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In 2007, HIV/AIDS in Vancouver poses an increasingly complex challenge. About 7000 people are living with HIV in Vancouver, and the epidemic intensifies each year as about 200 newly diagnosed HIV cases are reported. Furthermore, HIV-positive people are living longer with new treatments, so an increasing HIV-positive population means greater need for medication, care and support.

Ten years ago, we believe approximately 2000 people, primarily injection drug-users, were infected with HIV in a two-year span. That outbreak still affects us powerfully today, especially in the strain of the health care system to meet the escalating need. This outbreak has not repeated itself thanks in part to new prevention efforts in the Downtown Eastside, but we must expand our efforts at preventing new HIV infections to reverse the growing epidemic.

Vancouver’s mid-1990s outbreak costs the health care system in the order of 1 billion dollars. We are still paying off this debt. As the epidemic progresses, each year HIV/AIDS adds an additional $100 million in future health care costs due to new HIV infections. Currently, these infections are not curable, but they are preventable.

Reaching the targets set in this strategic plan will relieve enormous health care demands. Every year that HIV testing is 20% higher than the current rate of 40,000 tests annually, we avert $62 million of future health care costs. If we treat an additional 1350 people who require treatment, amounting to 50% of the currently untreated, treatment-eligible population, from the first year the health care system will be spared $182 million in future health care costs.

Even the short-term economic implications are considerable. The five-year forecast for direct health care costs averted is $6 million for each year we prevent 40 new infections (20% of newly diagnosed cases annually).

Though anyone can contract HIV, our prevention efforts must reflect the social reality that vulnerability to HIV relates to poverty, homophobia, addiction, violence and racism. As a result, the disease affects marginalized groups of people at far higher rates. In Vancouver, about half of the 200 HIV infections reported each year happen among men who have sex with men. People who share drug injection equipment make up the next largest category that test HIV-positive.

Aboriginal people are over-represented in the HIV epidemic. While they are approximately five percent of Vancouver’s population, they account for about 14 percent of Vancouver’s HIV-positive population.

Some of the people in the greatest need are the hardest to reach. Vancouver Community’s HIV/AIDS Program tailors its services to the populations most impacted, and to the forces underlying the epidemic. Services have been developed along a continuum, ranging from helping people stay HIV-negative to caring for people with advanced AIDS.
In the last five years, services for HIV prevention have developed in response to the HIV epidemic among injection drug-users. For example, the Needle Exchange Program expanded significantly and made sterile syringes more accessible. Since 2003, the Supervised Injection site, Insite, has focused on reducing transmission of HIV.

The HIV/AIDS Program will now focus more on improving access and treatment quality for this population. As reported, HIV infections declined among injection drug-users in recent years. We hope to achieve similar successes in prevention for other populations.

Though HIV infection can be managed with antiretroviral therapy to extend life expectancy significantly, HIV is different from chronic diseases. In particular, it is caused by a transmissible virus. The treatment is complex and often brings major side effects. Moreover, HIV infection brings a powerful social stigma. Thus, the virus can affect every aspect of a person’s life.

**VANCOUVER COMMUNITY’S HIV/AIDS PROGRAM**

Vancouver Community’s vision for a comprehensive HIV/AIDS Program is as follows:

- All people affected by HIV/AIDS can access appropriate, timely, high quality services without difficulty.
- For people at risk for HIV infection or living with the disease, their capacity to improve their health expands, and their health and overall wellness improves.
- Vancouver is innovative in HIV prevention, support, treatment and care, and involves people affected by HIV/AIDS in culturally appropriate service planning and delivery.

In keeping with this vision, Vancouver Community has developed a five-year Strategic Plan. Through a consultation process, we gathered input systematically from a range of international experts and local providers of care and support. VCH’s care providers and community AIDS service organizations called for expanding outreach, working to counteract stigma and discrimination, boosting availability of appropriate housing, and decentralizing supports from the city centre.

**Philosophies of the Program**

Vancouver Community’s HIV/AIDS Program supports the principles guiding HIV/AIDS programs at both the federal and provincial levels, and operates according to three specific, interrelated philosophies:

- **Enacting Social Justice**: Everyone is treated fairly and without prejudice.
- **Pursuing Determinants of Health**: A focus not just on health, but on the factors that determine a person’s well being: social support networks, income, education, gender, culture.
- **Promoting and Drawing on Strengths**: Affirming and building on a person’s strengths and abilities.

**Goals of the Program**

To reverse the epidemic, Vancouver Community’s HIV/AIDS Program focuses on three key goals:

- Reduce the number of new HIV infections.
- Increase the length of time HIV-positive people can live in the community.
- Increase access to appropriate care.

**HIV/AIDS Services Currently in Vancouver**

Vancouver Coastal Health delivers a range of support services directly and through contracted service providers. Services are available along a continuum and tailored to the individual needs of clients. The figure on the next page outlines those needs and the services intended to meet them.

**Service Needs and Priorities**

Some needs, such as prevention targeted to gay men or residential care for people needing complex AIDS care, are not matched by the currently available services, according to scientific data and reports from health care providers and clients. We will work to address those needs in a way that achieves the goals of Vancouver Community’s HIV/AIDS Program.

If we treat an additional 1350 people who require treatment, amounting to 50% of the currently untreated, treatment-eligible population, from the first year the health care system will be spared $182 million in future health care costs.

**Strategic Actions**

1. Increase HIV prevention activities supporting two specific populations: Gay men/other men who have sex with men, and the proportion of Aboriginal women/other women of colour who are at high risk of HIV infection.

Since the highest HIV infection rate by far appears among the population of gay men and other men who have sex with men (MSM), we must intensify and focus HIV prevention efforts there. As well, HIV prevention must increasingly reach Aboriginal and other women of colour because of the very disproportionate infection rate among women using injection drugs and among women infected with HIV through heterosexual contact. We will implement new prevention tools along with more traditional social marketing efforts and outreach. Infection rates for the target
groups should decline just as injection drug-users’ newly reported HIV infections have diminished, due in part to the scale-up of prevention services tailored to them.

2. **Increase access to regular HIV testing through low-threshold, culturally appropriate testing points throughout the community.**

   The high number of HIV-positive individuals who are unaware of their HIV status (estimated at 27% nationally) indicates a need for more widespread, targeted testing. Undiagnosed individuals may continue high-risk behaviours and unknowingly expose others to HIV infection. Improving Highly Active Anti-Retroviral Therapy (HAART) uptake among injection drug users requires targeted HIV testing and related counselling.

3. **Develop a decentralized network of access points for a supported antiretroviral therapy assistance program.**

   We estimate half of the people eligible for HIV treatment in Vancouver do not receive it. Maximizing treatment access in Vancouver will promote vastly improved outcomes for individuals with HIV and may have the additional effect of reducing HIV infections. Supported antiretroviral therapy will reduce or eliminate barriers for people with chaotic lifestyles resulting from addiction, mental health and related concerns. The added preventive value of antiretroviral therapy makes this intervention a central piece of a comprehensive HIV/AIDS control strategy.

4. **Support clinical practice system-wide through an HIV-specific practice and educational framework.**

   In Vancouver Community, the pockets of expertise in HIV care should broaden across the system, not just the districts where HIV/AIDS is most prominent. This expertise should be integrated with the BC Centre for Excellence in HIV/AIDS to ensure that people with HIV/AIDS receive optimal care. A coordinating body should identify and fulfill educational needs, and develop and support clinical practice guidelines.

5. **Enhance facility-based community care for people who need complex HIV/AIDS care needs and can no longer live independently.**

   Supported housing and residential care beds are in great demand for the HIV-positive population. Supported housing and appropriate residential supports can play a key role in promoting adherence to HAART and the overall health of people with HIV/AIDS. Death with dignity is a primary desired outcome for palliative care, but many people living with AIDS, combined with poverty and chronic addiction, die alone in hotel rooms or in the emergency departments of hospitals.

### Achieving Program Goals

Our targets relate to the program’s goals: prevention, stable lives with HIV in the community, and access to appropriate HIV care. For prevention, we lack the data to measure effectively the rate of HIV transmission. However, we know that HIV prevention can be achieved in part with testing and treatment, so we are beginning with targets for these approaches, to work toward a confident measure of HIV incidence and our success in prevention.

The five strategic actions interrelate with each other in pursuing program goals. We have set specific targets to reflect the measurable progress towards those goals. We will strive to achieve the following targets by 2012:

- **Increase of 20% in the number of HIV tests performed (to a total of approximately 8,000 tests annually), where possible focusing on the number of first-time tests and tests of individuals with the major risk factors, specifically MSM, Aboriginal women at risk of HIV infection, and injection drug-users.**

- **HAART uptake of 50% of the untreated, treatment-eligible population (approximately 1350 individuals), discounting the instances contraindicated by medical issues or a patient’s preference.**

- **Expansion of residential care supports to appropriately serve 100% of the target population requiring residential and at-home supports (an early estimate is 15 to 20 more beds well suited to complex HIV/AIDS care).**

These targets will be linked to standards of quality, to ensure that expanding and enhancing services will accomplish significant improvements in the lives of people living with or at risk of HIV infection.

This plan will not be realized without the support and cooperation of partners and stakeholders within VCH and in the community. To initiate the plan, Vancouver Community’s HIV/AIDS and Harm Reduction Program sought to bring leadership by creating a draft plan in collaboration with former director of the BC Centre for Excellence in HIV/AIDS, Dr. Michael O’Shaughnessy. In the process, VCH consulted with a number of internationally recognized experts in health and HIV/AIDS. The planning team then gathered feedback on the resulting draft from community partners and stakeholders.

With the support of health service providers in VCH and in the community, Vancouver’s mid-1990s outbreak costs the health care system in the order of 1 billion dollars. We are still paying off this debt.
the planning team will develop individual project plans. This process will draw heavily on consultation with clients and families involved with HIV/AIDS services in Vancouver. Their input will identify the most suitable approaches to implementing the strategic actions.

We see where clear and urgent needs in the current HIV epidemic are not met because of the gaps and shortages in the continuum of service. As these unmet needs persist, they affect the quality of life and ultimately the survival of an increasing population living with HIV/AIDS. These unmet needs lead directly to increasing demands on health care, especially emergency services. As we continue to see HIV-positive people die in miserable conditions, these unmet needs create an ethical imperative, an economic imperative, and a compassionate imperative to carry out this plan of action.

**FROM NEEDS TO SERVICES**

**HIV-NEGATIVE**

**STAYING HIV-NEGATIVE**

NEED: Support to diminish risk of HIV infection

**TESTING FOR HIV**

NEED: HIV info & knowledge of serostatus

**HIV-POSITIVE**

**NEWLY DIAGNOSED WITH HIV**

NEED: Planning for care, treatment & support

**STAYING HEALTHY**

NEED: Support to stay healthy with HIV

**AIDS**

**GETTING BETTER IN ACUTE EPISODES**

NEED: Support to stabiize acute health issues

**COPING WITH END OF LIFE**

NEED: Support to maintain quality of life

**SPECIFIC NEEDS**

Safe spaces, social support networks, housing, awareness and information about health and HIV prevention, safer sex materials, sterile injection equipment, cultural appropriateness in health information and services, support to address addiction, consultation and support about health risks, support to sustain employment / income

Regular testing of people with high risk of HIV infection, prevention messages and support, counselling on living with HIV and/or risks of infection, cultural appropriateness in health information and service

Partner notification, initiation and modification of HIV treatment regime, referral for HIV-positive persons to health care practitioners who are familiar with best practice regarding HIV-related care, cultural appropriateness in health care, connection to community resources for HIV

Access to appropriate HIV treatment, support to maintain nutrition, social support related to HIV, economic supports, appropriate care for comorbidities and other complex health issues, HIV information, connection to community resources for HIV, caregivers or support to maintain independent living, appropriate prevention messages and counselling

Initiation or modification of HIV treatment regime, health care practitioners who are familiar with best practice regarding complex HIV-related care, management of acute events, cultural appropriateness in health care, appropriate prevention messages and counselling, connection to appropriate community resources for HIV

24-hour health care, timely access to appropriate level of care, health care that is competent with end-of-life issues, support for social, spiritual, and emotional concerns, multiple care providers working together, prevention of suffering, choice in care planning, support for family and caregivers to address health needs

**VANCOUVER’S SERVICES TO ADDRESS NEEDS**

**Information resources and health education** - for the general public, for people with HIV, for health care professionals

**Social marketing**

**Supervised injection** – 213,336 visits in FY05

**Needle exchange** – 1,958,455 needles distributed in 2005

**Addiction treatment** – 68 detox beds, 59 intensive treatment beds

**Methadone maintenance therapy** – 3000 slots (ISO VCH-funded)

**Drop-in centers**

**Outreach**

**Housing** – 505 units (VCH funds administration)

HIV testing – 41,670 tests in 2005

Diagnosis – 196 diagnoses of HIV in 2005

Counselling

Case management – 1301 clients in FY06

Partner notification

Potentially HAART and related support – 4044 registered clients in 2005

Drop-in centers

Information resources and health education

Day treatment/care – 275 participants registered, 20,000 visits in FY05

HAART and related support – 4044 registered clients in 2005

Drop-in centers

Primary care

Case management – 1301 clients in FY06

Meals and nutrition – 1,513,298 meals provided, 289 nutrition support sessions in FY06

HIV-specific housing – 505 units (VCH funds support and administration)

one-on-one support (outreach, advocacy, accompaniment, etc.) group support (support groups, drop-ins, etc.)

HAART and related support – 4044 registered clients in 2005

Methadone maintenance therapy – 2133 clients

Addiction treatment – 68 detox beds, 59 intensive treatment beds

Methadone maintenance therapy – 3000 slots (ISO VCH-funded)

Drop-in centers

Housing – 505 units (VCH funds administration)

Home care

Hospice/palliative care – 30 beds (not HIV-specific)

Residential care – 24 beds, 53 admissions in FY05


Specialist care – over 600 registered IDC patients, 3600 visits to family doctors

Vancouver Coastal Health   July 2007
Introduction

With the outbreak of HIV among cocaine-injecting drug users in the Downtown Eastside in 1995 and 1996, the estimated prevalence of HIV in this group rose from 5% to 40%. We believe that approximately 2000 individuals were infected with HIV during this two-year span. The health care costs of this outbreak are in the order of 1 billion dollars, based on estimated lifetime treatment costs. Ten years later we are still paying this debt.

Each year, Vancouver faces another increment in the cost of the epidemic. We identify approximately 200 newly diagnosed HIV cases each year. The most recent estimates of the lifetime treatment costs are greater than US$500,000 per infection in this age of antiretroviral therapy. Each year, we incur another $100 million in direct medical costs alone.1 The economic imperative, as well as the medical, social and ethical imperative, is to reduce the number of new cases.

Our prevention efforts have contributed to the decrease in newly detected positive cases, but the number of new infections is still too high. We cannot abandon any of our current efforts. We have not seen a recurrence of the 1995/1996 outbreak in part because numerous prevention initiatives have been introduced in the Downtown Eastside. In the short term, we must concentrate on a more significant, sustained reduction.

We face a situation where Vancouver’s HIV epidemic is increasingly entrenched. The unfortunate reality is that approximately 7,000 people live with HIV in Vancouver. Since HIV-positive people may be taking antiretroviral therapy for 20 years or longer, the number of HIV-positive people in Vancouver will likely expand over time as they live longer and as new infections occur.2 However, we estimate that in Vancouver HIV treatment is provided to only half of the people who need it.

Reaching the targets set in this strategic plan will relieve enormous health care demands. Every year that HIV testing is 20% higher than the current rate of 40,000 tests annually, we avert $62 million of future health care costs. If we treat an additional 1350 people who require treatment, amounting to 50% of the currently untreated, treatment-eligible population, from the first year the health care system will be spared $182 million in future health care costs.

Even the short-term economic implications are considerable. The five-year forecast for direct health care costs averted is $6 million for each year we prevent 40 new infections (20% of newly diagnosed cases annually).

Though this disease is communicable, it now resembles chronic diseases in that it has become reasonably manageable with treatment. However, HIV is unique for a number of reasons, particularly because it is caused by a virus, which is transmissible. It has no identified cure, treatment is life-long and employs drugs that often have significant side effects. HIV also differs from other chronic diseases in that the social stigma associated with this infection still persists. The virus can affect every aspect of a person’s life.

While Vancouverites from all walks of life are touched by HIV/AIDS, this disease affects vulnerable and marginalized groups of people at a rate far exceeding that of the overall population. We often talk of “risky behaviours” that contribute to HIV infection. However, these risks are often associated with social factors. Major contributing causes of vulnerability to HIV are poverty, homophobia, addictions, violence, racism, misogyny, and colonialism. They influence some individuals much more than others.
To reach the people with the greatest need, who are often the hardest to reach, the Vancouver Community HIV/AIDS Program tailors services to the forces underlying the HIV epidemic. This program provides care in the community, outside of the hospital setting. Its services form a continuum, from initiatives for preventing HIV infection to providing end-of-life care for people with far advanced AIDS.

The intention of this document is to assess the current conditions and trends of the HIV/AIDS epidemic in Vancouver, and to identify the areas of greatest unmet need for service. This plan does not exhaustively convey the work of HIV/AIDS services and their ongoing quality improvement. It serves to identify how the identified areas of need can be addressed over the next four years.

The document begins with the basis of its overall rationale: the program’s vision, goals, and guiding philosophies. A framework for understanding the stages of HIV/AIDS illustrates people’s needs as they experience different facets of the disease. The epidemiology presented in the third section further guides the program to identify and meet population needs. The plan compares the services currently offered to the identified needs to reveal priorities for further development. We identify strategic actions that can fulfill these priorities, and the final section establishes the targets that will indicate whether we succeed in achieving the goals.

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1 Schackman BR, Gebo KA, Walensky RP, Losina E, Muccio T, Sax PE. The Lifetime Cost of Current Human Immunodeficiency Virus Care in the United States. Med Care 2006;44:990-7.

2 Figure obtained from VCH Communicable Disease Control, and unpublished BC Centre for Disease Control HIV reporting records.
Program Vision

**Program Philosophies**

Vancouver Community’s HIV/AIDS Program supports the principles guiding HIV/AIDS programs at the federal and provincial levels. It serves the commitment of Vancouver Coastal Health to

- increase longevity and quality of life for all,
- provide a positive experience for people using the health care system, and
- promote informed choice and involvement, and support self-responsibility.

We believe in working with people’s strengths to help them draw on their own resources. We believe health is a capacity in every individual that we should work to cultivate. To realize these principles, Vancouver Community’s HIV/AIDS Program works according to three more specific, interrelated philosophies.

**Enacting Social Justice.**

Everyone should be treated fairly, and without prejudice. We must be mindful of how disability, culture, gender and sexuality affect people’s health care, especially access to treatment and services. All barriers should be identified and removed or minimized. For instance, only about half of the treatment-eligible HIV-positive individuals in Vancouver are being treated. Primary aims of this plan are expanding access to antiretroviral therapy to reach all of them, and counteracting social stigma that obstructs access to treatment and support.

**Pursuing Determinants of Health.**

We see health as the extent of an individual’s capacity to act, to grow and to pursue goals. We focus on the factors that determine well being and quality of life, such as personal health practices, social support networks, income and social status, education, health services, gender, and culture, for example. A population health approach recognizes these complex and inter-related determinants of health. They affect individual agency and resilience, the ability to control life’s challenges. This is the basis for the health of a population. This plan recognizes the importance of conditions that contribute to preventing HIV transmission, such as safe spaces and social support networks.

**Determinants of Health**

- Income and Social Status
- Social Support Networks
- Education and Literacy
- Employment/Working Conditions
- Social Environments
- Physical Environments
- Personal Health Practices and Coping Skills
- Healthy Child Development
- Biology and Genetic Endowment
- Health Services
- Gender
- Culture

Public Health Agency of Canada

In the vision for Vancouver Community’s HIV/AIDS program, all people who are affected by HIV/AIDS can access appropriate, timely, high quality services without difficulty. For people who are at risk for HIV infection or are living with HIV, their capacity to improve their health expands, and their health and overall
wellness improves. Vancouver innovates in HIV prevention, support, treatment and care, and involves affected individuals in culturally appropriate service planning and delivery.

Promoting and Drawing on Strengths. Every individual possesses strengths and abilities. Wellness and resilience can best be increased by affirming and building on these assets rather than cataloguing and repairing weaknesses. This approach can strengthen people’s confidence in their own capacities and inspire them to take action on their own health and that of their community. Strength-based approaches emphasize the value of an individual’s agency and a population’s empowerment. Instead of treating the individual as a passive recipient of service, this approach engages and supports people to pursue their own solutions.

PROGRAM GOALS In pursuing its vision, the HIV/AIDS Program focuses on key goals to reverse the epidemic

1. Reduce the number of new HIV infections. HIV continues to spread at a substantial rate. There are more people living with HIV today than ever before, and each year approximately 200 individuals living in VCH receive their first diagnosis of HIV. Improving wellness and capacity for health goes hand-in-hand with preventing the infection and subsequent disease.

2. For people living with HIV, increase the length of time they live in the community. The majority of HIV-positive people live productive and rewarding lives, and HIV/AIDS services contribute to this outcome.

3. Increase access to appropriate care. Many HIV-positive people do not receive treatment or HIV-related health care for a number of reasons. We strive to work with all people at high risk or living with HIV to identify and address their needs through an integrated set of services.
HIV/AIDS is a disease with a continuum of disease states, such as asymptomatic infection or advanced immunodeficiency including “AIDS”. Infected individuals’ needs vary significantly depending upon their state in this continuum. The progression is not a simple one of increasing acuity, from infection with HIV to diagnosis of AIDS to death. It is complex, as individuals may move back and forth between some parts of the continuum. The contemporary reality of HIV/AIDS is that health may improve after acute episodes, and the diagnosis of AIDS is not synonymous with impending death.

An appropriately treated individual with HIV can live a long and productive life. In these circumstances, an individual will manage his or her disease with medication and regular follow-up with a primary care physician and specialist when required. He or she will adopt strategies to prevent treatment failure, opportunistic infections, or other acute effects. There are significant opportunities to avoid or decrease sub-optimal health outcomes and the high costs associated with a lifetime of treatment. Furthermore, risk factors for HIV infection or progression to AIDS can be identified and addressed. VCH will attempt to promote a wider understanding of HIV/AIDS, increasing the effectiveness of prevention programs to decrease the number of new infections, and increase access to appropriate care, treatment, and support.

Though it is often possible to manage HIV for long periods with treatment, many characteristics of the HIV epidemic distinguish it from chronic diseases, and some of them are listed below.

- HIV is a communicable disease. Unlike chronic diseases such as diabetes or congestive heart failure, HIV is transmissible from person to person.
- In relation to most diseases, HIV is complex to treat, as it involves many potential co-morbidities and opportunistic infections.
- The drugs that form the basis of antiretroviral therapy may have significant side effects and often interact with other medication.
- HIV infection carries a high degree of social stigma that affects access to supports and effective treatment.
- The cost of treating HIV is high, and, once initiated, treatment continues for the rest of an individual’s life.

- The prognosis for untreated HIV infection is progression to AIDS and premature death. Appropriate use of antiretroviral therapy will delay this progression. The life expectancy of untreated HIV infection is about a decade. While the exact life expectancy of treated HIV infection is not yet known, it is estimated to be more than two decades.

This strategic plan adopts a framework suited for understanding health in the context of HIV/AIDS, with levels of health status and associated needs. See Figure 1. The framework acknowledges changes in the continuum of HIV/AIDS stages through which people pass. Advances in treatment have made it a generally manageable condition with intermittent acute episodes.
COPING WITH END OF LIFE
NEED:
Support to maintain quality of life

STAYING HEALTHY
NEED:
Support to stay healthy with HIV

AIDS
GETTING BETTER IN ACUTE EPISODES
NEED:
Support to stabilize acute health issues

HIV-POSITIVE
NEWLY DIAGNOSED WITH HIV
NEED:
Planning for care, treatment & support

TESTING FOR HIV
NEED:
HIV info & knowledge of serostatus

STAYING HIV-NEGATIVE
NEED:
Support to diminish risk of HIV infection

HIV-NEGATIVE
STAYING HIV-NEGATIVE
NEED:
Support to diminish risk of HIV infection

FIGURE 1. STAGES OF HIV / AIDS
**Staying HIV-Negative** refers to preventing infection in those who are HIV-negative. It involves achieving and maintaining the potential for healthy choices.

At this time we do not have the capability to discover with any accuracy how many new infections occur in Vancouver. Most likely, some infections are not detected, yet we still identify around 200 HIV infections for the first time each year. The HIV/AIDS program must focus on reaching people who are HIV-negative but are at great risk of infection. The people who regularly share high risk activities with HIV-positive people have the highest risk of seroconversion. Other people with high risk behaviours involving individuals with unknown HIV status are also susceptible to acquiring HIV. Vulnerability depends on many factors that we understand through the determinants of health. Prevention efforts must acknowledge these determinants and address them. For example, unstable housing or sexual abuse influence involvement in survival sex trade work and other related risks.

**NEED:** Support to diminish risk of HIV infection

- safe spaces
- social support networks
- housing
- support to sustain employment /income
- awareness and information about health and HIV prevention
- consultation and support about health risks
- safer sex materials
- sterile injection equipment and related harm reduction strategies
- cultural appropriateness in health information and services
- support to address addiction

**Testing for HIV** refers to regularly testing those who are at risk of acquiring HIV. It involves building capability and awareness so that anyone with a chance of HIV infection is regularly tested for HIV and for related health issues such as sexually transmitted infections.

Aggressive point of care testing and targeted outreach campaigns for testing are key strategies to decrease the proportion of HIV infected individuals who do not know their HIV status, currently estimated at 27% of all HIV positive people in Canada.

Counselling about the test is important. During the process of counselling and testing, individuals are asked about their high risk behaviours. Even if they test negative, there is an opportunity for concentrated prevention messages to diminish the individual’s risk. When people first learn they are HIV-positive, they need to know that their life is not at an end, and that prevention of HIV transmission now starts with them as a carrier of the virus.

**NEED:** HIV info & knowledge of serostatus

- prevention messages and support
- counselling on living with HIV and/or risks of infection
- cultural appropriateness in health information and service
Newly Diagnosed with HIV refers to an especially important time when health needs may increase dramatically. It is a time of intense activity, assessments, and tests, enrolling one into a lifetime of HIV care. Antiretroviral treatment might be initiated in this period.

Prevention messages and actions have a major potential impact at this particular point, especially through partner notification. In 2003, HIV became reportable in BC and partner notification began. This program involves public health services working with people who have newly diagnosed HIV to identify the individuals with whom they had sexual contact or other interactions with a risk of transmitting HIV. This measure allows for notification of these partners, done anonymously, so that they seek testing. They are also counselled to reduce their health risks.

**NEED:** Planning for care, treatment & support
- partner notification
- immunization and other public health service such as testing for tuberculosis
- referral for HIV-positive persons to health care practitioners who are familiar with best practice regarding HIV-related care
- initiation and modification of HIV treatment regime
- cultural appropriateness in health care
- connection to community resources for HIV

Staying Healthy refers to minimizing deterioration of health and successfully managing HIV over the long term—those strategies required for HIV-positive individuals to continue living in the community by providing appropriate housing, supplementary income, and a supportive social environment.

Many HIV-positive people live in relatively stable health, in part because of a wide range of health programs tailored to them. As a rough estimate, 7000 people are HIV-positive in Vancouver, with the majority in stable health. There were 4044 Vancouver residents receiving antiretroviral drugs in 2005.³

Programs for these individuals support many aspects of health, such as specialized housing, nutrition, social networks, primary and specialized care, and HIV education. Determinants of health are crucial: for example, ongoing treatment and nutrition are particularly difficult without stable housing.

A lifelong prevention program must be maintained to curb the epidemic. Since every newly acquired HIV infection involves the transmission of the virus from an HIV positive person, targeted prevention efforts must include a focus on HIV positive individuals so they do not infect others.

**NEED:** Support to stay healthy with HIV
- access to appropriate HIV treatment
- support to maintain nutrition
- social support related to HIV
- economic supports
- appropriate care for co-morbidities and other complex health issues
- HIV information
- connection to community resources for HIV
- caregivers or support to maintain independent living
- prevention messages and counselling to HIV-positive people to prevent transmission of HIV to their contacts

³ Estimate proportioned to Vancouver from VCH prevalence estimate provided by BC Centre for Excellence in HIV/AIDS, unpublished.
Getting Better in Acute Episodes

refers to times of intensive intervention during the HIV disease course, including hospitalizations for opportunistic infections and encounters with HIV specialist care to assist in the management of co-morbidities or complex treatment.

All of these acute or intensive interventions focus on supporting an individual in the management of their disease.

**NEED:** Support to stabilize acute health issues

- initiation or modification of HIV treatment regime
- health care practitioners who are familiar with best practice regarding complex HIV-related care
- management of acute events
- cultural appropriateness in health care
- appropriate prevention messages and counselling
- connection to appropriate community resources for HIV

Coping with End of Life

refers to relief of suffering and maintenance of quality of life when death is imminent, as well as the health and wellness of family and caregivers.

Despite great advances in HIV treatment, the prognosis for this disease is still premature death. Those who find the most success with antiretroviral therapy and supports are living longer. The rapid escalation of HIV during the mid-1990s is resulting in many people reaching the onset of AIDS and shifting towards end-of-life. Long-term care, home care, palliative care and hospice care are key services in managing end-of-life for people with AIDS. In this context, these services must be well equipped to address co-morbidities such as mental illness and hepatitis. Special attention must be paid to ensure such services are culturally appropriate, accessible by people with addiction and mental illness, and supportive of spiritual and emotional needs.

**Population Need:** Support to maintain quality of life

- 24-hour health care
- timely access to appropriate level of care
- health care that is competent with end-of-life issues
- support for social, spiritual, and emotional concerns
- multiple care providers working together
- prevention of suffering
- choice in care planning
- support for family and caregivers to address health needs
FIGURE 2. STAGES OF HIV & ASSOCIATED NEEDS

**HIV-NEGATIVE**

**STAYING HIV-NEGATIVE**

**NEED:** Support to diminish risk of HIV infection

**TESTING FOR HIV**

**NEED:** HIV info & knowledge of serostatus

**HIV-POSITIVE**

**NEWLY DIAGNOSED WITH HIV**

**NEED:** Planning for care, treatment & support

**STAYING HEALTHY**

**NEED:** Support to stay healthy with HIV

**AIDS**

**GETTING BETTER IN ACUTE EPISODES**

**NEED:** Support to stabilize acute health issues

**COPING WITH END OF LIFE**

**NEED:** Support to maintain quality of life

**SPECIFIC NEEDS**

- safe spaces, social support networks, housing, awareness and information about health and HIV prevention, safer sex materials, sterile injection equipment, cultural appropriateness in health information and services, support to address addiction, consultation and support about health risks, support to sustain employment / income

- regular testing of people with high risk of HIV infection, prevention messages and support, counselling on living with HIV and/or risks of infection, cultural appropriateness in health information and service

- partner notification, initiation and modification of HIV treatment regime, referral for HIV-positive persons to health care practitioners who are familiar with best practice regarding HIV-related care, cultural appropriateness in health care, connection to community resources for HIV

- access to appropriate HIV treatment, support to maintain nutrition, social support related to HIV, economic supports, appropriate care for co-morbidities and other complex health issues, HIV information, connection to community resources for HIV, caregivers or support to maintain independent living, appropriate prevention messages and counselling

- initiation or modification of HIV treatment regime, health care practitioners who are familiar with best practice regarding complex HIV-related care, management of acute events, cultural appropriateness in health care, appropriate prevention messages and counselling, connection to appropriate community resources for HIV

- 24-hour health care, timely access to appropriate level of care, health care that is competent with end-of-life issues, support for social, spiritual, and emotional concerns, multiple care providers working together, prevention of suffering, choice in care planning, support for family and caregivers to address health needs
Epidemiological Context

The number of new HIV cases, the incidence of HIV, is difficult to measure. Due to the long incubation period of this infection, a new diagnosis may be an infection that occurred many years previously. New testing methods may allow us to better define the likely length of infection in new diagnoses. However, even if we know how long a newly diagnosed individual has been infected, we will still have no information on the HIV status of those who are not tested. Testing approaches should be enhanced to provide better information about the epidemic.

The population of Vancouver has been increasing. This change affects how we understand the number of HIV tests and newly diagnosed HIV infections. It is important to consider testing and new diagnoses in comparison with the total population, as a rate. In this plan, we largely focus on the impact from newly diagnosed HIV cases, which is judged by the actual number.

In 2005, Vancouver saw 196 new diagnoses of HIV, out of 214 within Vancouver Coastal Health’s jurisdiction. Richmond and the Coastal region (along the coast as far as Prince Rupert) had substantially fewer new diagnoses in 2005, with 7 and 11 new diagnoses respectively.

Nationally, about 27% of people were estimated to be unaware of their HIV infection. Characterizing those who may be unaware of their infection is difficult. We do know that at least 64% of MSM report they are tested annually.

The majority of infections are diagnosed between ages of 30 to 50. Since these...
diagnoses may identify infections that occurred many years previously, the peak age of infection cannot be determined, but is likely to be substantially lower than 30 to 50.

Some regions may have under-utilized testing. The new diagnoses per 100,000 population in Vancouver were more than eight times that of the Richmond and Coastal health service delivery areas. However, there were more than twice as many HIV tests per 100,000 population as well. The greater number of new infections in Vancouver undoubtedly reflects the increased burden of disease in Vancouver. However, we must also be aware that the potential exists for under-diagnosis in the other health service delivery areas. Increasing HIV testing by including it in routine health care of all those who may be at risk is an essential part of our HIV/AIDS strategic plan.

### FIGURE 4. NEWLY DIAGNOSED HIV CASES

<table>
<thead>
<tr>
<th>Year</th>
<th>Vancouver</th>
<th>Richmond</th>
<th>Coastal</th>
<th>VCH</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995</td>
<td>325</td>
<td>4</td>
<td>36</td>
<td>365</td>
</tr>
<tr>
<td>1996</td>
<td>462</td>
<td>8</td>
<td>20</td>
<td>490</td>
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<tr>
<td>1994</td>
<td>329</td>
<td>4</td>
<td>15</td>
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<tr>
<td>1998</td>
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<td>12</td>
<td>15</td>
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<tr>
<td>1999</td>
<td>226</td>
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<td>2000</td>
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<tr>
<td>2002</td>
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<td>2003</td>
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<tr>
<td>2004</td>
<td>194</td>
<td>7</td>
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<td>214</td>
</tr>
<tr>
<td>2005</td>
<td>196</td>
<td></td>
<td>11</td>
<td>214</td>
</tr>
</tbody>
</table>

**Source:** BC Centre for Disease Control

### FIGURE 5. NUMBER OF HIV TESTS

<table>
<thead>
<tr>
<th>Year</th>
<th>Vancouver</th>
<th>Richmond</th>
<th>Coastal</th>
<th>VCH</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>32,310</td>
<td>3,990</td>
<td>7,982</td>
<td>44,282</td>
</tr>
<tr>
<td>2002</td>
<td>38,008</td>
<td>4,282</td>
<td>8,308</td>
<td>50,598</td>
</tr>
<tr>
<td>2003</td>
<td>36,472</td>
<td>4,031</td>
<td>8,288</td>
<td>48,791</td>
</tr>
<tr>
<td>2004</td>
<td>40,827</td>
<td>4,401</td>
<td>8,471</td>
<td>53,699</td>
</tr>
<tr>
<td>2005</td>
<td>41,670</td>
<td>4,584</td>
<td>8,864</td>
<td>55,118</td>
</tr>
</tbody>
</table>

**Source:** BC Centre for Disease Control
Figure 6 reveals that more than half of all new diagnoses in Vancouver were among men who have sex with men (MSM). Nationally, 45% of new infections are estimated to occur among MSM, and incidence among them is thought to be increasing.

Again note that local numbers refer only to new diagnoses, while national numbers estimate new infections. The BC-Centre for Excellence in HIV/AIDS led Vanguard Project revealed a sustained increase in HIV incidence among MSM in BC since 2000.4

Reasons for the increase are not fully understood. Characteristics of sex culture among MSM, such as multiple sex partners and pressure to have unprotected sex make this group vulnerable to infection. Use of drugs such as crystal methamphetamine is known to increase HIV infection among MSM.5

The multiple challenges in defining the epidemic among MSM highlight the importance of further developing sustainable surveillance programs (in collaboration with regional and provincial bodies).

Shared injection equipment among injection drug users (IDU) is the second most commonly identified risk factor among newly diagnosed HIV infections. The absolute number of infections among IDU are estimated to be decreasing nationally. We know that the number of new diagnoses of HIV among IDU are decreasing locally. Additional data are needed to allow us to determine local incidence among IDU. At this time it is essential that this high-risk group be targeted for expanded access to HIV testing. Risks of infection among injection

<table>
<thead>
<tr>
<th>Source: BC Centre for Disease Control</th>
</tr>
</thead>
</table>

### Figure 6. Newly Diagnosed HIV Cases by Exposure Category

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>MSM</td>
<td>98</td>
<td>113</td>
<td>104</td>
<td>70</td>
<td>69</td>
<td>94</td>
<td>104</td>
<td>110</td>
<td>96</td>
<td>100</td>
<td>119</td>
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<tr>
<td>IDU</td>
<td>119</td>
<td>195</td>
<td>120</td>
<td>84</td>
<td>64</td>
<td>48</td>
<td>47</td>
<td>56</td>
<td>42</td>
<td>33</td>
<td>30</td>
</tr>
<tr>
<td>Sex Trade Work (STW)</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>MSM/IDU</td>
<td>11</td>
<td>19</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>STW/IDU</td>
<td>19</td>
<td>38</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>12</td>
<td>12</td>
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<td>9</td>
<td>9</td>
</tr>
<tr>
<td>Heterosexual (HET)</td>
<td>23</td>
<td>37</td>
<td>33</td>
<td>44</td>
<td>46</td>
<td>26</td>
<td>39</td>
<td>36</td>
<td>40</td>
<td>33</td>
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<td>1</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Unknown</td>
<td>44</td>
<td>56</td>
<td>46</td>
<td>42</td>
<td>31</td>
<td>22</td>
<td>16</td>
<td>6</td>
<td>2</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>No Infection Reported</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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</tr>
<tr>
<td>Hemophiliac</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Blood/Blood Product</td>
<td>5</td>
<td>1</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>3</td>
<td>1</td>
<td>1</td>
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<tr>
<td>Occupational</td>
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<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Sex Between Women (WSW)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Perinatal</td>
<td>5</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Totals</td>
<td>325</td>
<td>462</td>
<td>329</td>
<td>263</td>
<td>226</td>
<td>217</td>
<td>230</td>
<td>229</td>
<td>201</td>
<td>194</td>
<td>196</td>
</tr>
</tbody>
</table>
drug users include injecting cocaine at least weekly, unstable housing, receiving payment for sex, having more than 20 previous sex partners, and incarceration.\(^6\) Studies conducted by the BC-Centre for Excellence in HIV/AIDS within VCH’s supervised injection site (InSite) have shown reduced incidence of needle sharing among InSite users, an important risk factor for HIV acquisition.\(^7\) As new individuals begin to inject drugs they will be at heightened risk of acquiring HIV due to unsafe injection practices.

Aboriginal people are over-represented in the HIV epidemic. Although Aboriginal people are less than 5% of BC’s population, they make up around 14% of its HIV-positive population.\(^6\) In Vancouver, Aboriginal people, especially women, are over-represented in HIV infections due to injection drug use. Among injection drug users in Vancouver, Aboriginal people were found to become HIV-positive at twice the rate of non-Aboriginal people.\(^8\) The epidemic may be different among Aboriginal people, with 53% of reported incident infections attributed to injection drug use, 33% to heterosexual transmission, 10% to men having sex with men and 3% to MSM-IDU. If the reported cases closely reflect the epidemic, these figures greatly emphasize the need to redouble efforts to diagnose and prevent HIV infection among Aboriginal people in a culturally sensitive fashion.

In 2005, an estimated 27% of new infections occurred among women nationally. Women made up 14% of newly diagnosed HIV cases in Vancouver, 1 out of 7 in Richmond and 1 out of 11 in Vancouver. Locally, women of Aboriginal and African ancestry appear to be at particularly high risk. Participation in the sex trade, stimulant drug use, a history of sexual violence, and needing assistance injecting appear to increase vulnerability. Women IDU are less likely to access treatment, with only 9% of HIV-positive drug injecting female sex-trade workers receiving treatment in 2002.\(^10\) Since HIV became reportable in 2003, all newly identified cases are followed up by public health to help identify those people with HIV who are unaware of their infection. This service works to provide public health support to people with newly diagnosed HIV, and to improve acquisition of epidemiological data to better understand the epidemic. Most importantly, it works with people with newly diagnosed HIV to identify and notify their partners, who are at high risk of HIV infection or may already be infected.

As we encourage HIV testing of all people who are identified with any HIV risk, success in the short term would appear as an increase in both the number of HIV tests and newly detected cases of HIV, as previously unidentified infections are diagnosed. The ultimate goal is to reduce the number of new HIV infections as people become aware of their HIV status and avoid infecting others, but this goal continues to be challenging to measure.

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\(^{4}\) Lampinen T, Ogilvie G, Chan K. Sustained increase in HIV-1 incidence since 2000 among MSM in BC, Canada. JAIDS 2005 40(2): 242-244


From Needs to Services

An integrated continuum of services exists to address the needs as described. Services are tailored to the specific needs of people in different phases of the HIV infection. They are also tailored to the specific populations most at risk of HIV infection or the acute effects of HIV/AIDS.

Figure 7 outlines the specific needs of people living with HIV/AIDS, and links those needs to services currently available in Vancouver. The relationship between the needs and the services helps to identify the gaps in service and priorities for development.

The relationship between the needs and services cannot be easily measured. Multiple service providers deliver each of the services listed above. They all work differently. They serve different populations, who may require a different level or intensity of service, and there is likely to be considerable overlap. The service providers work through a range of approaches and service delivery models. These complexities are multiplied by the lack of a common data system. Despite these challenges, this plan attempts to establish priority areas. It considers epidemiological information and service volume estimates in order to establish priorities for the program, and then with the focus on program goals it matches the resulting priorities with services to be developed.

PRIORITIES FOR SERVICE

The epidemiological context and trends illustrate how HIV/AIDS affects the Vancouver population today and in coming years. In relation to this context, services and resources must be best positioned to achieve the program's goals:

1. Reduce the number of new HIV infections.
2. For people living with HIV, increase the length of time they live in the community.
3. Increase access to appropriate care, including antiretroviral therapy.

The topics in this section do not exhaustively list the gaps and shortfalls in the continuum of service. Ongoing services continue to provide care and support, and Vancouver Community's HIV/AIDS Program will strive toward improvement of the continuum. The priorities listed here are identified as areas of outstanding need, and can be addressed with strategic actions over the next five years. These priorities fall into five categories:

1. Expanding HIV prevention for specific populations
2. Expanding HIV testing
3. Expanding HIV treatment
4. Supporting clinical practice
5. Enhance facility-based community care for people who have complex HIV/AIDS care needs but can no longer live independently

1. Expanding HIV Prevention for Specific Populations

In recent years, new HIV prevention services have developed for injection drug-users, such as the expansion and decentralization of the Needle Exchange Program and the implementation of the Supervised Injection Site (InSite). The diminishing number of reported infections among this population may be due in part to the significant scale-up in HIV prevention services targeting this population. Since the Downtown Eastside has many more services than it had in the
mid-1990s and since it appears the more predominant street drugs, crystal methamphetamine and crack cocaine, are generally not injected, it is difficult to predict the course of HIV in the addicted population. While InSite effectively lessens the risks for those who use it, less than 10% of the injection drug users in the Downtown Eastside use the services at InSite. The HIV epidemic consists of a series of smaller epidemics in various populations and the dynamic nature of the spread reinforces the need for timely and comprehensive incidence measurement for the region and the province.

Considering the most newly reported infections by far occur among gay men and other men who have sex with men,
there are few prevention services that specifically target this group. Similarly, Aboriginal women and other women of colour are a relatively small proportion of Vancouver residents, yet the number of newly reported infections among them is reaching a far higher rate than other populations. These groups have relatively few resources for HIV prevention and support that specifically address their distinct vulnerabilities. For example, vulnerabilities for Aboriginal women and other women of colour arise to some extent from colonization and resultant marginalization and poverty, involving high prevalence of abuse and trauma, addiction, use of stimulants and injection drugs, sex work, and limited contact with health care and other supports.

2. Expanding HIV Testing
The high number of HIV-positive individuals who are unaware of their HIV status (estimated at 27% nationally) indicates a need for more widespread, targeted testing. Diagnosis is crucial to halt the spread of HIV. Undiagnosed individuals may continue high-risk behaviours and unknowingly expose others to HIV infection. It is crucial that untested individuals with high viral load are tested since they are core transmitters potentially responsible for the bulk of new infections.

Additionally, diagnosis is key in matching people with appropriate care providers. The longer one lives with HIV undiagnosed, the poorer one’s prognosis.12 While the number of tests performed has been increasing there is a population of HIV positive people who clearly do not access HIV testing. Aggressive point of care testing and outreach targeted testing campaigns will be a key part of the strategy.

3. Expanding HIV Treatment
Access and adherence to HAART makes a dramatic difference in an individual’s prognosis with HIV disease. As the disease progresses in untreated individuals, they will experience many acute episodes and many opportunistic infections. They will require substantial health care resources. Further, with unsuppressed viral loads, research suggests that they are significantly more infectious than individuals whose viral loads are suppressed through HAART.13 The added preventive value of antiretroviral therapy makes this intervention a central piece of a comprehensive HIV/AIDS control strategy.

The vast majority of the estimated 2000 eligible but untreated individuals in Vancouver will become progressively sicker and die within a ten-year period if this critical gap persists in the system of care. This gap is likely rooted in barriers to diagnosis, access to care, lack of HAART prescribers and other HIV care providers, and other systemic factors. On the other hand, the gap likely exists because many untreated individuals are living in extreme poverty, without a home or adequate shelter, and are suffering from chronic addiction or mental illness. HIV/AIDS services should remove barriers at both the system and the individual level.

4. Supporting Clinical Practice
Vancouver Coastal Health has pockets of clinical expertise relating to HIV/AIDS. This expertise is concentrated among a few clinical teams and individuals. VCH has no coordinated mechanism to identify the HIV education and practice needs across all programs in Vancouver Community that come into regular contact with clients at risk for or living with HIV. The greatest needs for HIV/AIDS educational supports should be identified.

Development of best practice should be facilitated in conjunction with the BC Centre for Excellence in HIV/AIDS and BC Centre for Disease Control as appropriate in these programs of HIV risk identification, diagnosis, treatment and care. People living with HIV are clients in all Vancouver Community programs, so knowledge and expertise must be supported throughout.

5. Expanding Support for People with HIV/AIDS Who Cannot Live Independently
The populations that continue to struggle to access and adhere to HAART are reflected by very long waitlists for HIV-specific residential programs in Vancouver. Presently there are more people living with HIV disease than ever before, and this population continues to increase. In 2006, HIV-specific supported housing programs have over 200 individuals on its waiting list.14 The Dr. Peter Centre HIV-specific residential care program accepts residential clients only from St. Paul’s Hospital with few exceptions, because it can only meet the needs of this hospital alone. In 2005/2006, the median wait to be admitted to residential care at the Dr. Peter Centre was frequently over four weeks, and on average 15 people were waiting for admission, more than the total admissions for the year.15 Acute care, residential care, and palliative care services should expect an escalating negative impact. While many of these individuals ideally will connect with HAART and improve their prognosis, hundreds may never be successfully treated.

We are beginning to witness the impact of this population on our supported housing and residential services. Individuals remain at St. Paul’s Hospital, where they occupy expensive hospital beds because there is insufficient housing provided for them in the community. When they are in the community, prevention and treatment success largely depends on clients’ housing. Housing for clients with HIV/AIDS does not fall under the mandate of Vancouver Community’s HIV/AIDS Program, but it plays a critical, intimately linked role.

Figure 8 points out the services currently available in Vancouver and the priorities for development in each area of need for people living with or at risk of HIV infection.
FIGURE 8: IDENTIFYING PRIORITIES FOR DEVELOPMENT

VANCOUVER’S SERVICES TO ADDRESS NEEDS

**TESTING FOR HIV**
- Need: HIV info & knowledge of serostatus
  - HIV testing – 41,670 tests in 2005
  - Diagnosis – 196 diagnoses of HIV in 2005
  - Counselling

**HIV-NEGATIVE**
- **STAYING HIV-NEGATIVE**
  - Need: Support to diminish risk of HIV infection

**HIV-POSITIVE**
- **NEWLY DIAGNOSED WITH HIV**
  - Need: Planning for care, treatment & support
  - Case management – 1391 clients in FY06
  - Potentially HAART and related support – 4044 registered clients in 2005
  - Drop-in centers
  - Information resources and health education

**STAYING HEALTHY**
- Need: Support to stay healthy with HIV
  - Primary care
  - Meals and nutrition – 1,513,298 meals provided, 289 nutrition support sessions in FY06
  - HIV-specific housing – 505 units (VCH funds support and administration)
  - One-on-one support (outreach, advocacy, accompaniment, etc.)
  - Group support (support groups, drop-ins, etc.)
  - HAART and related support – 4044 registered clients in 2005

**GETTING BETTER IN ACUTE EPISODES**
- Need: Support to stabilize acute health issues
  - Day treatment/care – 275 participants registered, 20,000 visits in FY05
  - HAART and related support – 4044 registered clients in 2005
  - Residential care – 24 beds, 53 admissions in FY05
  - Specialist care – over 600 registered IBD patients, 3600 visits to family doctors
  - Home care

**COPING WITH END OF LIFE**
- Need: Support to maintain quality of life
  - Hospice/palliative care – 30 beds (not HIV-specific)
  - Residential care – 24 beds, 53 admissions in FY05
  - Specialist care – over 600 registered IBD patients, 3600 visits to family doctors

**PRIORITIES FOR DEVELOPMENT**

- Expanding HIV prevention for specific populations
- Supporting clinical practice
- Expanding HIV testing
- Supporting clinical practice
- Expanding HIV treatment
- Supporting clinical practice
- Expanding support for people with HIV/AIDS who are unable to live independently
- Supporting clinical practice

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13 As of October, 2006 according to Executive Director of McLaren Housing.
14 Priority Access report for Dr. Peter Centre, fiscal year 2005/06.
Strategic Actions

The gaps in the system of HIV/AIDS prevention, care and treatment should be addressed in keeping with the vision, philosophies and goals of Vancouver Community’s HIV/AIDS Program. To meet our program goals by 2012, these service gaps must be addressed with the following five strategic actions.

1. **Increase HIV prevention activities supporting two specific populations: Gay men/other men who have sex with men, and the proportion of Aboriginal women/other women of colour who are at high risk of HIV infection.**

   By far the highest HIV infection rate is found among the population of gay men and other men who have sex with men. The number of new infections must be reduced with intensified and focused HIV prevention efforts. HIV prevention must increasingly reach Aboriginal and other women of colour, because of their very disproportionate infection rate among women using injection drugs and among women infected with HIV through heterosexual contact. Recent evidence has identified new prevention tools that, along with more traditional social marketing efforts, should be implemented to meet our prevention goals. Outreach will be important to make contact with the greatest number of people and connect with the hardest to reach. Infection rates for the target groups should decline just as injection drug-users’ newly reported HIV infections have diminished, due in part to the scale-up of prevention services tailored to them.

2. **Increase access to regular HIV testing through low-threshold, culturally appropriate testing points throughout the community.**

3. **Develop a decentralized network of access points for a supported antiretroviral therapy assistance program.**

4. **Support clinical practice system-wide through an HIV-specific practice and educational framework.**

5. **Enhance facility-based community care for people who need complex HIV/AIDS care needs and can no longer live independently.**

Each of these strategic actions is explained in further detail below.

- Aggressively screen and treat sexually transmitted diseases including syphilis, gonorrhea, and herpes simplex. Individuals with HIV and herpes may shed more HIV, making them more infectious, while individuals with herpes are more susceptible to HIV infection. The BC Centre for Disease Control has the mandate for treatment of these conditions, but Vancouver Community has a significant role as a service provider and partner.

- Plan and implement social marketing campaigns using best practice with input from the target populations. Deliver messages counteracting social stigma and discrimination. Direct these messages respectively to the general public, to the groups with the greatest risk of HIV infection, to HIV-positive people, and to health care providers and support services.

- Create safe spaces and opportunities for the development of social support networks coupled with prevention case management. Isolation and lack of social networks for gay men contribute to vulnerability to HIV infection. Cultural barriers (relating to beliefs, language and identity) and post-traumatic stress syndrome contribute to Aboriginal women’s significant vulnerability to HIV infection.
• Increase access to culturally appropriate addiction services and primary health care services including sexual health screening and treatment. Women in the sex trade especially must be supported in this way. Among gay men and MSM, HIV infection may be linked with problematic substance use, especially crystal methamphetamine.\textsuperscript{20} Outreach is key to expanding access to these services.

• Provide point of care antibody testing in appropriate settings, and from there refer HIV-positive people for clinical assessment and treatment. Effective antiretroviral treatment reduces the viral load in treated individuals and diminishes their capacity to transmit the virus.

• Remove all barriers between on-reserve and off-reserve programs for Aboriginal people to successfully integrate prevention programs, as well as care, treatment, and support programs.

• Work with immigrant and refugee settlement resources to provide culturally appropriate information and supports to women new to Canada. Women from endemic countries are over-represented among new infections, and as a population they often have very few community supports. Language, culture and lack of a support network are factors contributing to the barriers to HIV prevention, diagnosis and care for women arriving from endemic countries.\textsuperscript{21}

• Ensure prevention messages reach youth in high school and post-secondary settings. The format should be designed to attract young gay men especially, as well as those who are experimenting with, or questioning, their sexuality.

2. Increase access to regular HIV testing through low-threshold, culturally appropriate testing points throughout the community.

The potential to improve uptake of HAART among injection drug users has been demonstrated in recent research.\textsuperscript{22} This process involves targeted HIV testing and counselling to encourage receipt of test results. Improving awareness of HIV status could improve access to antiretroviral therapy.


The following strategies take up this objective.

- **Expand HAART therapy to cover 75% of HIV infected individuals who meet criteria for initiation of therapy.** VCH will continue to provide partner notification follow-up.

- **Evaluate the impact of expanded use of HAART, as described above, on HIV prevention.** Through partnership with the B.C. Centre for Excellence in HIV/AIDS, a research protocol will be developed to test the accuracy of models indicating the preventative benefits of increased HAART.

- **Develop a central clinical team (physician, pharmacist, clinical nursing coordinator) to support HAART access through a variety of locations in our system of care.**

- **Adapt existing best practice standards for HAART to maintain standards of care while increasing access.**

- **Identify protocols for a continuum of HAART support modes from daily intensive support, such as maximally assisted therapy (MAT), to less intensive modes such as day program supports and weekly visits.**

- **Create a network of access points for low-threshold access that may include hotels, drop-in centres, needle exchange sites, supervised injection sites, community health centres and pharmacies.**

- **Support adherence through a range of strategies that may include coupling HAART with methadone maintenance therapy, incentives, meals and intensive outreach.**

- **Concentrate efforts on reaching Aboriginal people living with addiction, especially women.** In many cases, they do not have accessible, culturally appropriate points of contact with HIV/AIDS care.

4. **Support clinical practice system-wide through an HIV-specific practice and educational framework.**

People at risk for and living with HIV/AIDS access health service through almost all programs in Vancouver Community. In Vancouver Community, the pockets of expertise in HIV care must broaden, and integrate with the expertise at the BC Centre for Excellence in HIV/AIDS, so that competence and knowledge are developed and supported throughout to ensure that people with HIV/AIDS receive optimal care. A coordinating body should identify and fulfill educational needs, and develop and support clinical practice guidelines. Since HIV-positive people live throughout the city, these efforts should reach all health facilities and services administered by Vancouver Community, not just the districts where HIV/AIDS is most prominent. In this initiative, partnerships with other jurisdictions can achieve significant benefit since many people from other jurisdictions come to Vancouver for their HIV/AIDS care and support.

- **Develop a Vancouver Community HIV/AIDS clinical education framework to support best practice in assessment, diagnosis, preventive interventions, treatment and care.**

- **Promote hands-on training of physicians and other health care workers through preceptorships, such as those already initiated in collaboration with the BC Centre for Excellence in HIV/AIDS.**

- **Work with clinical practice groups to deliver educational workshops and support excellence in HIV prevention, treatment and care across Vancouver Community.**

- **Create venues to identify, explore and counteract social stigma among health care providers about HIV/AIDS, to better understand discrimination in health care and support human rights.**

- **Support clinical practice and program development through a multi-disciplinary HIV/AIDS clinical practice council.**
5. **Enhance facility-based community care for people who have complex HIV/AIDS care needs and can no longer live independently.**

Supported housing and residential care are in great demand for the HIV-positive population. Supported housing and appropriate residential supports can play a key role promoting adherence to HAART and the overall health of people with HIV/AIDS. Death with dignity is a primary desired outcome for palliative care, but among people living with AIDS, combined with poverty and chronic addiction, this outcome may be infrequent. In Vancouver, many die alone in hotel rooms or in the emergency departments of hospitals.

- Work with supported housing providers to identify the needed supports relative to care and treatment for people with HIV. Integrating medication supports and outreach care services with supported housing services can increase HAART adherence and improve health outcomes.

- Identify the needs of people with complex issues related to HIV/AIDS in facility-based community care. This type of care includes long-term care, transitional care, palliative and hospice care. We must analyze the scale of demand from these clients and their demographics, diagnoses, and health needs. This analysis will define the gap in residential care and establish how to ensure the best outcomes and best use of health care resources. Examples of the complexity of care involve addiction, dementia, behavioural issues, hepatitis C, cardiac issues, diabetes and opportunistic infections. Potential system supports range from augmenting skills in existing facilities to developing specialized programs.

- Tailor specific residential care beds to provide care for clients needing complex HIV/AIDS care. Prospective clients have multiple co-morbidities and chaotic behaviours for which more mainstream facilities may not be appropriate.

- Work with residential care providers to enhance clinical competence regarding HIV/AIDS, for clients who are appropriately placed in residential care facilities. Collaboratively developing standards of practice and boosting clinical education, for example, might accomplish this objective. Some HIV/AIDS patients may require options for more mainstream residential care where substance use is not widespread, for example people in recovery from addiction.

- Develop strategies to counteract the currently severe shortage of supported housing in Vancouver, for clients who have convalesced in residential care and are ready to leave. There is a bottleneck in the continuum of care at this point, where accessibility is limited for crucial residential care services. However, the issue of scarce housing extends beyond the mandate of Vancouver Community’s HIV/AIDS Program.

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23 Montaner J. The case for expanding access to highly active antiretroviral therapy to curb the growth of the HIV epidemic. Lancet 2006 Aug 5-11; 368(9534): 531-6.

The five strategic actions in this plan align with the goals of the Vancouver Community HIV/AIDS program. Assessing performance against established targets will demonstrate the progress toward these goals.

We strive for a reduction in new HIV infections as a primary goal of the program. However, we lack the data to determine with confidence the actual number of new infections. The number of newly identified infections does not provide an adequate measure because it reflects testing coverage as much as incidence of new infections. Furthermore, at the current time, HIV tests do not distinguish whether an infection is recent and reflective of our new prevention efforts.

We know that HIV prevention can be achieved in part with testing and treatment, so our targets in these two areas relate to successes in prevention as well as stable lives with HIV in the community and access to appropriate HIV care. We will strive to achieve the following targets by 2012:

- Increase by 20% the number of HIV tests performed (to a total of approximately 8000 tests annually), where possible focusing on the number of first-time tests and tests of individuals with the major risk factors, specifically MSM, Aboriginal women at risk of HIV infection, and injection drug users.

- HAART uptake of 50% of the untreated, treatment-eligible population (approximately 1350 individuals), discounting the instances contraindicated by medical issues or a patient’s preference.

- Expansion of residential care supports to appropriately serve 100% of the target population requiring residential and at-home supports (an early estimate is 15 to 20 more beds well suited to complex HIV/AIDS care).

These targets will be linked to standards of quality, to ensure that expanding and enhancing services will accomplish significant improvements in the lives of people living with or at risk of HIV infection.

**Toward Implementation**

This plan will not be realized without the support and cooperation of partners and stakeholders within VCH and in the community. To initiate the plan, Vancouver Community’s HIV/AIDS and Harm Reduction Program sought to bring leadership by creating a draft plan in collaboration with former director of the BC Centre for Excellence in HIV/AIDS Dr. Michael O’Shaughnessy. In the process, VCH consulted with a number of internationally recognized experts in health and HIV/AIDS, such as the office of the Provincial Health Officer, the BC Centre for Disease Control, BC Women’s Hospital, and the BC Centre for Excellent in HIV/AIDS. The planning team gathered feedback on the resulting draft from providers of health care and/or HIV/AIDS support services. At the same time, they sought further input from representatives of Vancouver’s acute care and communicable disease control, and from consumer perspectives, primarily from the association of BC Persons With AIDS.

With the support of health service providers in VCH and in the community, the planning team will develop individual project plans. This process will draw heavily on consultation with clients and families involved with HIV/AIDS services in Vancouver. Their input will identify the most suitable approaches to implementing the strategic actions.

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Conclusion

The five strategic actions in this plan may seem distinct from each other in the way they are presented, but they are very closely inter-related. None of the strategic actions will achieve the program goals without the fourth strategic action, enhancing clinical practice throughout health care services. Prevention messages to high-risk groups must tie into HIV testing services. Testing services must tie into HIV treatment services. Treatment and testing work synergistically, and must dovetail so that both fully contribute to HIV prevention and stable lives with HIV in the community. Treatment in the community will affect the need for residential care for HIV-positive people, and prevention is important among people living with pronounced AIDS as they are likely to be highly infectious and may still risk transmitting the virus.

Focusing on the program goals of fewer HIV infections, more stable lives in the community, and full access to appropriate care and support requires a sweeping perspective in implementation. The strategic actions must move forward in a complementary manner, not independently but in coordinated stages involving all of the initiatives in the strategic plan. New services must effectively integrate with existing services and with each other to maximize health outcomes for clients and the community overall.

As these initiatives take shape, we will monitor our progress toward better health for community members living with HIV and the community overall. We hope to build on previous successes and develop effective new tactics to diminish the HIV epidemic dramatically in Vancouver.

### FIGURE 10. THE GOALS OF THE STRATEGIC ACTIONS

<table>
<thead>
<tr>
<th>STRATEGIC ACTION</th>
<th>PROGRAM GOAL</th>
<th>TARGET</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Increase HIV prevention activities supporting two specific populations: Gay men/MSM &amp; Aboriginal women/other women of colour at risk</td>
<td>Reduce the number of new HIV infections</td>
<td>20% more HIV tests annually (8000 tests)</td>
</tr>
<tr>
<td>2. Increase access to regular HIV testing through low-threshold, culturally appropriate testing points throughout the community</td>
<td>For people living with HIV, increase the length of time they live in the community</td>
<td>HAART uptake of 50% of the untreated, treatment-eligible population (approximately 1350 individuals)</td>
</tr>
<tr>
<td>3. Develop a decentralized network of access points for a supported antiretroviral therapy assistance program</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Support clinical practice system-wide through an HIV-specific practice and educational framework</td>
<td>Increase access to appropriate care</td>
<td>Appropriately serve 100% of the HIV+ population requiring residential care supports (approx. 15 to 20 more beds well suited to complex HIV/AIDS care)</td>
</tr>
<tr>
<td>5. Enhance facility-based community care for people who have complex HIV/AIDS care needs and can no longer live independently</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix A:
Analysis Of Medical Costs Averted By Expanded Prevention, Testing And Treatment

Scenario analyses of potential impact on direct medical costs of expanded testings, prevention and treatment for HIV in the Vancouver coastal health authority

Adrian Levy PhD
Associate professor, Health Care and Epidemiology, UBC

Michael Smith Foundation for Health Research Senior Scholar
CIHR New Investigator

Karissa Johnston MSc
PhD candidate, Health Care and Epidemiology, UBC

Michael Smith Foundation for Health Research Senior Trainee
CIHR Doctoral Award Trainee

Background
Treating persons infected HIV/AIDS represents an important burden to the Vancouver Coastal Health (VCH) authority, in terms of both of costs and health services utilization. Programs which are able to prevent HIV infection and/or optimize treatment at an earlier stage of the disease have the potential to improve efficiency or reduce costs to VCH. Our objective was to estimate the potential cost savings associated with greater primary prevention, increased case finding, or expanded treatment.

Assumptions
We assumed the following for each of the three strategies:

1. Primary prevention of HIV infection. We considered cases that would be directly prevented through prevention programming, as well as secondary cases that these hypothetical individuals would be expected to have transmitted. Further “generations” of infections were not considered because the knowledge base is sketchy.

2. Increased testing among persons at risk to identify persons currently unaware of their HIV+ status. We considered the impact of increased case finding based on the assumption that once individuals learned their HIV+ status, they tend to reduce behaviour that can lead to transmission and would receive treatment with highly active antiretroviral therapy (HAART), which would lower the viral load and decrease infectivity.

3. Expanded treatment with highly active antiretroviral therapy. If the proportion of infected individuals receiving treatment with antiretroviral therapy was increased, we assumed that secondary transmissions would be reduced due to lower viral load leading to decreased infectivity.

When considering short-term (5- and 10-year) implications, it was assumed that the effect of secondary prevention would be negligible, so only primary prevention (Intervention 1) was included. Short-term implications reflect the impact of a one-year intervention over 5 or 10 years. For Interventions 2 and 3, the potential impact of earlier optimized treatment on late-stage acute care utilization was not considered; only impacts related to prevention were included.

An important caveat is that the costs of implementing these intervention strategies were not considered. Particularly in the case of expanding treatment with HAART, these costs can be expected to be large (e.g. expanding HAART coverage from 50% to 75% would be estimated to cost on the order of $35 million/year). The results presented here reflect only crude estimates of the costs averted.

In order to estimate model parameters, we undertook a review of the literature regarding HIV risk behaviour, transmission/infectivity, demographics, costs and health services utilization, specific to Vancouver and Canada (wherever possible). Monthly costs associated with medications, inpatient, and outpatient utilization were estimated by updating results from Alberta from 1995-2001(1) to 2005 $CDN using OECD health-sector-specific price inflators. The resulting estimates were $911/month for medications, $130 for inpatient visits, and $209 for outpatient visits. Although the costs of medications estimate likely underestimates costs in 2007 due to increases costs since 2001. The results presented here refer to the entire duration of HIV infection, including the period during which the individual is not eligible for HAART; thus, implicit in these estimates is the assumption that, while an individual is receiving HAART, monthly drug costs will be higher than $911/month and that that is offset by months when the person is not eligible). Additional parameters and data sources are given in the Appendix.

Based on these parameters, a model was created to estimate potential cost savings associated with the interventions, both in terms of lifetime costs for infected individuals and short-term projections. All costs were discounted using a rate of 3% per year. High and low parameter estimates were used to estimate a range of plausible results given parameter uncertainty.
# Results: Lifetime Projections

## Intervention 1: Primary Prevention

<table>
<thead>
<tr>
<th>Reduction in cases (relative to 2005)</th>
<th>Averted cases per year</th>
<th>Averted Secondary Infections</th>
<th>Discounted Lifetime Costs Averted</th>
<th>Lower bound</th>
<th>Upper bound</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SINGLE CASE</strong></td>
<td>NA</td>
<td>1.2</td>
<td>NA</td>
<td></td>
<td></td>
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<tr>
<td><strong>HAART MEDICATIONS</strong></td>
<td></td>
<td></td>
<td>$359,135</td>
<td>$332,533</td>
<td>$404,027</td>
</tr>
<tr>
<td><strong>INPATIENT COSTS</strong></td>
<td></td>
<td></td>
<td>$51,305</td>
<td>$47,505</td>
<td>$57,718</td>
</tr>
<tr>
<td><strong>OUTPATIENT COSTS</strong></td>
<td></td>
<td></td>
<td>$82,511</td>
<td>$76,399</td>
<td>$92,825</td>
</tr>
<tr>
<td><strong>10%</strong></td>
<td></td>
<td></td>
<td>$7,326,359</td>
<td>$6,783,666</td>
<td>$8,242,154</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>$1,046,623</td>
<td>$969,095</td>
<td>$1,177,451</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>$1,683,228</td>
<td>$1,558,545</td>
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<tr>
<td><strong>20%</strong></td>
<td></td>
<td></td>
<td>$14,652,718</td>
<td>$13,567,331</td>
<td>$16,484,308</td>
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<tr>
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<td></td>
<td></td>
<td>$2,093,245</td>
<td>$1,938,190</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>$3,366,457</td>
<td>$3,117,089</td>
<td>$3,707,264</td>
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<tr>
<td><strong>30%</strong></td>
<td></td>
<td></td>
<td>$21,979,077</td>
<td>$20,350,997</td>
<td>$24,726,462</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>$3,139,868</td>
<td>$2,907,285</td>
<td>$3,532,352</td>
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</tbody>
</table>

## Intervention 2: Increased Case Finding

### (A) Behavior Change

<table>
<thead>
<tr>
<th>Coverage of testing intervention</th>
<th>Averted infections (Behavior change)</th>
<th>Discounted Lifetime Costs Averted (Behavior Change)</th>
<th>Lower bound</th>
<th>Upper bound</th>
</tr>
</thead>
<tbody>
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</tr>
<tr>
<td><strong>INPATIENT COSTS</strong></td>
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<tr>
<td><strong>OUTPATIENT COSTS</strong></td>
<td>$15,144</td>
<td>$9,550</td>
<td>$22,396</td>
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<tr>
<td><strong>20%</strong></td>
<td>158.00</td>
<td></td>
<td></td>
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<tr>
<td><strong>HAART MEDICATIONS</strong></td>
<td>$26,269,334</td>
<td>$3,325,326</td>
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<tr>
<td><strong>INPATIENT COSTS</strong></td>
<td>$3,753,762</td>
<td>$475,047</td>
<td>$13,925,992</td>
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<tr>
<td><strong>OUTPATIENT COSTS</strong></td>
<td>$6,035,370</td>
<td>$765,993</td>
<td>$22,396,440</td>
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</tbody>
</table>

### (B) Reduced Infectivity

<table>
<thead>
<tr>
<th>Coverage of testing intervention</th>
<th>Averted infections (Reduced Infectivity)</th>
<th>Discounted Lifetime Costs Averted (Reduced Infectivity)</th>
<th>Lower bound</th>
<th>Upper bound</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SINGLE CASE</strong></td>
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<td>$26,547</td>
<td>$217,781</td>
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</tr>
<tr>
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<td>$14,090</td>
<td>$3,792</td>
<td>$31,112</td>
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<tr>
<td><strong>OUTPATIENT COSTS</strong></td>
<td>$22,660</td>
<td>$6,099</td>
<td>$50,035</td>
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<tr>
<td><strong>20%</strong></td>
<td>118.20</td>
<td></td>
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</tr>
<tr>
<td><strong>HAART MEDICATIONS</strong></td>
<td>$19,652,616</td>
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<tr>
<td><strong>INPATIENT COSTS</strong></td>
<td>$3,753,762</td>
<td>$475,047</td>
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<tr>
<td><strong>OUTPATIENT COSTS</strong></td>
<td>$6,035,370</td>
<td>$765,993</td>
<td>$22,396,440</td>
<td></td>
</tr>
</tbody>
</table>

### Remarks

- The table above presents the results of interventions aimed at reducing cases of HIV/AIDS and the associated costs. The calculations are based on different coverage percentages (10%, 20%, 30%) for each intervention.
- The costs are discounted lifetime costs averted, which take into account the future costs associated with each intervention.
- The data reflects the averted cases and infections, as well as the costs associated with HAART medications, inpatient, and outpatient care.
### Intervention 3: Expanded Treatment

#### Treatment Coverage Rate

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Additional treated individuals (relative to 50% coverage)</th>
<th>Averted infections (Reduced Infectivity)</th>
<th>Discounted Lifetime costs Averted (Reduced Infectivity)</th>
<th>Lower bound</th>
<th>Upper bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>75%</td>
<td>1346.85</td>
<td>798.94</td>
<td>$132,837,125</td>
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<td>$490,007,096</td>
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<td>$132,837,125</td>
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<tr>
<td>INPATIENT COSTS</td>
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<td></td>
<td>$78,976,732</td>
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<td>OUTPATIENT COSTS</td>
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<td></td>
<td>$30,519,281</td>
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<td>100%</td>
<td>2693.7</td>
<td>1597.88</td>
<td>$265,674,251</td>
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<td>$265,674,251</td>
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<tr>
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<td>$37,953,464</td>
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<td></td>
<td>$63,038,561</td>
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<td>$225,157,900</td>
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</table>

#### Short-term Projections (Intervention 1 only)

<table>
<thead>
<tr>
<th>Reduction in cases (relative to 2005)</th>
<th>Averted cases per year</th>
<th>Discounted Lifetime Costs Averted</th>
<th>Lower bound</th>
<th>Upper bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>10%</td>
<td>20.4</td>
<td>$2,268,637</td>
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<td>$2,552,217</td>
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<td>$300,084</td>
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<tr>
<td>INPATIENT COSTS</td>
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<td>$522,219</td>
<td>$482,610</td>
<td>$586,171</td>
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<td>OUTPATIENT COSTS</td>
<td></td>
<td>$4,537,275</td>
<td>$4,201,180</td>
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</tr>
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<td>20%</td>
<td>40.8</td>
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<td>$4,201,180</td>
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</table>

#### (A) 5 Years

<table>
<thead>
<tr>
<th>Reduction in cases (relative to 2005)</th>
<th>Averted cases per year</th>
<th>Discounted Lifetime Costs Averted</th>
<th>Lower bound</th>
<th>Upper bound</th>
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APPENDIX  MODEL INPUTS AND DATA SOURCES

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<tr>
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<td>50%</td>
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APPENDIX  MODEL INPUTS AND DATA SOURCES

Reference List


Appendix B: Overview Of Consultation Process And Results

Vancouver Community HIV/AIDS Strategic Plan 2007 – 2012
Focus Group Input
Summary Report
Prepared for: Vancouver Community
Prepared by: Karyo Edelman
Date: May 8, 2007

Introduction
Vancouver Community has developed a five-year HIV/AIDS Strategic Plan. It has done so with input from a variety of professionals with expertise in HIV/AIDS – researchers, physicians, and service providers. Prior to finalizing the draft HIV/AIDS Strategic Plan, Vancouver Community is inviting comment from Vancouver Coastal Health staff and a range of community agencies and advocacy organizations. The feedback will inform the final document and shape the changes to the HIV/AIDS program. Vancouver Coastal Health contracted Karyo Communications to conduct a series of focus groups to gather input on Strategic Plan and provide a Summary Feedback Report.

Focus Group Recruitment
Four focus groups were conducted in April and May 2007. The sessions were grouped as follows:

- Group 1 - Contract Service Providers
- Groups 2 and 3 - VCH internal staff
- Group 4 - VCH physicians.

To recruit participants, VCH provide information letters and copies of invitation letters, to the following:

- Executive Directors at 17 contract service providers in the Vancouver area
- VCH Program Directors
- VCH Medical Directors

Each recruiter was asked to identify two participants from their agency or department and provide these individuals with the focus group invitation letter. When individuals confirmed their participation, they were sent a Summary Plan that highlighted the main features of full HIV/AIDS Strategic Plan. All participants were asked to read the Summary Plan in preparation for the focus group.

A summary of participants included:
- Contract Service Providers – 25 participants from 16 agencies
- VCH Staff - 18 staff
- VCH Physicians – 4 staff

The appendix provides a full list of the contracted service providers who participated in the focus groups, as well as the VCH departments represented by participants.

Focus Group Format
The format of the focus group included a PowerPoint presentation and overview of the HIV/AIDS Strategic Plan by Dr. Michael O’Shaughnessy, followed by facilitation of a group discussion. The discussion was guided by six focus group questions and facilitated and recorded by staff from Karyo Communications.

Summary of Input
All of the focus groups indicated general support for the Strategic Plan in general, and for the five Strategic Actions specifically. The groups noted three specific Strategic Actions they felt were missing from the Plan. They provided a range of input on key topics of migration, housing options, the Plan’s targets, partnerships and VCH leadership. There was no consensus on the prioritization of the five Strategic Actions listed in the Plan. The following sections provide more detail on these themes. Verbatim comments from participants are provided in the Appendix.

Additional Strategic Actions
Within groups, there was some consensus that the Plan should also include specific Strategic Actions related to the following:

- Outreach
- Addressing stigma and discrimination
- The need for employment counseling and job retraining
- Outreach - Participants felt that outreach is a missing key component of the Plan. They would like to see more outreach work done in prevention, testing and in general support to clients. A broader mandate for outreach workers is needed to do this effectively. A Strategic Action that clearly focuses on outreach programs is needed.
• Discrimination – Participants noted that without a specific Strategic Action that works to address social stigma, discrimination and human rights issues that are present with HIV/AIDS, the Plan may not succeed. Much work needs to be done in the areas of advocacy, best practices and social justice as it relates to HIV/AIDS.

• Employment Support - Employment counseling and job retraining is needed when clients are stabilized. This is a more recent need. Ten years ago, no one thought clients would get well enough to go back to work. Services are lacking in this area and without them, clients will remain a burden on the medical and social systems. A Strategic Action acknowledging this service area is needed.

Migration
All groups noted that migration is an issue. Participants felt services must be provided in areas outside the Downtown Eastside and the West End to meet the needs of a geographically expanding clientele. The relationship between VCH and Fraser Health Authority clients was noted in each group. Participants felt that the success of Plan will depend on building a relationship between Health Authorities that recognizes the traveling clientele using VCH services such as needle exchanges, youth clinics and ART.

Housing
Participants discussed HIV/AIDS housing needs in depth. Strategic Action #5 specifically addresses the need to enhance facility-based community care for people with complex HIV/AIDS care needs. To this point, participants felt the lack of housing options for a varied clientele needs to be highlighted. They noted the need for:
  • more flexible housing options
  • low threshold housing
  • respite beds
  • options for hard-to-house clients

Participants suggested stronger partnerships with housing agencies, Downtown Eastside hotels, hospice care and the Dr. Peter Centre. This must be coupled with extra support for existing service providers. Cyclical housing and care need of HIV/AIDS clients was identified as an issue that is not addressed well by current facilities and services.

A specific need for a “Dr. Peter Plus” facility was identified, to serve HIV/AIDS clients with behaviour and addiction issues. Participants also noted that post-Dr. Peter housing options are limited. When patients are stabilized and are ready to leave this facility, there is a lack of resources to support them.

Targets
A number of groups discussed the targets identified in the Strategic Plan, with a consensus that the targets must be focused on the pursuit of quality of care and services as well as increasing the numbers of clients accessing the services. For example, increasing the use of ART drugs for eligible clients should be paired with measuring adherence to the drug program. As well, participants wanted assurance that the targets were developed in reference to best practices and the targets are connected to specific population needs and patient care.

Partnerships
All groups responded positively to the question about partnerships. The groups identified new opportunities to bring education, prevention and testing directly to clients. This was suggested through initiatives that would partner with low barrier housing providers, youth centres, food service providers, SIS/needle exchange sites and Vancouver Native Health. Partnerships like these can help meet the outreach needs noted as a key component of a successful Strategic Plan.

Participants suggested VCH build on existing informal networks that currently exist within the HIV/AIDS community.

Leadership
Participants encouraged VCH to show stronger leadership and collaborate with agencies and other levels of government to implement this Plan. A point of leadership will help avoid duplication of efforts and can bring together the informal network of agencies. In a leadership role, VCH could spearhead coordination with the provincial government, City of Vancouver, Fraser Health Authority, BC Housing and other agencies.

Participants noted a desire to have a committee oversee the HIV/AIDS Strategic Plan, with representation from the many contract service providers and agencies working with HIV/AIDS.

Priorities
There was no consensus from participants regarding the priority for action. Many felt it was difficult to choose between the five high-level Strategic Actions and noted they would be more comfortable prioritizing specific actions or initiatives. Other participants’ priorities focused on their meeting their department mandate.
FOCUS GROUP VERBATIM COMMENTS

Service Providers’ Group
Participation from:
- A Loving Spoonful
- Downtown Eastside Youth Activities Society (DEYAS)
- Inner-City Women’s Initiatives Society (DAMS)
- AIDS Vancouver
- Dr. Peter Centre
- VANDU
- Lookout Society
- Vancouver Native Health
- McLaren Housing Society
- YouthCO AIDS Society
- Storefront Orientation Services (SOS)
- Downtown Eastside Women’s Centre (DEWC)
- Grandview Woodlands Peer 2 Peer
- Motivation Power Achievement
- Asian Society for the Intervention of AIDS (ASIA)

QUESTION #1 – Are there other big gaps that are not addressed by the five Strategic Actions?
- For Actions #1 and #2 – add these specific populations to all five Strategic Actions, not just prevention actions #1 and #2
- For Actions #3 and #4 – add multi-disciplinary approach
- For Action #5 – specify a sustainable housing core
- For Action #5 – change wording to specifically say people with HIV/AIDS who have complex care needs
- Specific actions need to come from the strategic actions.
- We need to address isolated populations, including trans-gendered, more specifically.
- We need to involve health centres outside the DTES and WE to capture the populations properly.
- VCH needs to show stronger leadership and coordinate/ collaborate with agencies and other levels of government to avoid duplication as well as ensure there is a point of leadership. Perhaps use Vancouver AIDs Committee as an organization to oversee the efforts of all groups.

QUESTION #2 – If we implement the five Strategic Actions will we reach our three targets?
- How were the targets created? Did we look at best practices for creating these? If these are old targets that have not yet been met, why are we still using them?
- For Action #5, the target should not be just housing but rather “supported housing”.
- Also need to identify other provincial government partnerships, e.g. City of Vancouver, BC Housing, etc…
- Still need to work on stigma reduction and economic support.
- Targets are access oriented – not necessarily quality oriented. Need to include adherence (95%) to targets.
- For Action #4 – add supporting healthy living.

QUESTION #3 – What Strategic Action do you see as a priority? Where should we start?
- It is difficult to prioritize as all five actions are high-level and connected. It will be easier to prioritize specific actions that come out of each Strategic action.
- Action #1 and #2 should come first. Prevention was a priority in the past and money was spent in this area but it seems to have decreased. Bringing prevention back as a priority is key.
- Action # 5 is a priority. If you add stigma discrimination reduction to this action, efforts should start here since this will take the longest to achieve.
- Action #2 should be a priority. It is about saving lives.
- These priorities have been around for a long time and even though progress has been made in these areas, they are still not a priority in the health care system.

- Consider creating a committee to oversee the plan, that includes patients, organizations, agencies, etc… The committee must have power, money and resources to be effective.
- Include another strategic action that addresses social stigma, discrimination, advocacy, best practices, social justice and human rights issues that are present with HIV/AIDS.
- Add a Strategic Action that addresses the need to educate Intravenous Drug Users in the prison system about HIV/AIDS – perhaps PAWS does this?
QUESTION #4 – What partnerships do you see in the Plan? How do you see yourself involved? What role can your agency play in the Plan?

- Partnerships need resources.
- DEWC sees a lot of women, has a front-line connection and can act as a feeder to many other services.
- Need to recognize that some service providers’ mandates are larger than the VCH contract.
- There is an important informal network in place already that involves almost all the agencies at the table. Many agencies have good working relationships but are not acting in a formal advisory capacity to VCH.
- There are barriers in place that prevent partnerships with some service providers. Partnerships are given lip service.
- Planning partnerships are the key – not just funding partnerships or after-the-fact partnerships arranged to meet a specific need.
- Need to draft specific actions, mutually determine how to measure success, then VCH can engage with service providers and create partnerships.
- Look beyond the contract service providers to form partnerships.
- There is often competition between partners or service providers.
- Partnerships are difficult when dealing with criminalized groups.

QUESTION #5 – What is your overall impression of the Strategic Plan?

- Would like to see full plan not just the summary.
- Funding is a big question – there is a fight for resources.
- The plan lacks the history of the fight for Downtown East Side services.
- Why weren’t we invited to be part of the full process to develop the plan?
- It is a good starting point – we need a committee to influence the final plan and oversee the implementation.

FOCUS GROUP VERBATIM COMMENTS

VCH Staff Group #1

VCH Staff Group #1 Participants

- At Home Supports
- Palliative Care
- Hospice Consult Team
- Pender CHC - AOA
- Downtown CHC - MAT
- North CHC - ICY
- 3 Bridges
- Vancouver Detox/Insite

QUESTION #1 – Are there other big gaps that are not addressed by the five Strategic Actions?

- Need to include patient follow up:
  - for people who are diagnosed but not treated
  - for people who are taking antiretrovirals but don’t come back for follow up
  - these are both high-risk groups
- For Action #2, in addition to increased testing care provider education is important especially for those doing testing/clinics.
- Respite bed options are important.
- Expand Action #2 – add outreach testing.
- Expand Action #3 – add outreach for those on antiretrovirals.
- Overall support for outreach activities is important.
- For Actions #2 and #4, it is important to acknowledge that patients are waiting 2-3 hours to in downtown clinics to see the doctor and they cannot handle this. Bring in the nurse practitioners to help with this load.
- For Action #1, get high school and college nurses involved in prevention. Increase general prevention, especially in high risk schools, partner with youth clinics and sex health educators.

QUESTION #2 – If we implement the five Strategic Actions will we reach our three targets?

- Education alone does not lead to behavior change. How do we motivate people to change their behavior?
• Need to address the hard-to-house clients. Need options because if you can’t house them during treatment, it is unlikely to be successful.
• Low threshold housing – not just supported housing.
• More flexible housing – including hospice and respite
• Recognize need to go in/out of the system
• Don’t want to lose track of high load, end of life clients. They may be more prone to risky behavior.
• Need consistent care provider – could be a doctor, nurse or nurse practitioner.
• VCH needs to recognize that these clients have long-term needs and require a long-term, steady relationship with one care provider.
• The plan needs a research component.
• The plan needs to focus on programs that decrease sexually transmitted diseases. This is an opportunity to introduce HIV screening to women.
• Nurses need to oversee non-healthcare workers who are dispensing medications.
• Care providers need education and overseeing.

QUESTION #3 – What Strategic Action do you see as a priority? Where should we start?
• The priority should be prevention. This should include STD screenings and treatment.
• Priority should be Action #2. Prevention, increased testing and motivating people to change behaviour are most important.
• Priority should be Action #4. Staff and everyone involved in testing needs education of HIV impacts, especially with Intravenous Drug Users.
• Priority should be Action #3. Treatment is the key to success. Some partners are still converting. This must include outreach too.

QUESTION #4 – What partnerships do you see in the Plan? How do you see yourself involved? What role can your department play in the Plan?
• Increasing internal communication is key.
• It would be great to have one home care team attached to MAT.
• Access to existing outreach workers for MAT would be desirable as well as the more outreach workers, with a wider mandate.

• Partner with high schools and colleges, within and outside the DTES. This is an excellent point of access to young gay men and youth in general.
• Partnership between hospice and Dr Peter Centre is important. Need to clarify each agency’s role and review the criteria used to determine eligibility.
• Testing for HIV carries a stigma and this must be addressed
• Partnerships with housing agencies and DTES hotels are important. These places often distribute medications.

QUESTION #5 – What is your overall impression of the Strategic Plan?
• Targets are ambitious and good.
• Targets are very broad so need to define how you will get there.
• Where will the funding for these initiatives come from?
• Outreach component is key (even to general primary care).

FOCUS GROUP VERBATIM COMMENTS
VCH Staff Group #2
VCH Staff Group #2 Participants
• ACT Bridging Team
• Primary Access
• Harm Reduction Programs
• AOA
• Housing
• South CHC - CHN
• South Addiction Services
• Transition Services Team
• Strathcona Mental Health
• Evergreen CHC – Clinical Supervisor
• Contracted Residential Services
• AWP

QUESTION #1 – Are there other big gaps that are not addressed by the five Strategic Actions?
• Additional support to those existing service providers – especially housing.
• There is migration from Downtown East Side. We see homelessness everywhere and services need to be offered in other areas of the city.
- Housing needs for couples are not available.
- Education and testing should be bundled together – specifically for Hep C and sexually transmitted diseases. At youth clinics, all three are done together.
- Need training for clinical staff.
- Bring in P24 testing to detect infection early.
- Will Strategic Action #4 be possible to implement? Will people want to add this to their mandate? A formal system to require people to take this on is needed.
- With Strategic Action #1, Aboriginal women are not connected to services. Vancouver Native Health (VNH) is one of the only points of contact for many. To increase access to culturally appropriate services to this group – VNH cannot be the only access point. We must offer more points of contact.
- There is a very high level of disabled people in the system, with cognitive and physical disabilities, due to overuse of stimulants.
- Strategic Action #3 must include outreach for antiretroviral therapy and all treatments.
- We need housing service providers who are willing to provide extra service, such as dispensing medications, outreach, etc… but this does need funding.
- Strategic Action #5 needs to reflect the cyclical housing needs of the HIV/AIDS clients, for example we need to offer housing respite opportunities for those without addictions. These people need to be housed away from clients with substance abuse and behavioural issues. This is a problem at Dr. Peter where there is a lot of drug use and violence.
- Employment counseling and retraining is needed when clients are stabilized. This is a more recent need. Ten years ago, no one thought clients would get well enough to go back to work.
- Basic general education about the disease is missing with some populations, youth especially. This must come before you talk about prevention. Many youth have never heard of AIDS.
- Strategic Action #5 needs to include a Dr. Peter Plus facility, to offer housing to difficult clients who have behaviour and drug use issues
- Strategic Action #5 needs to recognize there is a financial impact to clients when they move to facility based care. They lose money and are therefore reluctant to use this type of housing.
- It is very hard to reach marginalized populations.
- Increase access to testing will result in increased diagnosis. How will this impact the statistics and targets?
- Longer treatments and patients living long is bringing new ailments such as cancer and liver disease, etc… these are more common and increase the complexity of the care required.
- Need to specifically address younger age groups for prevention. This is the age young men are questioning and experimenting.
- There is a systemic gap in the care provided by VCH.
- The targets relate to clinical practice and statistics but it is important to stay connected to specific population needs and patient care.
- Need to recognize the HIV population is not homogenous. Dr. Peter can’t offer solutions for everyone.

**QUESTION #2** – If we implement the five Strategic Actions will we reach our three targets?

- It is very hard to reach marginalized populations.
- Increase access to testing will result in increased diagnosis. How will this impact the statistics and targets?
- Longer treatments and patients living long is bringing new ailments such as cancer and liver disease, etc… these are more common and increase the complexity of the care required.
- Need to specifically address younger age groups for prevention. This is the age young men are questioning and experimenting.
- There is a systemic gap in the care provided by VCH.
- The targets relate to clinical practice and statistics but it is important to stay connected to specific population needs and patient care.
- Need to recognize the HIV population is not homogenous. Dr. Peter can’t offer solutions for everyone.

**QUESTION #3** – What Strategic Action do you see as a priority? Where should we start?

- Strategic Action #5 is key. Access to facility care is very important. You can spend a lot of money in acute care with long term and respite facilities are not available and this is not good.
- Strategic Action #5 is important. Our current facilities don’t address all needs, for example, AIDS dementia.
- Strategic Action #5 needs to be a priority. Post-Dr. Peter housing options are limited. When patients are stabilized and are ready to leave, they cannot if there are no resources to support them.
- Strategic Action #5 is a priority. We need a whole new model to look at housing and other patient needs.
- Strategic Action #1 is key. Prevention strategies that are specific to behaviour changes are a priority. The younger generation lack information from older generation. They are getting no message at all. Or the wrong message perhaps. Peer-to-peer information is the best way to provide information to this group.
- Strategic Action #2 is important. Testing connects you to the system. Finding the undiagnosed cases will have an immediate impact on the numbers. Also need to deal with the stigma/discrimination/fear/fall out associated with testing.
- Strategic Action #3 is the key to prevention and effective treatments. Bring antiretrovirals into medication dispensing services in primary locations will be effective. Right now staff and contract services are not well equipped to do this.
- It is hard to prioritize without clear criteria.
**QUESTION #4** – What partnerships do you see in the Plan? How do you see yourself involved? What role can your department play in the Plan?

- Vancouver Native Health as point of contact for Aboriginal women and we need to expand to offer more locations.
- Low barrier housing can partner with testing/prevention/education as per needle exchange. We can bring testing and services right into people’s homes.
- Food services can be a partner. Nurse practitioners could consult at breakfast sessions. That would be an effective way to reach out to people. The food security people are forward thinkers and would see the value.
- Youth hubs and recreation centres could be locations for prevention and testing services.
- Primary care and auxiliary services need tighter connection.
- Strengthen VCH partnerships with contracted service providers.
- HIV testing at SIS/needle exchange.
- Acute care services and transition to respite and long term care offers lots of overlap and opportunity for partnership. Relatively healthy clients are leaving Acute Care but there lack referrals to community services. There is a good transition to community services for those on IV-antibiotics but not for others.
- New antiretroviral patients, without IV-antibiotics, need support and transition care. There needs to be alternative transitional care between acute care and community services for those new ART patients.
- Partner with BC Housing and non-profits to offer a variety of housing.

**QUESTION #5** – What is your overall impression of the Strategic Plan?

- Targets are necessary but make me nervous.
- Focus on clinical practice and outreach is good.
- Optimistic because partnering is the key.
- Success of plan depends on when it happens with Fraser Health. Fraser clients come into Vancouver for needle exchange and youth clinic treatment.
- Need to work with Ministry of Health to let them know what we are doing to maintain provincial perspective.
- Need to see specific actions – a step by step implementation plan.
QUESTION #4 – What partnerships do you see in the Plan? How do you see yourself involved? What role can physicians play in the Plan?

- Physicians provide treatment in addictions, HIV/AIDS and primary care.
- Multi-disciplinary teams are needed so each patient receives medical expertise.
- Physicians can do all the care, except acute HIV/AIDS care. This is specialized and there are not many trained.
- End-of-life care is specialized as well.
- There is a shortage of family physicians in Vancouver.
- Physicians can be educators and advocates as well.
- Once the care plan has been determined by the HIV/AIDS experts, physicians can manage and monitor patient care.
- As the antiretroviral treatment becomes simpler, provided by one pill per day, then all physicians will be able to provide this care, not just specialists.
- Physicians can work with community groups as well. Bring them into the care team and make use of their services, e.g. Alcoholics Anonymous is providing a service with additions teams.

QUESTION #5 – What is your overall impression of the Strategic Plan?

- It is good as a strategic overview.
- Is the Province and City of Vancouver on board? Can VCH actually deliver this?
- If basic needs are addressed, i.e. food and shelter, the plan will be successful.
- We need a commitment to primary health care.
- The plan is proactive and important.
- The plan builds on existing success.
- Overall community awareness of addictions must increase to make a big difference. There is still opposition in the community, to supported housing, needle exchanges, etc... We need more of these services and community education around them. We still need to increase awareness about the programs.

COMPLEMENTARY CONSULTATIONS

VCH gathered feedback not only from providers of health care and/or HIV/AIDS support services, but also from a number of internationally recognized experts in health and HIV/AIDS, such as the office of the Provincial Health Officer, the BC Centre for Disease Control, BC Women’s Hospital, and the BC Centre for Excellent in HIV/AIDS. At the same time, the planning team sought further input from representatives of Vancouver’s acute care and communicable disease control, and from consumer perspectives, primarily from the association of BC Persons With AIDS. These consultations were not part of the third-party consultation process, and therefore have not been included in this consultation report.
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