

Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome (HIV/AIDS)



Communicable Disease Control Branch

1.0 Definitions

1.1 Human Immunodeficiency Virus (HIV) Infection

Case Definition

The case definition of human immunodeficiency virus (HIV) infection relies on the detection of HIV antibody, nucleic acid or antigen by laboratory methods or isolation of HIV in culture.

1.1.1 Seroconversion Illness

Acute self-limited mononucleosis-like illness lasting for one to two weeks occurring within several weeks to months after infection with HIV.

1.1.2 Window Period

The period between initial infection and antibody detection is known as the window period and is usually two weeks to three months. Rarely, window periods lasting years may occur in immunocompromised persons.

1.2 Acquired Immunodeficiency Syndrome (AIDS)

Case Definition

Those who meet the case definition for HIV infection PLUS any one of the following indicator diseases (based on *Case Definitions for Communicable Diseases under National Surveillance*, November 2009, Public Health Agency of Canada):

1.2.1 Indicator Diseases for Adult and Pediatric Cases

- Bacterial pneumonia (recurrent)*
- Candidiasis (bronchi, trachea or lungs)
- Candidiasis (esophageal)*
- CD4+ T-lymphocyte count of < 200 cells/μL or CD4+ T-lymphocyte percentage of total lymphocytes of < 14 (CDC 2008 Surveillance Case Definitions)
- Cervical cancer (invasive)
- Coccidioidomycosis (disseminated or extrapulmonary)
- Cryptococcosis (extrapulmonary)
- Cryptosporidiosis chronic intestinal (> one month duration)
- Cytomegalovirus diseases (other than in liver, spleen or nodes)
- Cytomegalovirus retinitis (with loss of vision)*
- Encephalopathy, HIV-related (dementia)
- *Herpes simplex*: chronic ulcer(s) (> one month duration) or bronchitis, pneumonitis or esophagitis)
- Histoplasmosis (disseminated or extrapulmonary)
- Isosporiasis, chronic intestinal (> one month duration)
- Kaposi's sarcoma*
- Lymphoma, Burkitt's (or equivalent term)
- Lymphoma, immunoblastic (or equivalent term)
- Lymphoma (primary in brain)
- *Mycobacterium avian* complex or *Mycobacterium kansasii* (disseminated or extrapulmonary)*
- *Mycobacterium* of other species or unidentified species (disseminated or extrapulmonary)*
- *Mycobacterium tuberculosis* (any site, pulmonary* or extrapulmonary, disseminated)
- *Pneumocystis jiroveci* (formerly *Pneumocystis carinii*) pneumonia (PCP)*
- Progressive multifocal leukoencephalopathy

- *Salmonella* septicemia (recurrent)
- Toxoplasmosis of brain*
- Wasting syndrome due to HIV

1.2.2 Indicator Diseases that Apply Only to Pediatric Cases (< 15 years old)

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

* These conditions may be diagnosed presumptively; otherwise, definitive diagnosis is required. Criteria for presumptive and definitive diagnoses are provided on the back of the Health Canada HIV/AIDS case report form.

2.0 Reporting Requirements¹

2.1 Reporting to Manitoba Health

2.1.1 Nominal and Non-Nominal HIV Testing

- All nominal² and non-nominal³ positive test results for HIV or HIV antibody are reportable by laboratory to Manitoba Health, Public Health Surveillance Unit as required under the Reporting of Diseases and Conditions Regulation of *The Public Health Act* (nominal testing for HIV in Manitoba was introduced in January 2007).
- The attending health professional must complete the Manitoba Health Case Investigation Form for Nominal & Non-Nominal Positive Cases and submit it to Manitoba Health. This information is completely confidential and will be used for statistical and program planning services.
- Contacts of persons infected with HIV identified by nominal or non-nominal testing should be reported using the Manitoba Health HIV Contact Notification Form.

2.1.2 Anonymous HIV Testing

- Anonymous⁴ test sites are required to report positive test results for HIV or HIV antibody to Manitoba Health, Public Health Surveillance Unit; all anonymous test results (positive, negative and indeterminate) will be evaluated by Manitoba Health to monitor service use and identify risk groups.
- The Manitoba Health Case Investigation Form for Nominal & Non-Nominal Positive Cases does not need to be completed by the attending health professional when positive test results for HIV are obtained at anonymous testing sites. Instead, the HIV Case Report Form for Anonymous Testing, along with the positive lab confirmation report must be completed and faxed to Manitoba Health, Public Health Surveillance Unit. This report form is completely anonymous. For surveillance purposes, epidemiological data is collected and documented on the Anonymous HIV Antibody Testing Requisition and submitted to Manitoba Health by Cadham Provincial Laboratory

1 Please see the Manitoba Health document “The Public Health Act – Reporting Requirements and Powers” for information on reporting requirements when a patient refuses treatment for a reportable communicable disease or fails to comply with an order from the Medical Officer of Health.

2 Nominal testing: the HIV test is ordered using the name of the person being tested.

3 Non-nominal testing: the HIV test is ordered using a code of the person being tested. Only the person ordering the test knows the identity of the person being tested and is able to link the result to that person’s health care record.

4 Anonymous testing: the HIV test is ordered using a unique non-identifying code. The person(s) ordering the test and providing the result do not know the identity of the person being tested. Only the person being tested knows the code, so the test result is not linked to that person’s health care record.

(CPL). This information is completely anonymous and will be used for statistical and program planning services.

- Contacts of persons infected with HIV identified by anonymous testing should be reported using the Manitoba Health HIV Contact Notification Form.

2.1.3 Point-of-Care (POC) Testing

- Both nominal and non-nominal point-of-care⁵ (POC) testing options are currently available in Manitoba (see Section 6.2 Testing Options). All reactive and indeterminate test results obtained from clinical or point-of-care testing sites are reportable to Manitoba Health, Public Health Surveillance Unit WHEN a confirmatory standard test is not performed by Cadham Provincial Laboratory (CPL) (i.e., patient refuses to have a confirmatory standard HIV test following a reactive or indeterminate point-of-care HIV test result). In these situations, the attending health professional must complete the Manitoba Health HIV Case Report Form for Rapid HIV Testing and submit it to Manitoba Health. This form does NOT need to be completed for individuals having standard confirmatory HIV testing at CPL. Where specimens are appropriately procured, sera from clients with reactive or indeterminate HIV antibody or antigen are to be forwarded by clinical operators in Manitoba to Cadham Provincial Laboratory.

2.1.4 Acquired Immunodeficiency Syndrome (AIDS)

- The diagnosis of AIDS is reportable by health professional to Manitoba Health, Public Health Surveillance Unit.

NOTE: Requisitions and forms are subject to change. Examples of the most recent versions of Cadham Provincial Laboratory requisitions are available in the online *Guide to Services* at: www.gov.mb.ca/health/publichealth/cpl/documents.html. The most recent versions of the Manitoba Health reporting forms are available at: www.gov.mb.ca/health/publichealth/cdc/protocol/index.html under “Forms.”

2.2 Reporting to Canadian Blood Services (CBS)

- Manitoba Health, Public Health Surveillance Unit reports HIV-positive individuals to CBS where the investigation form specifies that the individual has received or donated blood.

2.3 Reporting from Canadian Blood Services

- Canadian Blood Services reports HIV-positive test results of potential blood donors to Manitoba Health, Public Health Surveillance Unit.

2.4 Reporting from Citizenship and Immigration Canada (CIC)

- As of June 2005, CIC refers the names of those individuals identified as having an HIV-positive test result (tested outside of Canada) to Manitoba Health.
- Manitoba Health will refer cases to the appropriate regional health authority for case management and follow-up.

⁵ Point-of-Care (POC) testing refers to when an HIV test is performed outside a designated testing laboratory (e.g., in a physician's office).

3.0 Clinical Presentation/Natural History

3.1 Adults with HIV Infection

The first stage of HIV infection occurs several weeks to months after infection with HIV (1) and is associated with high viral titers and widespread dissemination (2). Although some individuals in this stage are asymptomatic (3), many people develop an acute self-limited mononucleosis-like illness lasting for one to two weeks (seroconversion illness). Common symptoms reported during the primary HIV infection include fever, sore throat, fatigue, weight loss and myalgia (4). Primary HIV infection is often undiagnosed (4). In the second stage of illness, individuals are free of clinical signs and symptoms, usually for years, before other clinical symptoms develop. A viral load test of over 5,000 copies/mL obtained during the asymptomatic period is correlated with an increased risk of more rapid disease progression. The third stage of HIV infection is characterized by the development of opportunistic infections and cancers attributable to immune system dysfunction. Without treatment, progression to AIDS is highly variable taking between one and approximately 15 years. Onset of clinical illness is usually insidious with non-specific symptoms such as lymphadenopathy, anorexia, chronic diarrhea, weight loss, fever and fatigue. However, this constellation of non-specific symptoms is usually not sufficient, by itself, for a diagnosis of AIDS. More than half of all HIV-infected individuals, including children, develop neurologic disease during the course of the infection (2). The prognosis for HIV infected persons is improved with treatment using combination antiretroviral therapies and/or appropriate prophylaxis against opportunistic infections. It is estimated that over 90 per cent of individuals that are positive for HIV will eventually develop AIDS if untreated with anti-HIV therapy (1). Effective treatment can alter the natural history of HIV infection and slow the progression to end-stage disease (AIDS).

3.2 Adults with AIDS

AIDS is advanced HIV-related disease. AIDS is a severe, life-threatening clinical condition, first recognized as a distinct syndrome in 1981. This

syndrome represents the late clinical stage of HIV infection resulting from progressive damage to the immune system, leading to the opportunistic infections and cancers listed under Section 1.2. In industrialized countries, 80 to 90 per cent of untreated patients die within three to five years after an AIDS diagnosis (1). The use of highly active antiretroviral therapy (HAART) and prophylactic drugs for the prevention of opportunistic infections may prevent, or at least significantly delay, the development of AIDS, prolonging survival for years, and perhaps indefinitely.

3.3 Infants and Children with HIV Infection

Ten to 20 per cent of perinatally-infected children who are untreated will present with moderate to severely symptomatic disease in the first year of life. The median time to disease progression of the remaining 80 to 90 per cent of perinatally-infected children is unknown but is likely similar to adults. With treatment, disease progression is delayed. Diagnosis of HIV infection among children less than 18 months of age can be complex and requires detection of the infection by nucleic acid testing (NAT). Management of infants suspected of HIV infection is best accomplished in consultation with a specialist in HIV care of children.

3.3.1 Clinical Categories for Children with HIV Infection

Children who are infected with HIV can be classified as asymptomatic, mildly symptomatic, moderately symptomatic or severely symptomatic, based on their clinical presentation.

- A. **Asymptomatic:** Children who have no signs or symptoms considered to be the result of HIV infection or who have only one of the conditions listed in Category B.
- B. **Mildly Symptomatic:** Children with two or more of the conditions listed below, but none of the conditions in C or D:
 - Lymphadenopathy
 - Hepatomegaly
 - Splenomegaly

- Dermatitis
- Parotitis
- Recurrent or persistent upper respiratory infection, sinusitis or otitis media

C. Moderately Symptomatic: Children who have symptomatic conditions other than those listed in B and D that are attributed to HIV infection. Examples include but are not limited to:

- Anemia
- Bacterial meningitis, pneumonia or sepsis (single episode)
- Candidiasis, oropharyngeal (thrush)
- Cardiomyopathy
- Cytomegalovirus infection with onset before one month of age
- Diarrhea, recurrent or chronic
- Hepatitis
- Herpes simplex virus (HSV) stomatitis, more than two episodes within one year
- HSV bronchitis, pneumonitis or esophagitis with onset before one month of age
- Herpes zoster (shingles) involving at least two distinct episodes or more than one dermatome
- Leiomyosarcoma
- Lymphoid interstitial pneumonia (LIP) or pulmonary lymphoid hyperplasia complex
- Nephropathy
- Nocardiosis
- Persistent fever (lasting more than one month)
- Toxoplasmosis, onset before one month of age
- Varicella, disseminated (complicated chicken pox)

D. Severely Symptomatic:

- Serious bacterial infections, multiple or recurrent within a two-year period (e.g., septicemia, pneumonia, meningitis)
- Candidiasis, esophageal or pulmonary
- Coccidioidomycosis, disseminated
- Cryptococcosis, extrapulmonary
- Cryptosporidiosis or isosporiasis with diarrhea persisting more than one month
- Cytomegalovirus disease with onset of symptoms at > one month of age
- Encephalopathy
- Herpes simplex virus infection causing a mucocutaneous ulcer that persists for more than one month, or bronchitis, pneumonitis or esophagitis for any duration affecting a child > one month of age
- Histoplasmosis, disseminated
- Kaposi's sarcoma
- Lymphoma (Burkitt's, B-cell or unknown immunologic phenotype)
- Lymphoma, primary, in brain
- *Mycobacterium avium* complex or *Mycobacterium kansasii*, disseminated
- *Mycobacterium*, other species
- *Mycobacterium tuberculosis*, disseminated or extrapulmonary
- Pneumocystis pneumonia
- Progressive multifocal leukoencephalopathy
- Salmonella (non-typhoid) septicemia, recurrent
- Toxoplasmosis of the brain with onset at more than one month of age
- Wasting syndrome

Refer to <http://aidsinfo.nih.gov/contentfiles/PediatricGuidelines.pdf> for more information.

4. Etiology

HIV infection is caused by a human retrovirus, usually HIV I, rarely HIV II. HIV infects a wide array of cells, but its principal target is the mononuclear white blood cell — specifically macrophages and helper T-lymphocytes. Because retroviruses integrate into the target cell genome as proviruses, with the viral genome copied during cell replication, the virus persists in infected persons for life (5). Infection with HIV results in the progressive destruction of CD4+ T lymphocytes making patients more vulnerable to opportunistic pathogens. When the helper T-lymphocyte population is sufficiently depleted by HIV infection so the body cannot control common subclinical infections and infectious exposures, the patient is said to have AIDS.

5.0 Epidemiology

5.1 Reservoir

Humans, similar viruses are found in lower primates.

5.2 Transmission

There is a higher risk of transmission during the acute seroconversion illness than during the early phase of established HIV infection. A high viral load in the infected person increases the potential for transmission (6). In general, exposing open wounds to contaminated body fluids can cause transmission of infection. To reduce or prevent transmission, refer to Section 7.3 on Prevention. For more information on relative risk of transmission, see Appendix A and The Canadian AIDS Society document *HIV Transmission: Guidelines for Assessing Risk, fifth edition, 2005*.

5.2.1 Sexual Transmission

- Sexual transmission is the major route of HIV transmission (3).

- Sexual contact — oral, vaginal, anal and the sharing of sex toys — with an individual infected with HIV places individuals at risk for infection.
- Sexual assault – See Manitoba Health's *Integrated Post-Exposure Protocol for HIV, HBV and HCV: Guidelines for Managing Exposures to Blood and Body Fluids*.
- Sexual activities that increase risk of transmission include but are not limited to lack of condom use, sexual contact that induces trauma and multiple partners. Intercourse without the use of a condom is a high-risk activity for the transmission of HIV. Use of a condom during intercourse reduces the risk from high to low, but does not eliminate it (6).
- Individuals with an existing sexually transmitted infection, particularly those with ulcerative lesions (e.g., syphilis, herpes) are at increased risk of transmitting or acquiring HIV.

5.2.2 Transmission Through Injection Drug Use (IDU)

- The transmission of HIV through injection drug use is influenced by injection practices and user behaviour. Using non-sterile needles, syringes or mixing equipment, including water, constitutes a high risk of transmission.
- From 1997-2008 in Manitoba, approximately 19 per cent of HIV infections diagnosed were attributed to IDU as the primary mode of transmission (7).
- Use of a new and/or sterile needle, syringe and mixing equipment, reduces risk of HIV transmission through IDU.

5.2.3 Activities Involving Skin Punctures (tattooing, piercing, electrolysis and acupuncture)

- The use of non-sterile equipment for the purposes of tattooing or body piercing places individuals at risk for infection.

- Other invasive personal services.
- Measures that lessen the likelihood of transmission include avoidance of tattooing and/or piercing, patronage of licensed facilities, and consistent observation of infection prevention and control practices (see *Infection Prevention and Control Practices for Personal Services: Tattooing, Ear/Body Piercing, and Electrolysis, CCDR 1999; 25S3: 1-73*, available at: www.phac-aspc.gc.ca/publicat/ccdr-mmtc/99/pdf/cdr25s3e.pdf).
- The risk of HIV transmission is very low when human biting that causes bleeding occurs.

5.2.4 Blood Transfusion, Tissue or Organ Transplantation

- In Canada, the risk of HIV transmission from the receipt of donated blood, blood products, tissues or organs is extremely low, as all donors are screened for HIV. The use of nucleic acid testing (NAT) by Canadian Blood Services and Héma Québec reduces the window period still further, but it is possible for a donor to be in a window period of infection at the time of donation, and HIV could be transmitted. The estimated risk is less than one per million transfusions.
- People who have engaged in activities that place them at increased risk for HIV infection should not donate plasma, blood, organs for transplantation, tissue or cells (including semen for artificial insemination). CBS may exclude a blood donation based on information obtained in a donor questionnaire. When a blood sample tests positive for HIV by NAT and/or antibody testing, CBS will notify the donor, provide appropriate counselling to the individual and discard all the products made from the donation.

5.2.5 Perinatal Mother-to-Child Transmission

- Receipt of blood, blood products, tissue or organs between 1978 and 1985, or in countries where screening is unreliable or not carried out, poses a risk for transmission.
- Transmission occurs in utero, intrapartum or postnatally through breastfeeding. If no anti-HIV treatments are taken during pregnancy, there is a 20 to 30 per cent chance of HIV transmission from the mother to the fetus (6). Maternal antiviral prophylactic measures reduce transmission risk by two-thirds or more.
- Differences in maternal disease status, mode of delivery, viral phenotype, and frequency of breastfeeding all potentially contribute to the observed differences in transmission rates.
- Principle factors associated with perinatal transmission among infected women include:
 - Increased maternal viral load which may be associated with recent infection, development of AIDS, an intercurrent infection, or recent discontinuation of antiretroviral agents.
 - Low maternal CD4+ counts.
 - Vaginal delivery and/or prolonged rupture of membranes.
 - Dual infection with HIV-1 and 2 which is more likely to transmit HIV-1.
 - Breastfeeding, as HIV has been detected in the breast milk of lactating HIV-positive women (8-10).

5.2.6 Occupational Exposure

- The risk of acquiring HIV infection after percutaneous exposure to HIV-infected blood is less than 0.5 per cent (1). Body fluids presenting risk for bloodborne

disease transmission are blood, semen and vaginal secretions, and possibly cerebrospinal fluid, synovial fluid, pleural fluid, pericardial fluid, amniotic fluid, and peritoneal fluid. Urine, vomitus or feces pose risk only if there is visible blood.

Transmission is more likely to occur in the occupational setting when:

- Deep parenteral inoculation via a blood contaminated hollow-bore needle occurs.
- A source has a high viral load, such as in recent seroconversion or advanced HIV disease occurs.
- Parenteral inoculation of materials containing a high viral load in a laboratory setting.
- Occupational exposures of lesser risk are those with a small volume, solid bore needle, and blood to mucous membrane or non-intact skin. Risk may be increased in the latter if the volume of blood is large or the exposure prolonged. See Manitoba Health's *Integrated Post-Exposure Protocol for HIV, HBV and HCV: Guidelines for Managing Exposures to Blood/Body Fluids* (www.gov.mb.ca/health/publichealth/cdc/protocol/hiv_postexp.pdf). The Winnipeg Regional Health Authority's *Post-Exposure Prophylaxis Protocol* (form W-00016) and *Exposed Worker Package* (form W-00019) are available through the Health Sciences Centre print shop at (204) 787-3555.
- The risk that tissues and fluids from an HIV- infected cadaver pose for handling providers is extremely small. The use of appropriate infection control practices (see *Infection Control Guidelines Prevention and Control of Occupational Infections in Health Care CCDR 2002; 28S1: 1-276 and Routine Practices and Additional Precautions for Preventing the Transmission of Infection in Health Care CCDR 1999; Vol. 25S4*) will help to

protect those who handle HIV-infected cadavers, tissues and fluids from infection. Precautions may involve use of body bags, disposable gloves, and good hygienic practice.

5.2.7 Other Exposures

- Exposures to urine, saliva, sweat and tears do not pose a risk for HIV infection unless the fluid contains visible blood.
- Routine social or community contact with an HIV-infected person carries no risk of transmission. Intact skin protects against infection.

5.3 Surveillance

NOTE: Case numbers and their respective exposure categories, as well as trends, should be interpreted with caution owing to under-diagnosis of cases, underreporting and incomplete reporting of anonymous testing, delays in diagnosis and reporting and the possibility of dual reporting. In addition, the proportion of individuals from particular exposure categories that come forward for testing may differ.

5.3.1 Global

- The World Health Organization (WHO) and the Joint United Nations Programme on HIV/AIDS (UNAIDS) estimated that globally 33.4 million people were living with HIV by the end of 2008, with 2.7 million newly infected people in 2008. WHO/UNAIDS estimated that approximately 2.0 million deaths were attributable to HIV/AIDS in 2008. Sub-Saharan Africa accounts for 71% of all new HIV infections in 2008.

5.3.2 Canada

- A total of 67,442 HIV-positive cases have been reported to the Public Health Agency of Canada (PHAC) from 1985 (when reporting began) to December 31, 2008 (11). The number of positive tests reported to PHAC in 2008 was 2,623, a seven per cent increase from 2007 (11).

Among adults (15 years of age and older) in 2008 with reported gender information, 26.2 per cent of all positive tests were among females. Surveillance data over time indicates a decreasing proportion of positive test reports among younger adults (15-39 years) and an increasing proportion among older adults (40 years and over) (11). From November 1, 1985 to December 31, 2008, approximately 0.8 per cent of reported HIV-positive cases were in children (11). Where the exposure category is known, men who have sex with men (MSM) continues to comprise the greatest number of new infections (12). The heterosexual exposure category is increasing in number and proportion of positive HIV tests, surpassing IDU as the second largest exposure category (3). The major exposure category for children was perinatal transmission. Aboriginals continue to be over-represented in the HIV epidemic in Canada (12). Approximately 27 per cent of people living with HIV infection in Canada are unaware of their HIV status. These individuals represent the “hidden epidemic” (12).

5.3.3 Manitoba

- The number of HIV-positive cases reported in Manitoba since reporting began (January 1, 1985) to December 31, 2008 is 1,547 cases (7). Of these, 89 were reported in 2008. While females represent 25 per cent of all HIV cases reported since 1985, comparing the 1985-1995 time period to the 1996-2008 time period, the proportion of newly diagnosed HIV cases that are female has almost quadrupled (7). In 2008, 40 per cent of newly diagnosed cases of HIV were self-reported as Aboriginal (7). In Manitoba, Aboriginal people appear to be 10 times more likely than non-Aboriginals to contract HIV (13). In 2008, the most

common mode of transmission for Aboriginals in Manitoba was heterosexual activity with person(s) at increased risk of HIV (7). Between 1985 and the end of 1995, the majority of individuals who tested positive for HIV in Manitoba reported as MSM (13). Since 1995, injection drug use, travel from an HIV endemic country, and male-female sexual partnering have emerged as significant risk factors. The two most likely modes of HIV transmission in Manitoba are unprotected sexual activity and recreational injection drug use.

- AIDS and AIDS-related deaths have been reportable by physicians in Manitoba since 1985. In 2008, six new cases of AIDS were reported in Manitoba; the total number of AIDS cases reported from 1985-2008 is 275 cases (7). Seventy-four per cent of individuals reported with AIDS have died (7). Because of delays in the reporting of AIDS cases, the number of reported AIDS cases and AIDS-associated deaths may not always reflect the true number of cases or deaths.

5.4 Incubation Period

For the purposes of this protocol, the incubation period refers to the time period from the date of infection with HIV to the onset of symptoms of AIDS. The window period refers to the time period from the date of infection with HIV to the development of detectable antibody to HIV. The mean incubation period in some infected children may be shorter than in adults (1). Without treatment, progression to AIDS is highly variable taking between less than one year and 15 years or longer (1). Appropriate treatment delays progression to AIDS (3).

5.5 Period of Communicability

While the period of communicability is not known precisely, it begins early after onset of HIV infection and presumably extends throughout life (1).

Transmissibility may increase at the onset of infection (with or without symptoms), during periods of high viral load, worsening clinical status and in the presence of other STIs (1).

5.6 Susceptibility and Resistance

Susceptibility to HIV infection is presumed to be universal. Race, gender and pregnancy status do not appear to affect susceptibility to HIV infection or AIDS. The presence of other STIs, especially genital ulcers, increases susceptibility (1). Males who are uncircumcised are also at increased risk (1, 14).

6. Testing, Diagnosis and Interpretation

6.1 Pre-test Counselling

Pre-test client counselling should be performed prior to HIV testing and will usually include:

- explaining the indications for testing as well as the testing options and procedures;
- indicating that test results will be available three weeks after the blood is drawn;
- discussing consent, reporting and confidentiality issues such as who will see the results and how the paperwork is filed;
- discussing legal obligations if test result is positive (Public Health reporting, notification of contacts);
- communicating harm and risk reduction strategies;
- providing pamphlets, condoms, needles, etc., where applicable;
- assessing for stressors, coping skills and supports while the client is waiting for results;
- ensuring that the client is linked to resources such as counselling and social supports during this stressful time. For more information on resources, contact Nine Circles Community Health Centre AIDS/STI Information Line at 945-2437.

- Suggesting to the client that they have someone accompany them to receive the results.

See Appendix B: HIV Pre-test Counselling Guide.

NOTE: Where the testing is being conducted pursuant to an order issued under *The Testing of Bodily Fluids and Disclosures Act* (see <http://web2.gov.mb.ca/laws/statutes/2008/c01908e.php> for more information), it is acknowledged that there may be no opportunity for sharing the information in Section 6.1 and Appendix B with the client (Source⁶) prior to the blood being drawn. The client served with an order to submit to testing will be encouraged to seek medical advice as soon as reasonably possible after receiving the order and before attending to having the blood drawn. If that is not possible, the Source will be encouraged to seek medical advice after having the blood drawn for testing.

6.2 Testing Options

Three HIV testing options are available in Manitoba. It is strongly recommended that health practitioners discuss the options available to a patient/client before proceeding with HIV testing. Nominal and non-nominal HIV testing should be available at all hospitals, medical clinics and nursing stations. Anonymous testing will be available at selected sites only. Contact Health Links-Info Sante at 788-8200 or 1-888-315-9257 or the AIDS/STI Information Line at 945-2437 or 1-800-782-2437 for availability of anonymous testing sites.

Anonymous HIV testing is not recommended for prenatal testing as it is not linked directly to care and pregnant women with HIV infection require treatment. Non-nominal prenatal HIV testing is available if requested by the client. The current prenatal testing practice in Manitoba includes hepatitis B, HIV, rubella and syphilis testing unless the client decides to opt-out⁷ from

6 The individual whose body the potentially infected blood and/or body fluid originated from.

7 Opt-out: Performing HIV testing after notifying the patient that 1) the test will be performed and 2) the patient may elect to decline or defer testing. Assent is inferred unless the patient declines testing (15).

HIV testing. The opt-out option must be clearly indicated on the appropriate lab requisition if the pregnant client declines HIV testing.

Other situations where anonymous HIV testing is not suitable include occupational exposures, refugee/immigration applications, testing for insurance purposes, starting HIV treatment, etc.

Point-of-Care (POC) HIV testing (both nominal and non-nominal) is available at selected sites in Manitoba. POC testing refers to an HIV test performed outside a designated laboratory (e.g., in a physician's office). In Manitoba, POC testing involves using a rapid HIV test kit (using fingerstick blood, serum, EDTA plasma or EDTA whole blood) that can provide a preliminary HIV serostatus result in less than 30 minutes. All preliminary reactive results obtained by POC testing will require confirmatory testing at Cadham Provincial Laboratory (CPL) by standard HIV laboratory testing methods (i.e., venous blood sample sent to CPL). Contact Health Links-Info Santé at 788-8200 or 1-888-315-9257 or the AIDS/STI Information Line at 945-2437 or 1-800-782-2437 for POC testing sites.

In any HIV testing situation, except where the testing is being done pursuant to an order issued under *The Testing of Bodily Fluids and Disclosure Act*, informed consent must be obtained prior to testing. Consent may be given verbally rather than in writing, but this should be documented. Clients should receive pre-test counselling (see Section 6.1 and Appendix B: HIV Pre-test Counselling Guide) prior to testing and post-test counselling (see Section 7.1.2 under Case Management and Appendix C: HIV Post-test Counselling Guide).

In any HIV testing situation, confidentiality must be maintained to the extent possible. Where the testing was done pursuant to an order issued under *The Testing of Bodily Fluids and Disclosure Act*, the test results of the Source will be disclosed to the physician identified by the applicant (Exposed⁸) who obtained the order and will be communicated by that physician to the Exposed. The test results of the Source will also be disclosed to the physician identified by the Source and will be communicated

by that physician to the Source. If there is no physician identified by the Source and/or the Exposed, the test results will be disclosed to the Medical Officer of Health for the region in which the Exposed resides. The Medical Officer of Health will then be responsible for ensuring appropriate communication of the test results of the Source to the Source and/or Exposed. Post-test counselling will be done; however, no other personal health information will be disclosed.

Health professionals must verify that the information on the lab requisition and HIV Case Investigation Form is accurate for epidemiologic purposes. This will facilitate monitoring trends in the occurrence of HIV infection in Manitoba, and will direct programs and policies. In the case of non-nominal testing, verify that the unique identifier is correct as it is the most reliable means of distinguishing HIV-positive individuals from each other. Use the same patient code for any HIV follow-up tests. For anonymous testing, the only epidemiological information collected is the information provided on the lab requisition.

Cadham Provincial Laboratory (CPL) uses an ELISA on serum to detect antibodies to HIV as the initial screening test. Test results may not be available for up to three weeks after the blood is drawn if confirmation or additional testing is required.

Practitioners are responsible for communicating test results to the patient/client for nominal and non-nominal testing. In anonymous testing situations, the client is responsible to return to receive test results as the testing site has no contact information for the client.

6.3 Test Results for Adults and Children Over 18 Months of Age

6.3.1 Positive Test Results

All positive ELISA test results are confirmed by western blot. A positive western blot with an initial positive screening test is consistent with HIV infection.

⁸ The individual who comes into contact with the potentially infected blood/body fluid.

6.3.2 Negative Test Results

A negative western blot confirmatory test is interpreted as no HIV antibody detected even if the initial ELISA was reactive.

NOTE: Although most individuals infected with HIV develop detectable antibodies within two weeks to three months after infection (i.e., time from infection to development of antibody), there may be a more prolonged window period in some persons. HIV infection may be detected during this period prior to seroconversion by nucleic acid testing (NAT). NAT or p24 antigen testing should be requested for individuals who have mononucleosis-like symptoms consistent with seroconversion illness.

6.3.3 Indeterminate Test Results

An indeterminate result in the western blot cannot be interpreted as either positive or negative and requires further evaluation based on patient risk.

- A patient/client with an indeterminate HIV antibody test result should be retested in six months.
- If the second antibody test is indeterminate, antibody testing should be repeated again at 12 months from the date of the first test.
- If the result is still indeterminate at retesting 12 months after the initial antibody test, in the absence of mitigating factors such as immunocompromise or significant HIV risk factors, the person should be considered HIV negative. Consultation with an HIV care specialist will likely be warranted.
- Recognizing that many patients, regardless of their risk factors for HIV infection, may not be satisfied with these long periods between tests, all indeterminate HIV antibody test results are further investigated by testing for p24 antigen.
- The p24 antigen test result will be reported with the indeterminate HIV

antibody test result. An indeterminate HIV antibody test combined with a positive p24 antigen result in an immunocompetent individual may be an indication of early infection. In such situations, it is recommended that a second blood sample be submitted for HIV antibody testing two to three weeks after the original blood sample was taken, to confirm seroconversion.

- If the p24 antigen test is negative, the patient/client should be retested for HIV antibody as stated above for an indeterminate antibody test result.

It is recommended that a patient/client with an indeterminate antibody test result who has a suspect seroconversion illness OR risk factors (see Section 5.2 Transmission) for HIV be reassessed and provirus testing completed. Prior arrangement with CPL is required for provirus testing.

- Retesting for HIV antibody is advised with a positive provirus test to prove the seroconversion. Retesting for HIV antibody will be most sensitive starting four to six weeks after the implicated high risk exposure. Retesting before this time period (window period) may result in false negative/indeterminate results.
- If the provirus test is negative, the patient/client should be retested for HIV antibody as stated above for an indeterminate antibody test result.

6.4 Test Results for Children 18 Months of Age and Under

6.4.1 Positive Serologic Test Results

All positive ELISA test results are confirmed by western blot. A positive western blot with an initial positive screening test may mean that the child's mother was infected and may or may not have transmitted the infection to her child OR that the child's infection was acquired postnatally from another source. Therefore ANY child with a positive antibody test requires HIV DNA or RNA nucleic acid testing (NAT) (see Section 6.4.4).

Consultation with CPL and a pediatric HIV specialist are recommended if the diagnosis of HIV infection in infancy is suspected. Consultation can be arranged through the Children's Hospital Infectious Diseases Clinic at 204-789-3619.

6.4.2 Negative Serologic Test Results

A negative western blot confirmatory test is interpreted as no HIV infection even if the initial ELISA was reactive.

NOTE: Although most individuals infected with HIV develop detectable antibodies within two weeks to three months after infection (i.e., time from infection to development of antibody), there may be a more prolonged window period in some persons. HIV infection may be detected during this window period prior to seroconversion by NAT (see Section 6.4.4). Nucleic acid testing may be necessary for individuals who have mononucleosis-like symptoms consistent with seroconversion illness.

6.4.3 Indeterminate Serologic Test Results

An indeterminate antibody test result (western blot) cannot be interpreted as either positive or negative and requires further evaluation. The child should be retested for antibody in six months.

NOTE: Children lose maternal antibody over a variable period of time. Most children lose antibody between 15 and 18 months of age.

6.4.4 Nucleic Acid Test (NAT) Results

- Children exposed at birth who acquire HIV may have no HIV DNA or RNA detected by NAT within the first few weeks of life or while on post-exposure prophylaxis (PEP). Therefore, HIV DNA or RNA nucleic acid testing is performed for children born to HIV-positive mothers using a series of three tests, with the first test conducted at approximately two weeks of age and the series of tests completed by two-and-a-half months of age.
- The purpose of nucleic acid testing is to identify infected children as soon as possible and reliably determine if a child

is uninfected. Children found to be uninfected by this method should also have antibody testing between 12 and 18 months of age to confirm seroreversion.

- Due to the special circumstances and rare nature of this infection, investigation in Manitoba is best conducted through the Children's Hospital Infectious Diseases Clinic (204-789-3619).

7.0 Control

7.1 Case Management

Public health professionals play an important role in educating physicians, other health care professionals and patients about:

- HIV/AIDS
- local/regional/provincial resources and supports available
- the role of Public Health
- interviewing and post-test counselling
- confidential notification of contacts
- medical follow-up with a physician specializing in HIV care
- advising patients that all Public Health services are strictly confidential
- advice regarding legal and ethical issues concerning the disclosure of HIV status
- assistance to locate the client if the practitioner/physician has been unable to do so

7.1.1 Key Investigations

- Confirm and document that the patient/client has received HIV pre-test counselling.
- Determine whether or not the patient/client has been interviewed for partners.
- Determine how the patient/client plans to notify partners (Public Health, practitioner or case initiated).

- Discuss who will do the post-test counselling. All HIV-positive persons should be counselled regarding notifying current and past sex or IDU equipment sharing contacts of their exposure to HIV, and of the importance of taking appropriate precautions with future contacts. Counselling should also be provided concerning legal and ethical issues around disclosure of HIV status to future partners.
- Discuss with the practitioner/physician the role of the Public Health nurse (PHN) in counselling, interviewing the person and providing contact notification. If not already interviewed, or the interview was not completed, request that the practitioner/physician inform the person of the option of being counselled, educated and interviewed by the PHN, and having contacts notified by Public Health.
- Immunization should be recommended according to current guidelines (3, 16). Generally, there is no contraindication to the use of inactivated or component vaccines in HIV-positive persons (3, 17). The efficacy and safety of the human papillomavirus (HPV) vaccine in HIV-infected individuals are currently unknown (18).
- Offer assistance where necessary to link the case with resources and supports such as: HIV care and treatment services (HIV Intake Referral Line 204-940-6089 or 866-449-0165), financial and housing assistance, home care, mental health supports, and addictions services. Encourage consultation for assistance in the care of HIV-infected children.
- Recommend testing for:
 - hepatitis B and C
 - syphilis
 - gonorrhoea
 - chlamydia
 - cervical dysplasia (HPV)
 - Cytomegalovirus (CMV)
 - toxoplasmosis

7.1.2 Post-test Counselling

While the following post-test counselling recommendations are directed at the management of HIV-positive clients, post-test counselling services are also available to clients with negative or indeterminate test results. See Appendix C: HIV Post-test Counselling Guide. Post-test counselling is a process that is usually achieved in one to six sessions.

- Cases should be instructed on precautions to take that will reduce the risk of transmission to current and future sex and IDU contacts. The case should begin to use precautions immediately to prevent transmission and these precautions should continue indefinitely.
- Discuss who will manage the person's medical follow-up. Initial discussions should emphasize counselling, behavioural changes, life adjustments, and next steps in medical care and follow-up.
- Care of the HIV-infected person is complex and cases should be referred to a physician specializing in HIV care.
- Individuals that have tested HIV-positive should also be screened for tuberculosis infection.
- HIV Disclosure – Patients/clients who test HIV-positive should be informed of their obligation to notify all current and future sexual and/or injection equipment-sharing partners of their HIV status. Failing to do so may, in certain circumstances result in the infected person being charged with a criminal offence. HIV-positive individuals, who fail to disclose their HIV status and/or take appropriate precautions, thereby continuing to place themselves and others at risk for infection, will require special

attention and support. Support is often achieved through the collaborative efforts of the attending health practitioners and other mental health, family and community agencies. Health practitioners are referred to The Public Health Agency of Canada publication *Persons who Fail to Disclose their HIV/AIDS Status: Conclusions Reached by an Expert Working Group (CCDR 2005; 31(5): 53-61)*.

- Verify whether the individual has symptoms of or meets the definition of living with AIDS.

7.1.3 Perinatal Case Management

- HIV-positive pregnant women should be referred to a physician specializing in HIV care as early as possible in pregnancy, or in labour if not yet being treated.
- Pregnant women who are HIV-positive should receive antiretroviral therapy prenatally and during labour and delivery. Infants should receive post-partum antiretroviral therapy. All antiretroviral therapy undertaken should be under the direction of a physician specializing in HIV care.
- Pregnant women who are HIV-positive should be counselled that in selected women, Caesarian section will reduce risk of transmission to infants.
- Breastfeeding is contraindicated for infants born to HIV-positive women in Canada. Transmission to the infant through breastfeeding has been well documented. Safe, culturally accepted replacement feeding is available (8-10).
- For infants born to HIV-positive mothers who have not taken antiretroviral prophylaxis, perinatal transmission can still be significantly reduced by starting antiretroviral treatment as soon as possible after birth, preferably within six hours (maximum 48-72 hours) after birth. All

antiretroviral therapy should be under the direction of a physician specializing in HIV care.

7.2 Contact Management

A “contact” is defined as someone who has been exposed, through blood or mucosal exposure, to the infected blood, breast milk, semen or vaginal secretions or certain other body fluids (cerebrospinal fluid, synovial fluid, pleural fluid, pericardial fluid, amniotic fluid and peritoneal fluid) of someone that has tested HIV-positive (“index case”). This definition includes sexual and IDU equipment sharing partners, vertical transmission (in utero, intra-partum, postnatally and through breastfeeding) from mother to child/fetus or occupational exposure.

7.2.1 Contact Notification

- Notification of contacts regarding their HIV exposure may be Public Health initiated, practitioner/physician initiated or case initiated. Public Health should ensure that a plan is in place for contact notification, using at a minimum, one of these approaches.
- It is preferable that the client agrees to the involvement of Public Health and/or practitioners in contact notification. However, if it is believed that there is a significant exposure risk to the contact and the client will not inform the contact directly, then the case’s practitioner and/or Public Health should inform a contact without obtaining consent from the HIV-positive client.
- All health care practitioners have the legal and ethical responsibility to assure the confidentiality of cases and contacts to the extent possible; to ensure that there is a plan in place to advise the contacts of their risk for infection; and to assist contacts in accessing medical attention if they desire.

- Contact notification should generally include sexual and/or injection equipment-sharing partners with whom the client has had contact within the year prior to the client's first HIV-positive laboratory report. If the exposure has been within three months of the client's first positive HIV serology, and the contact has a negative serology test, the testing of the contact should be repeated at least three months after the last exposure. Although the recommended interview period is generally not more than one year, there may be situations where more distant contact identification and notification may be required depending on the period of infectivity, the significance of the exposure, the feasibility of notification and a prioritization of contacts at risk.

Any practitioner involved in contact notification should use the interaction as an opportunity to educate contacts regarding their activities placing them at risk for HIV and to identify strategies for reducing those risks. The following topics should be discussed with contacts:

- Signs and symptoms of HIV infection
- Transmission of HIV
- Prevention and harm reduction
- Pregnancy-related issues
- Other STIs
- Legal issues concerning disclosure of HIV risk status
- Availability of testing services (including testing options)
- Confidentiality

Regardless of which of the three contact notification options is chosen:

- HIV-positive clients/patients must be advised that pertinent information about their contacts will be confidentially forwarded to Manitoba Health.

- The information for each contact must be recorded on a separate Manitoba Health HIV Contact Notification Form and all of the information for each contact must be submitted to Manitoba Health as soon as possible for surveillance and public health referral purposes.
- All of the information for each contact will be referred by Manitoba Health to the health jurisdiction in which the contact resides.
- Testing of contacts for HIV antibody should be performed as soon as possible.

7.2.2 Contact Notification Options

7.2.2.1 Public Health Initiated Contact Notification

With this option of contact notification, Regional Public Health notifies the contact(s) of the HIV-positive client. The region will attempt to notify contacts within four weeks of receiving the referral from Manitoba Health. The HIV-positive client will provide contacts' names and their locating information to a health professional. The identity of the HIV-positive client will not be disclosed to his/her contacts.

7.2.2.2 Practitioner/Physician Initiated Contact Notification

The practitioner will notify the contact(s) of the HIV-positive client. The HIV-positive client will provide contact names/identifiers and locating information to the practitioner who ordered the HIV testing. The practitioner will attempt to notify contacts regarding their exposure to HIV, once contact information is obtained. It is recommended that the practitioner notify the contact within four weeks of obtaining contact locating information. Alternatively, the practitioner can defer contact notification to Public Health. The identity of the HIV-positive client will not be disclosed to his/her contacts.

7.2.2.3 Case Initiated Contact Notification

This is a strategy through which the HIV-positive client commits to notify his/her contacts regarding their possible exposure to HIV. The health care practitioner should consult with Public Health to agree on a process to confirm that the contact(s) were notified by the case and to discuss any additional follow-up required.

The health care practitioner should ensure the case is aware of the information that needs to be communicated to their contacts. The minimum requirement for the HIV-positive client is to inform contacts of their exposure to HIV, their need for HIV testing (either through their own health care provider or Public Health) and their need to contact their own health care provider for follow-up. The health care practitioner should negotiate a time period with the HIV-positive client (up to four weeks) within which the index case will inform their contacts. If the contacts have not been notified of their exposure to HIV after the agreed-upon time period, either the practitioner or Public Health should intervene as determined during the initial consultation process.

7.2.3 Infant Contact

- Children born to a woman known to be HIV-positive at time of delivery should be tested for HIV (refer to Section 6 for testing information). If the mother's date of seroconversion is unknown, all her children should be assessed and considered for HIV testing. Women should be informed that the lack of signs and symptoms suggestive of HIV infection in older children does not exclude HIV infection. Some perinatally infected children can remain asymptomatic for several years.
- To ensure that infants at risk receive appropriate care, Manitoba Health will refer all infants testing positive for HIV antibody to regional Public Health authorities, even though this result may result from maternal antibody transfer and not infant infection.

- The attending practitioner/physician must be contacted by regional Public Health authorities and collaboration sought in identifying the infant and family.
- All infants born to HIV-positive mothers should be referred to a pediatric HIV specialist for appropriate follow-up antibody and NAT testing. Positive test results will be referred to the appropriate jurisdiction.

7.3 Prevention

- Specific preventive measures should be aimed at vulnerable populations such as individuals engaging in activities that carry a high risk for HIV transmission and communities with high HIV seroprevalence. General population-based prevention messaging should also occur.
- HIV counselling and testing should be routinely offered to:
 - all STI cases and their contacts
 - individuals with tuberculosis
 - individuals attending addictions treatment programs
 - individuals sharing injection drug-using equipment
 - individuals sharing inhalation drug-use equipment that may cause burns (e.g., glass or metal pipes)
 - individuals seeking prenatal care, family planning or reproductive services
 - individuals in correctional facilities
 - all individuals presenting with an AIDS-defining illness

7.3.1 Prevention of Transmission Through Blood, Tissues and Organs

- All donations of blood, tissues and organs are tested for HIV; only donations testing negative are used.

- Infection Control Routine Practices should be in place for:
 - the handling, use and disposal of needles or other sharp instruments
 - cleaning of blood, body fluids and spills
 - direct patient care activities
- Avoid sharing inhalation drug equipment that may cause burns or cracked lips (e.g., metal pipes).
- HIV post-exposure prophylaxis is available for persons who have experienced an exposure of concern to blood or body fluids. The process for determining eligibility for prophylaxis is contained in Manitoba Health's *Integrated Post-Exposure Protocol for HIV, HBV and HCV: Guidelines for Managing Exposures to Blood and Body Fluids*, available at: www.gov.mb.ca/health/publichealth/cdc/protocol/hiv_postexp.pdf
- The cells of the endocervix in young women are more exposed (cervical ectopy) and allow more efficient transmission of HIV (19). Delayed sexual debut may help to prevent infection.
- Based on evidence from randomized controlled trials, WHO and UNAIDS recommend that male circumcision now be recognized as an additional important intervention to reduce the risk of heterosexually-acquired HIV infection in men in developing countries (20).
- Public and school health education should focus on information, motivation, and behavioural skills for sexual health education. Effective programs have been characterized as those that:
 - use social learning theories for program development
 - focus on reducing sexual risk-taking behaviours that may lead to HIV infection or STIs, or to unintended pregnancies
 - provide accurate, basic information about the risks of and methods for avoiding unprotected intercourse
 - address social and media influences on sexual behaviours
 - model and practice communication and negotiation skills
 - address factors that interfere with harm reduction efforts such as substance use and mental health

7.3.2 Prevention of Sexual Transmission

- Abstinence from oral, vaginal and anal sexual relations is the only certain way of preventing the sexual transmission of HIV.
- Engaging in mutually exclusive sexual relations when both persons are known not to be infected is the next surest way to prevent sexual transmission.
- Consistent and proper use of male and/or female condoms for anal, vaginal and oral sex significantly reduces the risk of sexual transmission of HIV. Oil-based lubricants damage latex condom integrity and should not be used. Water-based lubricants should be used instead.
- There is insufficient evidence to suggest that other proposed harm reduction strategies are effective in reducing transmission risk.
- Routine use of products containing nonoxynol-9 should be avoided.

7.3.3 Prevention of Transmission Through Injection Drug Use

- Abstinence from IDU is the only certain way of preventing transmission of HIV through IDU.
- Use of a new needle, syringe, and all other injection drug-using equipment (e.g., filters, water, spoon) for each injection significantly reduces the risk of IDU transmission.

- Harm reduction activities such as needle exchange, access to drug using equipment that reduces risk of HIV infection and safe injection sites may help to reduce HIV transmission within injection drug using populations. These activities also provide opportunities for further connections to health services.

7.3.4 Prevention of Mother-to-Child Transmission

- Prenatal HIV antibody screening is recommended for all pregnant women.
- In high-risk populations (i.e., individuals with multiple partners, and/or concurrent genital infections), repeat screening in the third trimester is recommended for pregnant women who initially tested HIV-negative (15, 21).
- Appropriate prophylactic antiretroviral therapy for HIV-infected pregnant women.
- Elective Caesarean delivery for selected women.
- Avoidance of breastfeeding by HIV-infected mothers.
- Initiation of antiretroviral therapy in infants born to HIV-infected mothers as soon as possible after birth.

8.0 Other Considerations

8.1 Travel Considerations

- Pre-travel planning is recommended for HIV-infected travelers. Individuals should consult with their health care providers and/or a travel medicine specialist at least four to six weeks prior to departure.
- Health care providers should be aware of country-specific policies that restrict entry of HIV-infected travelers. Updated information for all international travelers is available on the following website: www.cdc.gov/travel

8.2 Immigration Considerations

HIV testing as part of a Citizenship and Immigration Canada application is required for:

- applicants 15 years of age and older;
- children who have received blood or blood products;
- children who have a known HIV-positive mother; and
- all potential adoptees where a risk factor is identified.

An ELISA HIV screening test is performed for HIV 1 and HIV 2. Positive ELISA results are confirmed with HIV western blot. It is important to provide applicants having an HIV test with HIV pre-test counselling.

Applicants Who Test Positive for HIV

- Ensure that applicants who have tested positive for HIV receive post-test counselling and sign the acknowledgement of HIV post-test counselling form.
- All HIV-positive migrants granted entry into Canada will receive a Health Follow-up Handout: HIV Infection to assist them in obtaining medical care in Canada.
- As of June 2005, CIC refers the names of those individuals identified as having an HIV positive test result (tested outside of Canada) to Manitoba Health. Manitoba Health then refers these individuals to the appropriate health authority for case management.
- It is recommended that repeat HIV antibody testing be offered utilizing local laboratory services.
- Further information on HIV testing issues is located in Section 11 of *Citizenship and Immigration Canada's Handbook for Designated Medical Practitioners 2009*.

9.0 Additional Resources

9.1 For the Public

Information on clinics in Manitoba that offer HIV testing and counselling may be obtained by contacting the following organizations.

- Health Links-Info Santé
In Winnipeg, phone: 788-8200
Outside Winnipeg: 1-888-315-9257
- AIDS/STI Information
Nine Circles Community Health Centre (NCCHC)
In Winnipeg, phone: 945-2437,
Fax: 940-6027
Outside Winnipeg: 1-800-782-2437
- Facts of LIFE Line
Sexuality Education Resource Centre (SERC)
Winnipeg, Phone: 947-9222 or
982-7800,
Fax: 982-7819, e-mail: info@serc.mb.ca
Brandon, MB Phone: (204) 727-0417,
Fax: (204) 729-8364,
e-mail: brandon@serc.mb.ca
Website: www.serc.mb.ca

9.2 For Health Care Professionals

- HIV Intake Referral Line: 204-940-6089 or 866-449-0165
- Manitoba Health (2009). *Integrated Post-Exposure Protocol for HIV, HBV and HCV: Guidelines for Managing Exposures to Blood and Body Fluids*.
www.gov.mb.ca/health/publichealth/cdc/protocol/hiv_postexp.pdf
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www.gov.mb.ca/health/publichealth/cdc/surveillance/desi.pdf

- Manitoba Health. Manitoba's Provincial AIDS Strategy.
www.gov.mb.ca/health/aids/strategy.pdf

Resources are also available from Manitoba Health, Audiovisual and Publications Department, (204) 945-3000 (fax: (204) 772-7213)

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10.1 Article

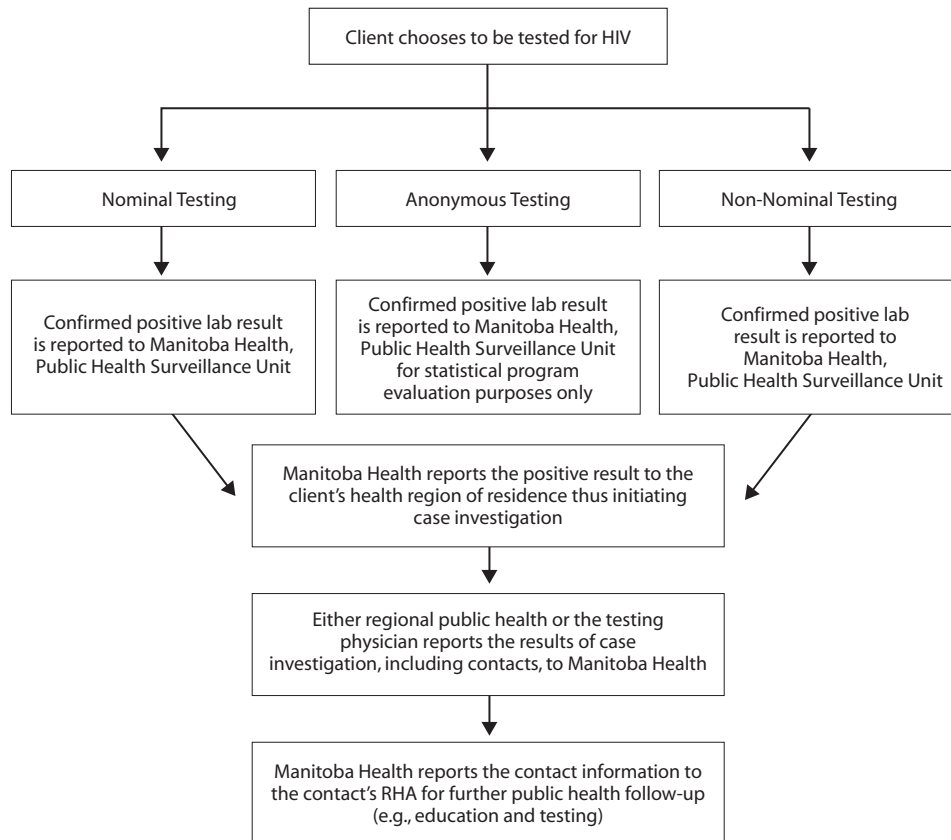
Quinn T.C. and Spacek L.A., International Travel: Recommendations for the HIV Infected Patient, *Current Infectious Disease Reports* 2004, 6: 399-403 Current Science Inc. ISSN 1523-3847

10.2 Publications

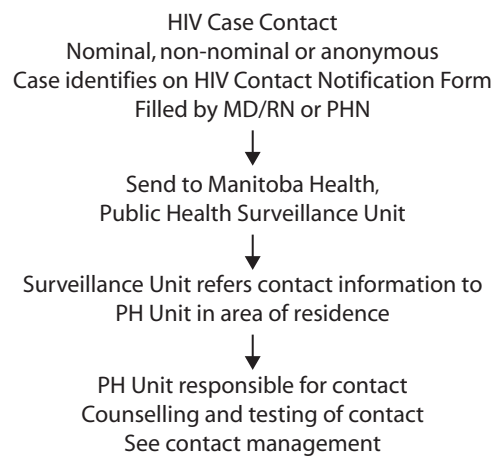
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Case Reporting and Referral Flow Chart



Contact Report and Referral Protocol Flowchart



APPENDIX A: Levels of Risk (Source – Canadian AIDS Society)

Level of Risk	Activity
No Risk	Kissing (no blood); non-insertive masturbation; receiving unshared sex toys; contact with feces or urine (unbroken skin); injecting with unshared needles; using drugs with new pipe or straw; sadomasochistic activities (with universal precautions); tattooing, piercing, electrolysis and acupuncture with sterilized and new equipment; manicures or pedicures.
Negligible Risk	Receiving fellatio or cunnilingus; performing fellatio or cunnilingus with barrier; anilingus; fingering; fisting; using shared sex toys with a condom; using disinfected sex toys; sadomasochistic activities; contact with feces or urine (on broken skin); vulva-to-vulva rubbing; docking; taking breast milk into the mouth; using drugs with shared pipe or straw; tattooing, piercing, electrolysis and acupuncture with shared equipment; fighting; sharing toothbrushes and razors.
Low Risk	Kissing (with exchange of blood); performing fellatio or cunnilingus without barrier; intercourse (penile-anal or penile-vaginal) with barrier; injecting with cleaned needles; tattooing with non-professional equipment; taking blood in the mouth; occupational exposure.
High Risk	Penile-anal or penile-vaginal intercourse without condom; receiving shared sex toys; injecting with shared needles.

Appendix B: HIV Pre-test Counselling Guide

Purpose of the Counselling Session

- Time to reflect on individual risk for HIV
- Education regarding transmission/risk reduction/testing
- Evaluate if this is a good time to be tested
- Occupational exposure
- Victim of sexual assault

Confidentiality/Anonymity

- Testing process (see Testing Options below)
- Use of anonymous code on lab requisition and file (for anonymous testing situations)
- Charting – storage of results
- Reporting mechanism – All positive HIV test results are reported to Manitoba Health
- Contact notification for positive test results – contact information reported to Manitoba Health

Client's Reason for Seeking HIV Test – Identify Risk Factors

- Pregnancy
- Sex with men: Number of contacts/year
- Sex with women: Number of contacts/year
- Sex trade worker
- Sex with HIV-positive person
- Sex with person at risk for HIV
- Sex with anonymous contact(s)
- Sharing of needles or other injection equipment
 - For injection drug use (IDU)
 - For tattooing/piercing
- Recipient of blood/blood products
- Emigrated from HIV-endemic country
- Offspring of HIV-positive mother

Suggestive Symptoms

- Asymptomatic
- Prolonged fever
- Genital discharge
- Lymphadenopathy
- Fatigue
- Diarrhea
- Rash
- Physical findings (i.e., Kaposi's)
- Respiratory symptoms
- Unintentional weight loss
- Night sweats
- Other

Harm and Risk Reduction Strategies

- Review client's current risk reduction practices (i.e., sexual, IDU, tattooing)
- STI/HBV/HCV testing
- No sharing injection/tattooing supplies (ink, water, cooker, filters)
- Safer sex practices
- Latex condoms
- Use of clean injection equipment (needles, syringes, etc.)

Knowledge of HIV/AIDS

- Assess client's knowledge of HIV/AIDS
- Review HIV/AIDS information specific to the client's self-identified risk factors
- Basic HIV/AIDS information (i.e., harm reduction practices and medical, psychological, social and legal implications)

Previous HIV Test

Date of Previous Test

- Test Result:
 - Positive
 - Negative
 - Indeterminate

HIV Testing Procedure

Explain the following:

- Meaning of positive/negative/indeterminate results
- The presence/absence of antibodies and window period
- Results are available in three weeks

Anonymous Testing Situations: The results are only given in person upon presentation of the Anonymous HIV Testing Client Card. There is no possibility for the testing site to contact the person with test results as contact information is not available.

Testing Options

1. Nominal Testing (name-based)

- The name of the person being tested is documented as it is for any other medical tests.
- The blood for the test is sent to the lab using the person's name.
- The results are confidential and documented on the person's medical chart.
- Health practitioners are able to offer referrals for support and other services.

2. Non-nominal Testing (confidential code)

- The person's name is only known by the health practitioner doing the test.
- The blood for the test is sent to the lab and identified by code.

- The results are confidential and documented on the person's medical chart as it is for any other medical tests.
- Health practitioners are able to offer referrals for support and other services (nominally).

3. Anonymous Testing (anonymous code)

- The name of the person being tested is not documented.
- An anonymous code is given to each person being tested.
- The blood for the test is sent to the lab using the anonymous code.
- An Anonymous HIV Testing Client Card with code must be presented to obtain test results.
- Health practitioners are able to offer referral for support and other services (nominally).
- Anonymous test results will not be suitable for prenatal care, refugee/immigration application, occupational exposure, insurance purposes and for starting HIV treatment.
- It is the client's responsibility to return for test results as the testing site has no information with which to contact the client.

Please contact Health Links-Info Santé or the AIDS/STI Information Line for availability of anonymous testing sites and services within Manitoba.

Considerations of HIV Testing

- Decreased anxiety of uncertain HIV status
- Increased chance of early HIV detection/treatment
- Decreased chance of transmission to others (if positive)
- Client has to be tested non-nominally or nominally (or re-tested non-nominally or nominally if originally tested anonymously) to take advantage of services/care
- In anonymous HIV testing situations, testing is client-initiated and client-owned

Considerations of a Negative or Indeterminate Test Result

- False sense of security if result is negative (i.e., seroconversion/window period)
- If the test result is indeterminate, referral for further testing and assessment will be required

Considerations of Receiving a Positive Test Result

- Contact notification to inform partners of their exposure to HIV (completed by Public Health, health practitioner or the client)
- Awareness of risk behaviours and harm reduction strategies
- Increase good health practices and prevention of other illnesses
- Early intervention decreases risk of developing severe infections
- Able to incorporate harm and risk reduction strategies to reduce risk of HIV transmission

- Able to make informed decisions prior to a pregnancy to reduce risk of HIV transmission to unborn child
- If pregnant, ability to seek health care and reduce HIV transmission to unborn child
- Referral to HIV Specialist
- Referral to HIV Support Services
- If client wishes to remain anonymous, client cannot take advantage of services/care
- Could provide an explanation of client's current/past symptoms
- Decreases the risk of infection to others by prohibiting blood, body fluid, organ and tissue donation
- Potential legal issues (i.e., HIV disclosure)
- Some insurance companies have used HIV-positive status to demand higher rates or deny health coverage
- Potential travel/immigration restrictions

Assess Coping Methods and Social Supports

- Thoughts and possible response to a positive, negative or indeterminate test result
- How the client has dealt with stressful situations in the past
- Coping strategies, supports available, suicide risk
- Resources available in the community

Provide Supplies

- Pamphlets/information
- Condoms, needles, filters, etc. where applicable

Reporting of Test Results

- All positive test results will be reported to Manitoba Health under the Reporting of Diseases and Conditions Regulation of *The Public Health Act*. The information is completely confidential in nominal and non-nominal testing situations and anonymous in anonymous testing situations. The information will be used for statistical and program planning services.

Consent for Testing

It is essential that informed consent be obtained from the client or their guardian prior to undergoing HIV testing. Pre-test counselling provides the opportunity for the client to make an informed decision regarding HIV testing. In cases where language interpretation/ translation services are required, the client needs to understand that his/her support person will be privy to confidential information that may be disclosed at the counselling session(s).

If the client is unable to comprehend simple explanations, or answer questions related to time, date and place, the practitioner should evaluate the capacity or maturity of the person to provide informed consent before performing HIV testing. In some circumstances, HIV testing may be refused or delayed until the client's capacity and/or maturity has been reviewed.

Adolescents under the legal age of majority (i.e., 18 years of age) who are sufficiently mature (the mature minor) may be able to provide informed

consent for HIV testing. The practitioner must assess the adolescent's ability to understand and appreciate the nature and consequences of being tested for HIV. Adolescents need to have the maturity and intellectual capability to understand critical information about prospective treatment, and to be able to make important decisions about future care (Downie, J. *et al.*, 2002; Rozovsky, LE, Rozovsky, FA, 1990).

Client Card and Phlebotomy (for anonymous testing only)

Date Phlebotomy Completed:

_____ No Yes

Date Anonymous HIV Testing Client Card Given:

_____ No Yes

Below is an example of an Anonymous HIV Testing Client Card. Sites can adapt this card for their own use or develop their own site-specific client card.

PLEASE KEEP THIS CARD SAFE	
Code #:	_____
Phone #:	_____
Contact:	_____
Date of Return: From:	_____
To:	_____

APPENDIX C: HIV Post-test Counselling Guide

- This information may require more than one session
- Encourage client to return for follow-up sessions and bring a support person if he/she wishes

Purpose of the Post-test Counselling Session

- Provide and explain test results
- Assess client's understanding of test results
- Encourage client to express feelings/reactions

Negative or Indeterminate Result

Step 1 – The Test Result

- Describe what a negative or indeterminate result means
- Schedule future appointments for testing as required
- Interpret meaning of result in relation to personal history (i.e., risk behaviours, window period, need for retest)

Step 2 – Harm/Risk Reduction

- Review harm/risk reduction strategies
- Explore client's commitment to a personal harm/risk reduction plan

Step 3 – Support

- Provide client with resources, prevention material and referral(s)

Positive Result

Step 1 – The Test Result

- Describe what a positive result means
- Equate to a chronic disease
- Emphasize living with HIV

Step 2 – Emotional Support

- Assess client's psychological reaction and provide immediate support
- Assess client's support system
- Arrange mental health and social support services as available
- Arrange consultation/counselling as required

Step 3 – Consequences

- Health
- Reproduction
- Legal

Step 4 – Behaviours

- Sex
- Substance use
- Rest, nutrition, exercise

Step 5 – Benefits of early medical intervention

Step 6 – Loss of anonymity with further medical intervention

Step 7 – Medical follow-up and referral

Step 8 – Contact notification

Appendix D: Qualification Criteria for Anonymous Testing Sites

Qualification Criteria

Facilities wanting to provide anonymous HIV antibody testing shall provide a written request to Manitoba Health (see Appendix F) outlining readiness to meet the following criteria:

1. Delegation of function to allow practitioners to perform HIV antibody testing (including counselling) and provide the test result must be established, in situations where service is not directly and completely provided by a physician.
2. Ability and experience in the provision of HIV prevention counselling, pre- and post-test counselling and referrals.
3. Experience with HIV/AIDS services and related issues.
4. Ability to provide the required phlebotomy, storage and transport of specimen to Cadham Provincial Laboratory (i.e., safety engineered needles, standard practices).
5. Security of documents/records.
6. Ability to offer the same practitioner, as is feasible, throughout the anonymous HIV testing process to each client.
7. Willingness to participate in an evaluation process.

Appendix E: Telephone Information for Anonymous Testing Services

Staff responding to telephone inquiries regarding anonymous HIV testing sites and services should ensure that consistent information is provided to callers and anonymity is assured.

Inform callers of the following:

1. General information:

- The service is free and anonymous.
- No Personal Health Identification Number (PHIN) is needed.
- Client-specific identifying information will not be kept; however, an anonymous code will be assigned.
- The onus is on the individual to return for his or her test result. There is no possibility for the testing site to contact the person as contact information is not available.
- Testing sites do not subscribe to call display.
- Anonymous HIV antibody test results are not accepted by insurance companies.
- Anonymous HIV antibody testing is not recommended for prenatal screening or occupational exposure.

2. Anonymous HIV testing:

- During the pre-test counselling, a health practitioner provides information regarding HIV, social/legal implications, potential for contact notification and prevention.
- If the individual consents to testing following pre-test counselling, the blood sample is drawn.

- Routine precautions and practices for phlebotomy, storage and transport of the blood specimen to CPL are followed.
- A Client Card with a unique code number will be given at the first appointment.
- The test result will only be given to the individual upon presentation of the Anonymous HIV Testing Client Card.
- The result is available in three weeks. The practitioner will discuss with the individual the date, process and length of the next appointment.
- The individual must return for post-test counselling and test results within three months of testing. Individuals returning for test results beyond the three month period will require re-testing.
- Practitioners should offer referrals to HIV specialists and HIV support services for those testing positive.
- Referrals to community resources are available on a nominal basis.

3. Locations and schedules:

- Inform the caller of locations and schedules regarding anonymous HIV antibody testing in Manitoba.
- For a listing of anonymous HIV test sites in Manitoba or if more information is required regarding HIV/AIDS and STI, refer the individual to the AIDS/STI Information Line at 945-2437 (1-800-782-2437) or Health Links-Info Santé at 788-8200 (1-888-315-9257).

Appendix F: Manitoba Health – Anonymous HIV Antibody Test Site Application Form

Please complete the following and forward to Manitoba Health (see address below):

Name of Site/Facility/Organization: _____

Address: _____

City/Town: _____ Postal Code: _____

Phone: _____ Email: _____

Compliance with Guidelines and Procedures for Anonymous Testing Sites (please append supporting documents)

- | | | |
|------------------------------|--------------------------|---|
| 1. Human resources | <input type="checkbox"/> | Physician on staff |
| | <input type="checkbox"/> | Delegation of function regarding HIV testing and related care |
| | <input type="checkbox"/> | Ability to provide the same practitioner (as feasible) |
| 2. HIV Counselling | <input type="checkbox"/> | HIV prevention counselling |
| | <input type="checkbox"/> | Pre- and post-test HIV counselling |
| | <input type="checkbox"/> | Anonymity and confidentiality assured |
| 3. Knowledge/experience | <input type="checkbox"/> | Staff with knowledge and experience regarding HIV/AIDS prevention, care, treatment and other related issues |
| | <input type="checkbox"/> | Resource material for individuals and service providers |
| 4. Specimen transport to CPL | <input type="checkbox"/> | Phlebotomy |
| | <input type="checkbox"/> | Storage |
| | <input type="checkbox"/> | Transport |
| 5. Documents/records | <input type="checkbox"/> | Secure storage of client documents |
| 6. Reporting | <input type="checkbox"/> | Reporting of contacts to Manitoba Health |
| 7. Partnerships | <input type="checkbox"/> | Agree to meetings with Manitoba Health as required regarding anonymous HIV testing services |

Name (please print) _____ Signature _____

Position _____ Date _____

Send completed form to:

The Communicable Disease Control Branch
Manitoba Health
4th floor – 300 Carlton Street
Winnipeg, MB R3B 3M9
Confidential Fax: (204) 948-3044