

# HIV Infection and AIDS

## 1. DISEASE REPORTING

### A. Purposes of Reporting and Surveillance

1. To assess trends in epidemic patterns, understand the impact of the burden of disease on populations and the health care infrastructure, and better target population-level disease prevention efforts;
2. To assure the referral for treatment of infected individuals in order to reduce infectiousness and prevent Opportunistic Diseases;
3. To identify cases in a timely fashion in order to interrupt the chain of infection through patient-level interventions such as management of sexual contacts and behavioral risk reduction counseling.

### B. Legal Reporting Requirements

1. Health care providers: AIDS and HIV infection notifiable to local health jurisdiction within 3 working days.
2. Hospitals: AIDS and HIV infection notifiable to local health jurisdiction within 3 working days.
3. Laboratories:
  - a. For HIV, positive Western blot assays, p24 antigen or viral culture tests are notifiable within 2 workdays to Public Health-Seattle&King County (PHSKC) for labs in King County and the Washington State Department of Health (DOH) for labs outside of King County. All results, whether they are positive or not detectable, on HIV nucleic acid tests (RNA or DNA) are notifiable on a monthly basis
  - b. All CD4+ absolute counts and percentage of total lymphocytes comprised by CD4+ lymphocytes are notifiable on a monthly basis.
4. Local health jurisdictions: notifiable to WA DOH within 7 calendar days of case investigation completion or summary information required within 21 calendar days of notification.

### C. Local Health Jurisdiction Investigation Responsibilities

1. Local health jurisdiction staff should initiate an investigation of the index patient within 3 working days of receiving a report indicative of a new HIV infection.
2. Educate the case regarding ways to prevent transmission.
3. Identify exposed contacts, counsel them regarding their risk and facilitate screening for HIV.
4. Report all confirmed cases of HIV to IDRH using the HIV/AIDS Case Report Form (<http://www.doh.wa.gov/notify/forms/hiv-case-report.pdf>)

## 2. THE DISEASE AND ITS EPIDEMIOLOGY

### A. Etiologic Agent

Human immunodeficiency virus (HIV), a retrovirus. Two sub-types have been identified: type 1 (HIV-1) and type 2 (HIV-2). These virus sub-types are serologically and geographically relatively distinct but have similar epidemiologic characteristics. The efficiency of transmission and pathogenicity of HIV-2 is lower than that of HIV-1.

### B. Description of Illness

#### Primary HIV Infection

A person may be infected with HIV but not know it, because many people who are infected do not have any symptoms for several years after getting infected. Primary HIV infection refers to the very early stages of HIV infection, or the interval from initial infection to the time that antibody to HIV is detectable. During this stage of HIV infection, patients typically have some symptoms of acute HIV seroconversion illness, very high HIV RNA levels of >100,000 copies/mL, and negative or indeterminate HIV antibody tests. The diagnosis of patients with primary HIV infection is a clinical challenge because the symptoms of primary HIV are often absent, mild, or nonspecific.

After infection with HIV, it takes a median of 25 days before the HIV antibody test becomes positive; in some individuals, it may be several months before seroconversion. Individuals with known exposures to HIV should be tested as soon as possible, if possible using nucleic acid amplification testing, as well as standard antibody testing, to detect cases in the “window” before antibodies become detectable. In the case of an initial negative test, the individual should be monitored at 6 weeks, 3 months, and 6 months after exposure to HIV.

About half of patients who become infected with HIV develop symptoms consistent with primary HIV infection. Symptoms typically appear a few days to a few weeks after exposure to HIV, and generally include several of the following:

- Fever
- Rash, often erythematous and maculopapular
- Fatigue
- Sore throat
- Lymphadenopathy
- Urticaria
- Myalgia/arthralgia
- Anorexia
- Mucocutaneous ulceration
- Headache, retro-orbital pain
- Neurologic symptoms (e.g., pain, numbness, loss of motor function)

This symptomatic phase usually persists for 2-4 weeks or less, although lymphadenopathy may last longer. These symptoms and signs are similar to those of many other illnesses, including other viral syndromes, such as “flu” and “colds”. To diagnose early HIV infection, clinicians must consider HIV in the differential diagnosis for at-risk patients with symptoms resembling flu or mononucleosis. A history of recent

risk behaviors should be obtained from all patients who present with symptoms consistent with acute HIV infection.

### **Advanced HIV Infection**

After the period of primary infection, an individual may live for several years to decades before experiencing new symptoms. During this period, the virus attacks the person's immune system, and over time an individual may experience the following symptoms that may indicate advanced HIV infection:

- Rapid weight loss and loss of appetite
- Dry or productive cough
- Recurring fever or profuse night sweats
- Profound and unexplained fatigue
- Swollen lymph glands in the armpits, groin, or neck
- Diarrhea that lasts for more than a week
- White spots or unusual blemishes on the tongue, in the mouth, or in the throat
- Shortness of breath
- Red, brown, pink, or purplish blotches on or under the skin or inside the mouth, nose, or eyelids
- Memory loss, depression, and other neurological disorders

After an individual's immune system experiences significant damage from HIV infection, the person may progress to Acquire Immune Deficiency Syndrome (AIDS), a condition that is characterized by low CD4+ cells (below 200 cells/mL or below 14% of total lymphocytes) and/or one or more AIDS-defining clinical conditions, or Opportunistic Diseases (OD), listed in section 3.A below.

### **C. HIV/AIDS in Washington State**

In Washington State, there are between 600 to 800 reports of HIV and AIDS per year; on average, 550 to 600 of these reports reflect new diagnoses of HIV disease.

Approximately 85% of the new diagnoses from 2005 through 2007 were among males, and 73% were among individuals age 30 and older. From 2005 to 2007, approximately 62% of all new HIV diagnoses were reported among white, non-Hispanic persons, and about 62% of the new diagnoses were attributed to male-to-male sexual contact (either by itself or in conjunction with injection drug use). As of December 31, 2007, there were 10,059 persons reported to be living with HIV infection in Washington State, 56% of whom had AIDS. Annual deaths among individuals with AIDS have declined significantly since the advent of antiretroviral therapy (ART) in the mid-1990s. Approximately 125 deaths are reported to be associated with HIV and AIDS each year.

For a current report on HIV/AIDS statistics in Washington State, see:

[http://www.doh.wa.gov/cfh/HIV\\_AIDS/Prev\\_Edu/Statistics.htm#Surveillance](http://www.doh.wa.gov/cfh/HIV_AIDS/Prev_Edu/Statistics.htm#Surveillance)

### **D. Reservoir**

HIV is found in human blood, semen, vaginal fluids, breast milk, and some other fluids sometimes handled by healthcare workers (fluids surrounding the brain and spinal cord, bone joints, and around an unborn baby).

### **E. Modes of Transmission**

HIV can be transmitted from person to person by the following methods: having vaginal, anal or oral sex (especially unprotected) with a person who has HIV; sharing needles or other injection equipment with a person who has HIV; during pregnancy, birth or breast feeding if a mother has HIV; or, receiving transfusions of blood or donated organs infected with HIV, both of which are very rare in the United States since all blood and organs are appropriately screened for possible infection. While the virus has occasionally been found in saliva, tears, urine and bronchial secretions, transmission after contact with these secretions has not been reported.

While the risk of HIV transmission via sexual intercourse is lower than most other sexually transmitted agents, the presence of a concurrent sexually transmitted disease, especially an ulcerative one, can greatly facilitate HIV transmission. The primary determinants of sexual transmission of HIV are the patterns and prevalence of sexual risk behaviors such as having unprotected sexual intercourse with many concurrent or overlapping sexual partners. The risk of transmission from oral sex is not easily quantifiable, but is estimated to be low. Treatment of HIV-positive pregnant women greatly reduces the chance of transmitting the virus to the infant. No laboratory or epidemiologic evidence suggests that biting insects have transmitted HIV infection.

### **F. Incubation Period**

Variable. Although the time from infection to the development of detectable antibodies is generally 1-3 months, the time from HIV infection to diagnosis of AIDS has an observed range of less than 1 year to 15 years or longer. Without effective ART, about 80% of infected adults will develop AIDS within 10 years after infection. The median incubation period in infected infants is shorter than in adults. The increasing availability of effective ART since the mid-1990s has significantly reduced the development of AIDS in the USA and most other developed countries.

### **G. Period of Communicability**

Communicability begins early (usually within a week) after the onset of HIV infection and extends throughout life. Epidemiologic evidence suggests that infectiousness is highest in the early weeks of infection, then decreases as the host develops antibodies in response to infection. Communicability also increases with increasing immune deficiency, clinical symptoms and presence of other STDs, and is reduced by effective ART.

### **H. Treatment**

Potent ART is available to treat HIV infection. Although implementing ART can be complex, a number of guidelines from expert panels are available to help practitioners select effective regimens for particular patients. Clinicians treating HIV-infected patients can consult technical resources to become familiar with the most current versions of these treatment guidelines. They are available on the Internet at the AIDSinfo Web site "Clinical Guidelines" section (<http://aidsinfo.nih.gov/Guidelines>). There are additional resources for clinicians at the national AIDS Education Training Center (AETC) website: <http://www.aids-ed.org/> .

Antiretroviral therapy consisting of 3 or more antiretroviral drugs has greatly improved the health and survival rates of HIV-infected patients in areas of the world with access to ART. More than 30 individual ART drug formulations are available in the U.S., including several fixed-dose combination preparations. Formulations can be combined to construct a number of effective regimens for therapy. ART has important limitations, however. ART does not cure HIV infection and it requires that multiple medications be taken for very long periods of time (usually for the duration of life). It is expensive, may cause a variety of adverse effects (some severe), requires close adherence to be effective and to prevent the emergence of resistance, and often fails (because of the patient's imperfect adherence or other factors). The failure of an ART regimen when accompanied by drug resistance usually means that subsequent regimens are less likely to succeed.

Despite ART's limitations, there is overwhelming evidence that it saves lives and improves or restores immune system function. Mortality and morbidity benefits are particularly obvious in patients with relatively advanced immune suppression or with symptoms related to HIV infection. For asymptomatic patients with relatively high CD4+ cell counts (>350 cells/ $\mu$ L), it is less clear whether or when to start ART. In deciding when to start ART for any patient, practitioners must weigh the expected benefits of ART for that individual (in terms of morbidity and mortality) against the possible risks (e.g., toxicity, drug resistance, adverse drug interactions).

### 3. CASE DEFINITIONS

#### A. Clinical Criteria for Diagnosis

See Centers for Disease Control and Prevention criteria for diagnosis for a complete description of adult and adolescent HIV and AIDS criteria for diagnosis:

<http://www.cdc.gov/nceh/diseases/aids/cases/def/aidscurrent.htm>

HIV diagnosis may be documented by a physician in a medical record if it was initially based on laboratory criteria in section 3B below. An individual at least 13 years of age with HIV infection is considered to have AIDS in the presence of evidence of HIV infection if he/she has any of the following clinical conditions:

- Candidiasis
- Cervical cancer (invasive)
- Coccidioidomycosis, Cryptococcosis, Cryptosporidiosis
- Cytomegalovirus disease
- Encephalopathy (HIV-related)
- Herpes simplex, persisting longer than 1 month
- Histoplasmosis
- Isosporiasis
- Kaposi's sarcoma
- Lymphoma (certain types)
- Mycobacterium avium complex
- Pneumocystis jiroveci (formerly carinii) pneumonia (PCP)
- Pneumonia (recurrent)
- Progressive multifocal leukoencephalopathy
- Salmonella septicemia (recurrent)

- Toxoplasmosis of the brain
- Tuberculosis
- Wasting syndrome

The characteristics of HIV-infected children are different than those in adolescents and adults, so the pediatric classification system differs from the adolescent and adult classification system. It is classified into mutually exclusive categories according to three parameters: a) infection status, b) clinical status, and c) immunologic status. The CDC's guidelines for pediatric classification provide detailed tables on how to classify pediatric HIV and AIDS cases:

[http://www.cdc.gov/ncphi/diss/nndss/casedef/hiv\\_infection\\_pediatric.htm](http://www.cdc.gov/ncphi/diss/nndss/casedef/hiv_infection_pediatric.htm)

## B. Laboratory Criteria for Diagnosis

See Centers for Disease Control and Prevention criteria for diagnosis for a complete description of HIV and AIDS criteria for diagnosis:

<http://www.cdc.gov/ncphi/diss/nndss/casedef/aidscurrent.htm>

In adults, adolescents, or children aged greater than or equal to 18 months, a reportable case of HIV infection must meet at least one of the following criteria:

- Positive result on a screening test for HIV antibody (e.g., repeatedly reactive enzyme immunoassay), followed by a positive result on a confirmatory (sensitive and more specific) test for HIV antibody (e.g., Western blot or immunofluorescence antibody test); OR
- Positive result or report of a sufficiently detectable quantity on any of the following HIV virologic (non-antibody) tests: 1) HIV nucleic acid (DNA or RNA) detection (e.g., DNA polymerase chain reaction [PCR] or plasma HIV-1 RNA); 2) HIV p24 antigen test, including neutralization assay; or, 3) HIV isolation (viral culture).

In adults and adolescents at least 13 years, an individual is considered to have progressed to AIDS if his/her CD4+ cell absolute count is less than 200 cells/mL or the percentage of CD4+ cells as a percentage of total lymphocytes is less than 14%.

An infant born to an HIV+ mother should receive HIV nucleic acid testing and be reported as a perinatal exposure, even if the nucleic acid amplification test is negative. A Western blot test at birth in an infant born to an HIV mothers is not diagnostic because children carry the mother's antibodies for many months. An infant who is presumed to be negative based on RNA or DNA testing should receive an antibody test at 18 months to confirm negative status. An infant with a positive HIV nucleic acid test is considered to be HIV-infected.

## C. Case Definition

In adults, adolescents, or children aged greater than or equal to 18 months, a reportable case of HIV infection must meet at least one of the laboratory or clinical criteria defined above.

## 4. DIAGNOSIS AND LABORATORY SERVICES

### A. Diagnosis

See section 3B, above, for a description of diagnostic criteria.

### B. Tests Available at PHL

The screening procedure for serum specimens is an Enzyme-Linked ImmunoSorbent Assay (ELISA) or Enzyme ImmunoAssay (EIA test). If the ELISA or EIA is a repeatable reactive, (reactive in two separate runs) a supplemental test is done. The supplemental test is the Western blot.

### C. Criteria for Testing at PHL

PHL provides HIV clinical laboratory serum testing ONLY to local health jurisdictions and contracted sites approved by the HIV Program. The Request for Antibodies to HIV form must be completed for testing. Identify the specimen by patient's initials, birth date and/or a patient number.

### D. Specimen Collection (include form# and url for PHL services)

Use the form at the link below to request an HIV antibody test:

<http://www.doh.wa.gov/EHSPHL/PHL/Forms/AntibodiesRequest.pdf>

## 5. ROUTINE CASE INVESTIGATION

### A. Evaluate the Diagnosis

Review the clinical history, physical exam findings, and laboratory results. Conduct a public health investigation on all reports indicative of a new HIV infection. Such reports typically include Field Investigations Reports sent to the Local Health Jurisdiction (LHJ) by DOH, case report information and/or lab results from a clinical provider or positive Western blot results from testing conducted at the LHJ or other facility. Additionally, labs may notify LHJs of test results, though they are required to report them to the state Department of Health.

New HIV diagnoses are made based on the presence of laboratory results: positive Western blot or HIV viral load results, and, possibly, low CD4+ cells. For surveillance purposes, the individual's HIV diagnosis begins at the date of the first confirmatory laboratory result, or, in the absence of a lab test, the date a physician documents that the person is HIV+. An individual with only a positive enzyme immunoassay (EIA) test is not considered to be HIV-positive until he/she receives a more specific confirmatory test, such as a Western blot positive.

### B. Identify Source of Infection and Potentially Exposed Persons

Interview the case (index patient) to identify sexual and needle-sharing partners and possible social network contacts, notify potentially exposed persons, and encourage them to undergo HIV testing. For persons newly identified as being infected with HIV provide referrals and linkages to care services.

For information on nonoccupational exposure prophylaxis, see Section 6C.

CDC estimates that about 25% of persons with HIV are infected with HIV but not know

it, because many people who are infected do not have any symptoms for several years after getting infected. Of the approximately 1.0--1.2 million persons estimated to be living with HIV in the United States, an estimated one quarter are unaware of their infection and therefore are more likely to transmit HIV unknowingly. The majority of persons who are aware of their HIV infections substantially reduce sexual behaviors that might transmit HIV after they become aware they are infected. In a meta-analysis of findings from eight studies, the prevalence of unprotected anal or vaginal intercourse with uninfected partners was on average 68% lower for HIV-infected persons who were aware of their status than it was for HIV-infected persons who were unaware of their status.

When HIV infection is diagnosed, health-care providers should strongly encourage patients to disclose their HIV status to any spouses, to current or previous sex and/or needle sharing partners, and to all future partners, and to recommend that these partners be tested for HIV infection. Health departments should assist patients by notifying, counseling, and providing HIV testing for partners without disclosing the patient's identity. Providers should inform patients who receive a new diagnosis of HIV infection that they should expect to be contacted by health department staff for a voluntary interview to discuss notification of their partners. In order to prevent perinatal HIV infections, pregnant women should be a high priority for partner services. Partners are more likely to acquire HIV infection from persons with evidence of recent infection with HIV or high viral loads, and should also be consider a high priority for partner services. The Ryan White HIV/AIDS Treatment Modernization Act of 2006 requires that a good faith effort be made to notify the current spouse of an HIV infected person, or persons who have been legal spouses of that person during the 10 years prior to his or her diagnosis, that such spouse may have been exposed to HIV and should seek testing.

### C. Environmental Evaluation

Generally none.

## 6. CONTROLLING FURTHER SPREAD

### A. Infection Control Recommendations

1. Hospitalized patients should be cared for using standard precautions as described in CDC's *Guidelines for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings 2007*.
2. Cases should be educated about methods of preventing further transmission of the disease and the importance of disclosure of status to future sexual and needle-sharing partners.

### B. Case Management

#### Clinical Care for HIV-Infected Persons

Persons with a diagnosis of HIV infection need a thorough evaluation of their clinical status and immune function to determine their need for antiretroviral treatment or other therapy. HIV-infected persons should receive or be referred for clinical care promptly, consistent with USPHS guidelines for management of HIV-infected persons. HIV-exposed infants should receive appropriate antiretroviral prophylaxis to prevent perinatal HIV transmission as soon as possible after birth and begin trimethoprim-

sulfamethoxazole prophylaxis at age 4--6 weeks to prevent *Pneumocystis pneumonia*. They should receive subsequent clinical monitoring and diagnostic testing to determine their HIV infection status.

### C. Contact Management

All potentially exposed contacts should be offered and encouraged to have a test for HIV. Individuals with known recent exposure to HIV should be tested as soon as possible with standard and nucleic acid amplification testing (NAAT) and antibody testing should be repeated at 6 weeks, 3 months, and 6 months after the last exposure.

#### **Post-exposure Prophylaxis (PEP) for Healthcare Personnel**

2005 Updated U.S. Public Health Service *Guidelines for the Management of Occupational Exposures to HIV and Recommendations for Postexposure Prophylaxis* can be found at <http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5409a1.htm#tab1>. These guidelines apply to situations in which healthcare personnel have been exposed to a source person who either has or may have HIV infection. The recommendations are based on the risk for HIV infection after different types of exposure and on limited data regarding efficacy and toxicity of PEP. Because the majority of occupational HIV exposures do not result in transmission of HIV, potential toxicity must be considered when prescribing PEP. Because of the complexity of selecting HIV PEP regimens, when possible, the recommendations should be implemented in consultation with persons having expertise in antiretroviral therapy and HIV transmission. PEP should be initiated as soon as possible, preferably within hours rather than days of exposure, and is generally not recommended if more than 72 hours have passed since the exposure. If a question exists concerning which antiretroviral drugs to use, or whether to use a basic or expanded regimen, the basic regimen should be started immediately rather than delay PEP administration. Because 4 weeks of ZDV appeared protective in occupational and animal studies, PEP should be administered for 4 weeks, if tolerated.

#### **Nonoccupational Exposure Prophylaxis (nPEP)**

Because persons who are infected with HIV might not be aware they are infected, baseline HIV testing should be performed on all persons seeking evaluation for potential nonoccupational HIV exposure. If possible, this should be done with an FDA-approved rapid test kit (with results available within an hour). If rapid tests are not available, an initial treatment decision should be made based on the assumption that the potentially exposed patient is not infected, pending HIV test results. Because nPEP is less likely to be effective if initiated >72 hours after HIV exposure, it is generally not recommended more than 72 hours after exposure.

### D. Environmental Measures

Generally none.

## **7. MANAGING SPECIAL SITUATIONS**

### **A. Behaviors Endangering the Public Health**

Washington Administrative Code (WAC 246-100-203) states that “A state or local health officer within his or her jurisdiction may, in accordance with RCW 70.24.024, issue orders for medical examination, testing, and/or counseling, as well as orders to cease and

desist specific activities, when he or she knows or has reason to believe that a person has a sexually transmitted disease and is engaging in conduct endangering the public health.” Authorities may issue these orders only after 1) “All other efforts to protect public health have failed, including reasonable efforts to obtain the voluntary cooperation of the person to be affected by the order” and 2) health officers have sufficient evidence to reasonably believe that the person has HIV and 3) they have investigated and confirmed the existence of conduct endangering the public health. For HIV, conduct endangering the public health means unprotected anal, oral, vaginal intercourse; sharing of injection equipment; and/or donating blood, blood products, body tissues, or semen.

## 8. ROUTINE PREVENTION

### A. Vaccine Recommendations

No vaccine currently exists for HIV/AIDS

### B. Prevention Recommendations

Key individual HIV prevention messages include:

#### Abstinence

Abstain from sex (do not have oral, anal, or vaginal sex) until you are in a relationship with only one person, are having sex with only each other, and each of you knows the other’s HIV status.

#### If you have, or plan to have, more than one sex partner:

- Use a latex condom and lubricant every time you have sex.
- Get tested for HIV.
- If you are a man who continues to have sex with other men, get tested at least once a year.
- If you are a woman who is planning to get pregnant or who is pregnant, get tested as soon as possible, before you have your baby.
- Talk about HIV and other STDs with each partner before you have sex.
- Learn as much as you can about each partner’s past behavior (sex and drug use).
- Ask your partners if they have recently been tested for HIV; encourage those who have not been tested to do so.
- If you think you may have been exposed to another STD such as gonorrhea, syphilis, or *Chlamydia trachomatis* infection, get treatment. These diseases can increase your risk of getting HIV.
- Get vaccinated against hepatitis B virus.

#### Do not inject illicit drugs.

You can get HIV and other serious infectious diseases (such as hepatitis) through needles, syringes, and other works if they are contaminated with the blood of someone who has HIV. Mind-altering drugs (like alcohol, cocaine, meth and other amphetamines) also affect your ability to make decisions, which may result in riskier sex.

**If you do inject drugs, do the following:**

- Use only sterile needles, syringes, and other works (which can be obtained from pharmacies and needle exchange programs).
- Never share needles, syringes, or other works.
- Be careful not to expose yourself to another person's blood.
- Get tested for HIV at least once a year.
- Consider getting counseling and treatment for your drug use.
- Get vaccinated against hepatitis A and B viruses.
- Do not have sex when you are taking mind-altering drugs or drinking alcohol because being high can make you more likely to take risks.

Key prevention strategies include:

**HIV prevention counseling, testing, and referral services** – Individuals at risk for HIV should be offered counseling regarding methods to eliminate or reduce their risk and testing so that they can be aware of their status, securely connected into HIV primary care, and take steps to protect their own health and that of their partners. Recently available rapid tests provide the opportunity to provide tests results quickly. CDC also issued recommendations in September 2006 that all persons 13-64 regardless of risk, and in all health care settings, be screened at least once for HIV infection.

**Partner Services (or Partner Notification) with strong linkages to prevention and treatment/care services** – Sexual or needle-sharing partners of HIV-infected persons have been exposed to HIV and are at-risk of being infected. Partner services locate these individuals based on information provided by the patient and provide counseling and education about the exposure as well as services to identify those already infected, to prevent infection and, if infected, to provide linkages to care.

**Prevention for high-risk populations** – Prevention interventions for high-risk populations, including HIV-infected persons, are critical to reduce the spread of HIV and ensure that those at highest risk of acquiring or transmitting the virus are given the tools necessary to protect themselves and others from HIV infection. In Washington State, those at highest risk include men who have sex with men (MSM), especially Black and Hispanic MSM, injection drug users (IDU), MSM who are also IDU, and women who have heterosexual sex with partners at high risk for HIV disease. Prevention includes **Health education and risk reduction (HE/RR) activities** including individual, group, community and structural interventions as well as comprehensive risk counseling and outreach for high-risk HIV-negative and HIV-positive persons. They also include health communication and public information programs for at-risk populations and the general public.

**Perinatal transmission prevention** – Washington State rules require routine, universal HIV screening of all pregnant women in the state unless the woman refuses. Rapid HIV testing for women whose HIV status is unknown during labor and delivery is also promoted. When the HIV status of a pregnant woman is known, treatment of the woman

and her infant and other preventive measures can substantially reduce the risk of HIV transmission to the infant.

**School-based HIV Prevention** – Schools have a critical role to play in promoting the health and safety of young people and in helping them establish lifelong healthy behavior patterns. Washington State requires schools to teach AIDS prevention education beginning in the fifth grade, as well as medically accurate comprehensive sex education if such is provided by the school district.

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## **UPDATES**