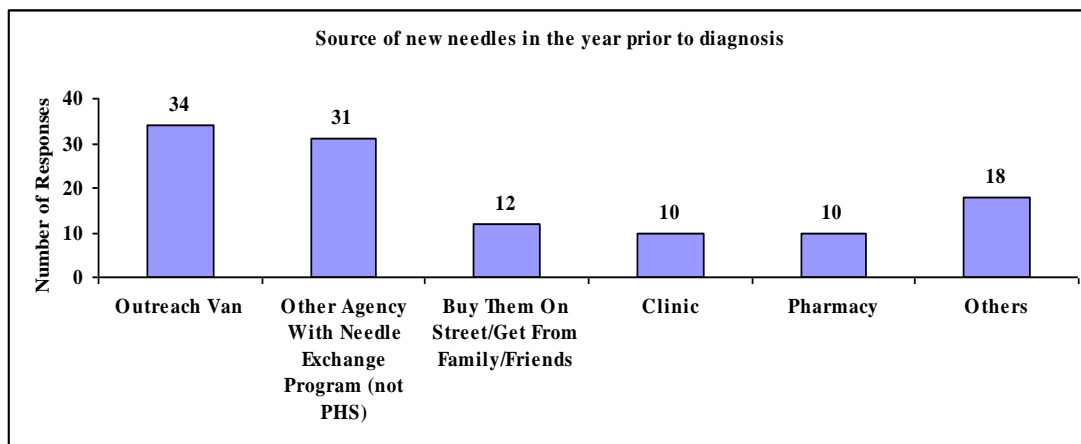
i) Use of condom during sex in the year prior to HIV diagnosis

- Of the respondents, 56% indicated that they “never” or “occasionally used a condom” in the year prior to diagnosis. Approximately eight percent of respondents left this question blank or refused to answer.

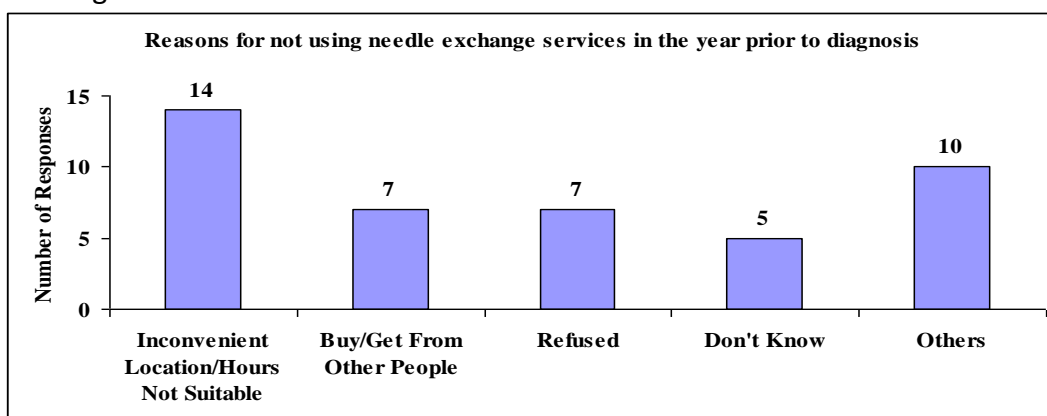
- The major reasons for not using a condom indicated by 72% of respondents were “having a regular partner” (50 responders) and “being high/drunk” (20 responders).

ii) Use of new needles and needle sharing/exchange

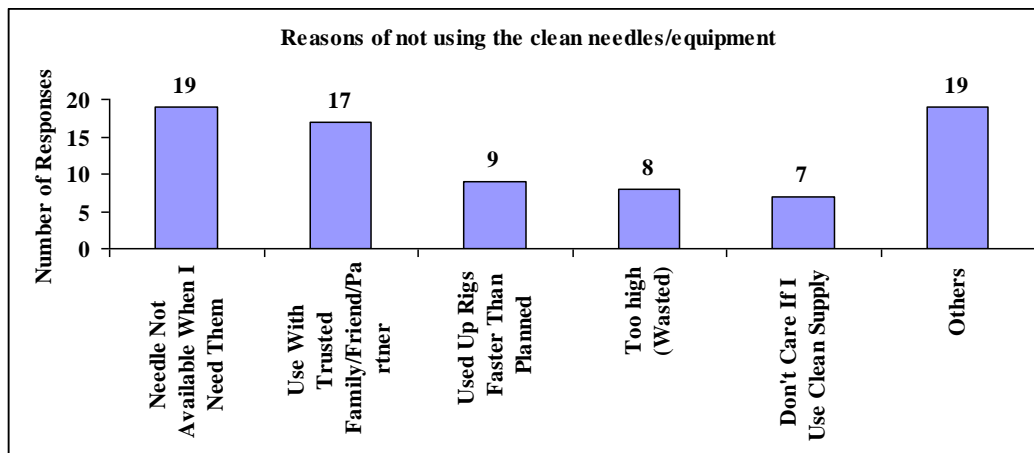
- Of the respondents, 57% were identified to use injection drugs and were asked questions about needle sharing/exchange practices.
- The majority of respondents identified an outreach van and non-Public Health agencies with a needle exchange program as sources of new needles in the year prior to diagnosis.



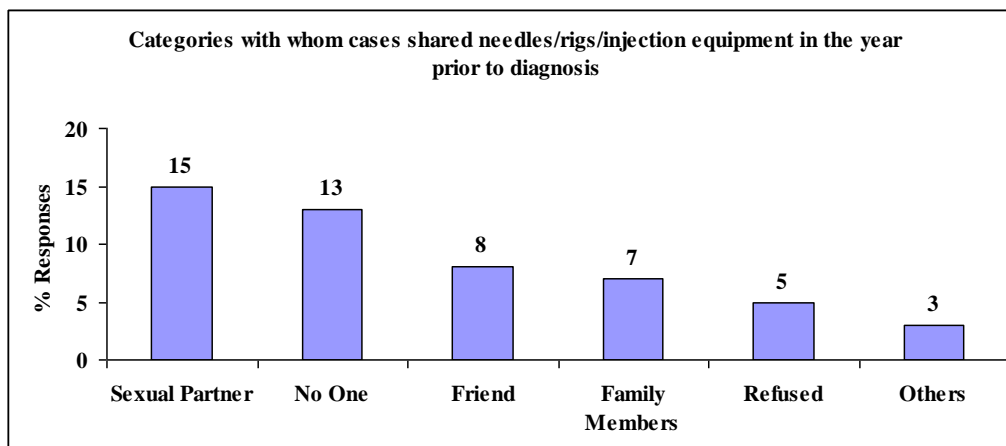
- The main reason for not using the needle exchange services in the year prior to diagnosis was identified to be “inconvenient location/hours not suitable” of needle exchange services.



- The main reasons for not using the clean needles/equipment for each injection were “needles not available when I need them” and “use with trusted family/friend/partner”.

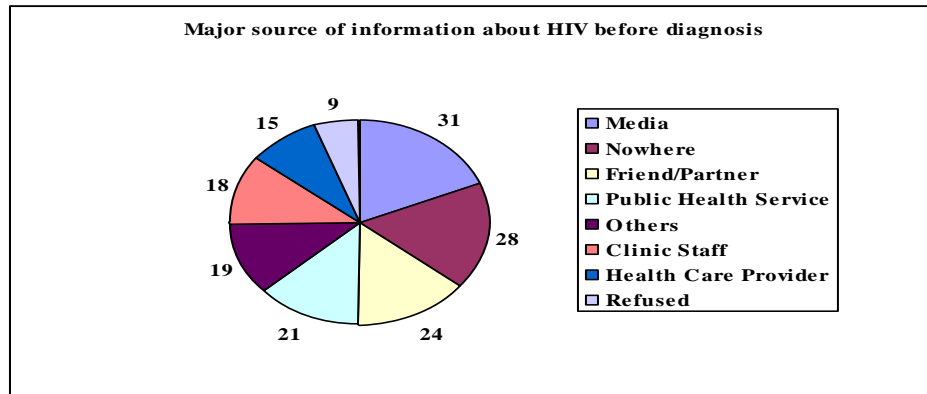


- The respondents reported sharing needles/rigs/injection equipment in the year prior to diagnosis, in descending order, with “sexual partner”, “no one”, “friend” and “family members”.

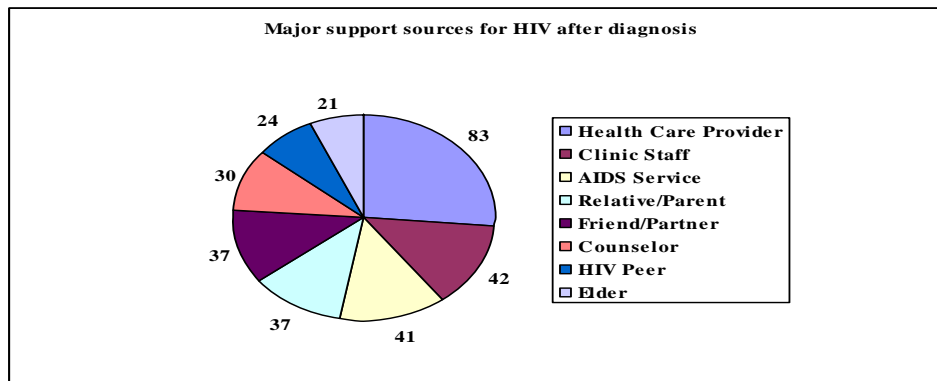


6. Supportive Elements

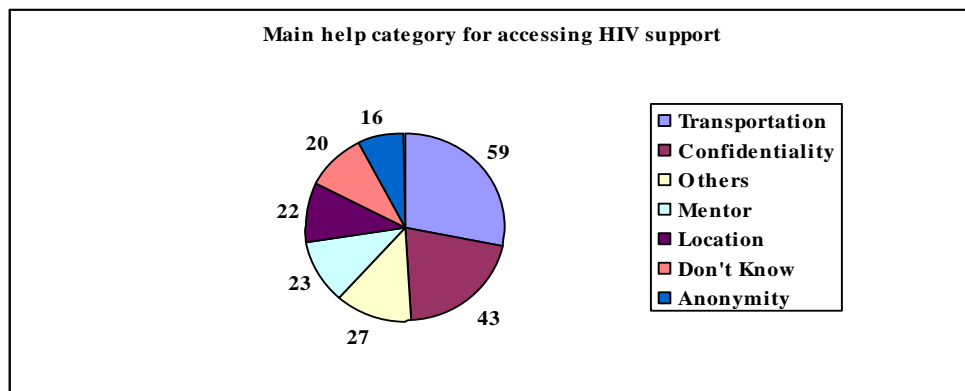
- The respondents reported three most popular sources of information about HIV **before diagnosis** to be the “media”, “nowhere”, and a “friend/partner”. Approximately nine percent of respondents left this question blank or refused to answer.



- The three most popular types of support that respondents would like to access **after diagnosis** were from a “health care provider”, “clinic staff”, and an “AIDS service” organization. Approximately seven percent of respondents left this question blank or refused to answer.



- “Transportation”, “confidentiality” and a “mentor” were identified as necessary to use the supports as identified above.



Acknowledgements

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