REVISED RECOMMENDATIONS FOR HIV TESTING OF ADULTS, ADOLESCENTS AND PREGNANT WOMEN IN HEALTH CARE SETTINGS

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REVISED RECOMMENDATIONS FOR HIV TESTING OF ADULTS, ADOLESCENTS AND PREGNANT WOMEN IN HEALTH CARE SETTINGS

Summary

These recommendations replace CDC’s 1993 Recommendations for HIV Testing Services for Inpatients and Outpatients in Acute-Care Hospital Settings, and also revise and update CDC’s 2001 Revised Guidelines for HIV Counseling, Testing, and Referral, and Revised Recommendations for HIV Screening of Pregnant Women. These recommendations are intended for all public- and private-sector health care providers, including hospital emergency departments, urgent care clinics, inpatient services, public health clinics, community clinics, and primary care settings. Major revisions from the 2001 guidelines include:

In health care settings:

- HIV screening is recommended in all health care settings, after notifying the patient that testing will be done unless the patient declines (opt-out screening);
- Persons at high risk for HIV infection should be screened for HIV at least annually;
- Separate written consent for HIV testing is not required. General consent for medical care is sufficient to encompass consent for HIV testing;
- Prevention counseling need not be conducted in conjunction with HIV testing; and
- Prevention counseling is not recommended as part of routine HIV screening programs in health care settings.

For pregnant women:

- HIV screening should be included in the routine panel of prenatal screening tests for all pregnant women;
- HIV screening is recommended after notifying the patient that testing will be done unless the patient declines (opt-out screening); and
- Repeat screening in the third trimester is recommended in certain jurisdictions with high rates of HIV infection among pregnant women;

INTRODUCTION

HIV infection and acquired immune deficiency syndrome (AIDS) remain a leading cause of illness and death in the United States. Through December 2004, a total of 944,306
persons were reported with AIDS, and 529,113 (56%) of these persons had died.\textsuperscript{1} The annual number of reported AIDS cases and deaths declined steeply after 1994 but stabilized from 1999 to 2004; however, the annual number of cases among blacks, other racial and ethnic minorities, and among persons exposed through heterosexual contact has increased. The number of children reported with AIDS attributed to perinatal HIV transmission peaked at 954 in 1992 and declined 95\% to 48 in 2004,\textsuperscript{1} largely because of the effectiveness of prophylactic therapy in reducing maternal transmission of HIV.

By 2002, an estimated 38\% to 44\% of all adults in the United States had been tested for HIV, and 16-22 million persons aged 18-64 years are tested for HIV annually.\textsuperscript{2} However, of the more than one million persons living with HIV in the United States at the end of 2003, about one quarter (252,000 to 312,000 persons) are unaware of their infections and therefore do not benefit from clinical care to reduce morbidity and mortality.\textsuperscript{3} Undoubtedly, some unknowingly transmit HIV.\textsuperscript{4}

Treatment, especially the introduction of protease inhibitors and highly active antiretroviral therapy in 1995, has dramatically improved survival rates,\textsuperscript{5} but insufficient progress has been made in effecting earlier diagnosis. In 2004, 39\% of persons reported with AIDS first tested positive for HIV within 1 year of their AIDS diagnosis\textsuperscript{1}, compared with 51\% of those diagnosed from 1990 to 1992.\textsuperscript{6} Persons tested late are more likely to be black or Hispanic, and to have been exposed through heterosexual contact; 87\% had their first positive HIV test at an acute or referral medical care setting; and 65\% underwent HIV testing because of illness.\textsuperscript{7}

**PURPOSE**

These guidelines update previous recommendations for HIV testing in health-care settings\textsuperscript{8,9} and for screening of pregnant women.\textsuperscript{10} Their purpose is to increase routine HIV screening of patients in health care settings, including pregnant women; to foster the earlier detection of HIV infection; to identify and counsel persons with unrecognized HIV infection and link them to clinical and prevention services; and to reduce perinatal transmission of HIV further in the United States.

**BACKGROUND**

**Definitions**

*Diagnostic testing* is performing an HIV test based on the presence of clinical signs or symptoms.

*Screening* is performing an HIV test for all persons in a defined population.\textsuperscript{11}

*Targeted testing* is performing HIV screening on subgroups of persons at higher risk, generally defined on the basis of behavioral, clinical, or demographic characteristics.\textsuperscript{8}

*Opt-out screening* is performance of an HIV test after notifying the patient that the test will be done; consent is inferred unless the patient declines.
Informed consent is a process of communication between patient and provider through which an informed patient can participate in choosing whether to undergo HIV testing. It may include providing information about HIV and the implications of HIV test results.

HIV prevention counseling is an interactive process to assess risk, recognize specific behaviors that increase the risk for acquiring or transmitting HIV, and develop a plan to take specific steps that will reduce risks.

Screening for HIV infection

Previous US Public Health Service (USPHS) guidelines for HIV screening recommended routine testing for high-risk persons and for those in acute-care settings where HIV prevalence exceeded 1%. The guidelines proved difficult to implement: HIV testing is often not reimbursed; providers in busy health care settings often lack the time necessary to conduct risk assessments and perceived counseling requirements as a barrier; and explicit information on HIV prevalence is usually not available to guide selection of specific settings for screening.

In contrast, these recommendations advocate routine voluntary HIV screening as a normal part of medical practice similar to screening for other treatable conditions. Screening is a basic public health tool used to identify unrecognized health conditions so that treatment can be offered before symptoms develop and, for communicable diseases, so that interventions can be implemented to reduce the likelihood of continued transmission.

HIV infection meets all of the generally accepted criteria that justify routine screening: HIV infection is a serious health disorder that can be diagnosed before symptoms develop; HIV can be detected by reliable, inexpensive, non-invasive screening tests; infected patients have years of life to gain if treatment is initiated early, rather than after symptoms develop; and the costs of screening are reasonable in relation to the anticipated benefits. Among pregnant women, screening has proven substantially more effective than risk-based testing for detecting unsuspected maternal HIV infection and preventing perinatal transmission.

Rationale for New Recommendations

Although many persons with HIV infection visit health care settings, including hospitals, acute-care clinics, and sexually transmitted disease (STD) clinics in the years prior to their diagnosis, often they are not tested for HIV. The changing demographics of the HIV/AIDS epidemic in the United States since the 1980s, with rising proportions of infected persons among youth, women, racial and ethnic minorities, persons who reside outside metropolitan areas, and heterosexual men and women—many of whom unaware that they are at risk for HIV—has eroded the ability of testing based on risk behaviors to detect many HIV-infected persons.

Prevention strategies that incorporate universal HIV screening have been highly effective. Screening blood donors for HIV has virtually eliminated transfusion-associated HIV infection in the United States. The incidence of neonatal HIV/AIDS in
the United States has also declined substantially since the 1990s when prevention strategies began to include specific recommendations for routine HIV testing of pregnant women.\textsuperscript{10,27} In 1999, the Institute of Medicine (IOM) recommended a national policy of universal HIV testing of pregnant women, with patient notification, as a routine component of prenatal care.\textsuperscript{11} Perinatal transmission rates can be reduced to <2\% with universal screening of pregnant women in combination with prophylactic administration of antenatal antiretroviral drugs.\textsuperscript{28}

These successes contrast with a relative lack of progress in preventing sexual transmission of HIV, for which routine screening is often not employed even though most HIV-infected persons substantially reduce sexual behaviors that might transmit HIV after they learn they are infected.\textsuperscript{4} Declines in HIV incidence observed in the early 1990s have leveled and may even have reversed in some groups in recent years.\textsuperscript{29} Since 1998 the estimated number of new infections has remained stable at approximately 40,000 annually.\textsuperscript{29} In 2001, the IOM emphasized prevention services for HIV-infected persons, and recommended policies to diagnose HIV infections earlier, to increase the number of infected persons who were aware of their infections and offered clinical and prevention services.\textsuperscript{25} Most HIV-infected persons substantially reduce sexual behaviors that might transmit HIV after they become aware they are infected. In a meta-analysis of findings from 8 studies, the prevalence of unprotected anal or vaginal intercourse with uninfected partners was an average of 68\% lower in HIV-positive persons aware of their status compared with HIV-positive persons unaware of their status.\textsuperscript{4} The IOM\textsuperscript{25} and other experts\textsuperscript{13,30,31} have encouraged adoption of routine HIV testing in all health care settings to increase diagnosis of HIV infection, destigmatize the testing process, link clinical care with prevention, and assure immediate access to clinical care for persons with newly identified HIV infection.

Routine prenatal HIV testing with streamlined counseling and consent procedures has substantially increased the number of pregnant women tested.\textsuperscript{32} By contrast, despite repeated recommendations in support of routine risk-based testing in health care settings,\textsuperscript{8,9,33} the number of persons at risk for HIV infection who are screened in acute-care settings remains low.\textsuperscript{22,34,35} In a survey of 154 health care providers in 10 hospital emergency departments, providers reported caring for an average of 13 patients per week with suspected STDs, but only 10\% encouraged such patients to be tested for HIV infection in the emergency department, and 35\% referred patients to confidential HIV testing sites in the community,\textsuperscript{35} although such referrals have proven ineffective because of poor adherence by patients.\textsuperscript{36} Reasons cited for not offering HIV testing in the emergency department included lack of established mechanisms to assure follow-up (51\%), lack of the certification perceived as necessary to provide counseling (45\%), and belief that the testing process was too-time consuming (19\%).\textsuperscript{35}

With routine HIV screening in some hospitals and emergency departments, the percentage of patients with positive tests (2\% to 7\%) often exceeds that observed nationally in publicly funded HIV counseling and testing sites (1.5\%) and STD clinics (2.0\%) serving high-risk persons.\textsuperscript{34,37-40} Because patients were rarely seeking testing when screening was offered, many HIV infections were identified earlier than might otherwise have been the case.\textsuperscript{17} Targeted testing programs have also been
implemented in acute-care settings; nearly 2/3 of patients accept screening, but because risk assessment and prevention counseling are resource intensive, only a small minority of eligible patients can be tested. Targeted testing on the basis of behavioral risks also fails to identify many HIV-infected persons. Many persons, including many with HIV infection, do not perceive their HIV risks or do not disclose them. Further, performing testing routinely reduces the stigma associated with testing that requires ascertainment of behavioral risks. More patients accept recommended HIV testing when it is offered routinely to everyone, without a risk assessment.

The U.S. Preventive Services Task Force has concluded that there is good evidence that appropriately timed interventions, particularly highly active antiretroviral therapy, lead to improved health outcomes with earlier HIV diagnosis, including slower clinical progression and reduced mortality. HIV-positive persons reduce high-risk behavior substantially when they become aware of their infection. Because viral load is the chief predictor of HIV transmission, reduction in viral load through timely initiation of highly active antiretroviral therapy may reduce transmission, even if HIV-positive patients did not change their risk behavior.

Several recent cost-effectiveness models make a compelling case for voluntary HIV screening in health care settings. Three analyses demonstrated HIV screening to be cost-effective in health care settings with substantially lower prevalence than previously recognized. Even in populations with <0.1% prevalence of undiagnosed HIV infection, HIV screening is as cost-effective as other established routine screening programs for chronic diseases such as hypertension, colon cancer, and breast cancer. Because of the substantial survival advantage resulting from earlier diagnosis of HIV infection when therapy can be initiated before severe immunologic compromise occurs, screening reaches conventional benchmarks for cost-effectiveness even before including the important public health benefit from reduced transmission to sexual partners. Effective linkage of newly diagnosed patients to care is essential: screening without such linkage confers little or no benefit. Although moving patients into care incurs substantial costs, it also triggers sufficient survival benefits to warrant the additional outlays. Even if only a small fraction of patients who receive HIV-positive results are linked into care, the survival benefits per dollar spent represent an excellent comparative value.

The benefit of prevention counseling with HIV testing is less clear. A meta-analysis of 27 studies concluded that HIV counseling and testing was an effective intervention for HIV-positive participants, who increased their safer behaviors and decreased their risk behaviors, but little effect was noted for HIV-negative participants from HIV counseling and testing as it was implemented in the studies. However, in a randomized controlled trial with carefully controlled, theory-based prevention counseling in STD clinics, HIV-negative participants demonstrated significant reductions in risk behavior.

Diagnostic testing in health care settings continues to be the mechanism by which nearly half of new HIV infections are identified. Of persons reported with HIV/AIDS interviewed in 16 states during 2000-2003, 44% received their HIV test because of illness. Timely access to diagnostic HIV test results also improves health
outcomes. Compared with patients whose HIV tests were ordered after they were admitted to the hospital, expedited diagnosis by rapid HIV testing in the emergency department prior to admission led to shorter hospital stays, increased the number of patients aware of their HIV status prior to discharge, and improved entry into outpatient care. However, many state laws and laboratory policies limit providers’ ability to order diagnostic testing for HIV infection if the patient is unable to consent to or refuse HIV testing, even when the test results are likely to alter the patient’s diagnostic or therapeutic management.

An estimated 40%-90% of the 40,000 persons who acquire HIV infection each year will experience symptoms of acute retroviral syndrome. Many will seek medical care, but acute HIV infection is often not recognized by primary care clinicians because of the similarity of the symptoms to those of influenza, infectious mononucleosis or other illnesses. Acute HIV infection can be diagnosed by detectable HIV RNA in plasma from persons with a negative or indeterminate HIV antibody test. One study based on national ambulatory medical care surveys estimated that prevalence of acute HIV infection was 0.5%-0.66% among ambulatory patients who sought care for fever or rash. Although the long-term benefit of antiretroviral therapy during acute HIV infection has not been conclusively established, identifying primary HIV infection can reduce the spread of HIV that might otherwise occur during the acute phase of HIV disease.

Perinatal HIV transmission continues to occur mostly among women who lack prenatal care or who are not offered voluntary HIV counseling and testing during pregnancy. Many of the estimated 280 to 370 perinatal HIV infections each year can be attributed to the lack of timely HIV testing and treatment of pregnant women. In a survey of obstetricians conducted and reported in 2000 by the Office of Inspector General, the following barriers to HIV testing were identified: language barriers; late entry into prenatal care; a perception that patients are at low risk for HIV; lack of time for counseling and testing, particularly for rapid testing during labor and delivery; and state regulations requiring counseling and informed consent. A survey of 653 obstetrical providers in North Carolina suggests that some providers did not embrace universal testing of pregnant women: the strength with which providers recommended prenatal testing to their patients and the numbers of women tested depended largely on the providers’ perception of the patients’ behavioral risks. Data confirm that testing rates are higher when HIV tests are included in the standard panel of screening tests for all pregnant women. Women are also much more likely to get tested if they perceive their provider strongly recommends HIV testing. As universal antenatal screening has become more widely implemented, an increasing proportion of pregnant women found to have undiagnosed HIV infection at the time of delivery had seroconverted during pregnancy. A second HIV test during the third trimester in settings with an HIV incidence of 17 per 100,000 person-years or higher is cost-effective and may result in substantial reductions in HIV transmission.

The birth of every perinatally HIV-infected infant is a sentinel health event signaling either a missed prevention opportunity or, more rarely, a failure of prophylaxis. These continued infections underscore the need for improved strategies to ensure that all pregnant women undergo HIV testing and, if positive, receive treatment to reduce their transmission risk and to safeguard their health and the health of their infants.
RECOMMENDATIONS FOR ADULTS AND ADOLESCENTS

These recommendations encourage diagnostic HIV testing and opt-out HIV screening as part of routine clinical care in all health care settings, preserving the patient’s option to decline HIV testing and ensuring a provider-patient relationship conducive to optimal clinical and preventive care. These recommendations are intended for providers in all health care settings, including hospital emergency departments, urgent care clinics, and inpatient services, STD clinics or other venues offering clinical STD services, tuberculosis clinics, other public health clinics, community clinics, and primary care settings. The guidelines only address HIV testing in health care settings; they do not modify existing guidelines on HIV counseling, testing and referral for high risk persons who seek or receive HIV testing in nonclinical settings (for example, at community based organizations, in outreach settings, or in mobile vans).

Recommendations

- **Screening for HIV infection:**
  - In all health care settings, screening for HIV infection should be routinely performed for all patients age 13-64. Providers should initiate screening unless the prevalence of undiagnosed HIV infection in the patients they serve has been documented to be <0.1%. In the absence of existing data for the HIV prevalence, providers should initiate routine voluntary HIV screening until they establish the diagnostic yield is less than 1 per 1000 patients screened, at which point continued screening is not warranted.
  - All patients initiating treatment for tuberculosis should be routinely screened for HIV infection. 67
  - All patients seeking treatment for STDs, including all patients attending STD clinics, should be routinely screened for HIV during each visit for a new complaint, regardless of whether the patient is known or suspected to have specific behavioral risks for HIV infection.

- **Repeat screening:**
  - Providers should screen all persons likely to be at high risk for HIV at least annually. Examples of persons likely to be at high risk include injection drug users and their sex partners, persons who exchange sex for money or drugs, sex partners of HIV-infected persons, and men who have sex with men or heterosexual persons who themselves or whose sex partners have had a new or more than one sex partner in the last 3 months.
  - Providers should encourage HIV screening for patients and their prospective partners before they initiate a new sexual relationship.
  - Repeat screening of persons not likely to be at high risk should be based on clinical judgment.
• Consent and pre-test information: Screening should be voluntary and undertaken only with the patient’s knowledge and understanding that testing is planned. Patients should be informed verbally or in writing that HIV testing will be performed unless they decline (opt-out screening). Verbal or written information should include the meanings of positive and negative test results, and the patient should be offered an opportunity to ask questions and to decline testing.

• Diagnostic testing for HIV infection:
  o All patients with signs or symptoms consistent with HIV infection or an opportunistic disease characteristic of AIDS should be tested for HIV.
  o Clinicians should maintain a high level of suspicion for acute HIV infection in all patients presenting with a compatible clinical syndrome and who report recent high risk behavior. When acute retroviral syndrome is suspected, a plasma RNA test should be used in conjunction with an HIV antibody test to diagnose acute HIV infection. 56
  o Patients or persons responsible for their care should be verbally informed that testing is planned, advised of the indication for testing, and the implications of positive and negative test results, and offered an opportunity to ask questions and to decline testing. With such notification, the patient’s general consent for medical care may be considered sufficient for diagnostic HIV testing.

Similarities and Differences between Current and Previous Recommendations

Aspects of these recommendations that remain unchanged from previous recommendations include:

• HIV testing must be voluntary and free from coercion;
• HIV testing is recommended and should be routine for persons attending STD clinics and those seeking treatment for STDs in other settings;
• Access to clinical care, prevention counseling, and support services are essential for persons with positive HIV test results;

Aspects of these recommendations that differ from previous recommendations include:

• Routine screening with patient notification and the opportunity to decline (opt-out screening) is recommended in all health care settings. Specific signed consent for HIV testing is not required. General consent for medical care is sufficient to encompass consent for HIV testing;
• Persons at high risk should be screened for HIV at least annually.
• HIV test results should be provided in the same manner as results of other diagnostic or screening tests;
• Prevention counseling is strongly encouraged for persons at high risk for HIV in settings where risk behaviors are routinely ascertained, such as STD clinics, but does not have to be linked to HIV testing. Prevention counseling is not recommended as a part of HIV screening programs in health care settings; and

• HIV diagnostic testing or screening to detect HIV infection earlier is distinct from HIV counseling and testing conducted primarily as a prevention intervention for uninfected high-risk persons.

RECOMMENDATIONS FOR PREGNANT WOMEN

These guidelines reiterate the recommendation for universal HIV screening early in pregnancy and advise simplifying the HIV consent process to maximize opportunities for women to learn their HIV status during pregnancy. All women should receive HIV screening consistent with the recommendations for adults and adolescents. HIV screening should be a routine component of preconception care, and all women should know their HIV status before conception. In addition, screening early in pregnancy allows HIV-infected women and their infants to take advantage of appropriate and timely interventions (such as antiretroviral medications, consideration of cesarean delivery and avoidance of breastfeeding). These recommendations are intended for clinicians providing care to pregnant women and newborns, and for health policy makers with responsibility for these populations.

Recommendations

HIV Screening for Pregnant Women and Their Infants

• Universal opt-out screening:
  o All pregnant women in the United States should be screened for HIV infection.
  o Screening should occur after the patient is notified that HIV screening is recommended for all pregnant patients and that she will receive an HIV test as part of the routine panel of prenatal blood tests unless she declines (opt-out screening).
  o HIV testing should be voluntary and free of coercion.
  o No additional process or written documentation of informed consent should be required for HIV tests beyond what is required for other routine prenatal tests. If a patient declines an HIV test, this decision should be documented in the medical record.

• Reasons for declining testing:

  *To eliminate the risk for postnatal transmission, HIV-infected women in the United States should not breastfeed. Support services for use of appropriate breast milk substitutes should be provided when necessary. In international settings, UNAIDS and World Health Organization recommendations for HIV and breastfeeding should be followed.*
Providers should discuss and address reasons for declining an HIV test (such as lack of perceived risk or fear of the disease, concerns about partner violence, potential stigma, or discrimination).

Women who decline an HIV test because they have had a previous negative test should be informed of the importance of retesting during each pregnancy.

Logistical reasons for not testing (such as scheduling) should be resolved.

Some women who initially decline an HIV test might accept at a later date, especially if their concerns are discussed. Some women will continue to decline testing, and their decisions should be respected and documented in the medical record.

**Timing of HIV testing:**

Health-care providers should perform an HIV test as early as possible during every pregnancy to promote informed and timely therapeutic decisions. Women who decline the test early in prenatal care should be encouraged to be tested at a subsequent visit.

A second HIV test during the third trimester, preferably before 36 weeks of gestation is cost-effective even in areas of low HIV prevalence and should be considered for all pregnant women. A second HIV test during the third trimester is specifically recommended for women who meet one or more of the following criteria:

- Women who receive care in jurisdictions with at least 17 newly diagnosed HIV cases per 100,000 women per year among women aged 15-45 (HIV cases include persons with a diagnosis of HIV infection only as well as concurrent diagnoses of HIV infection and AIDS.)**

- Women who receive health care in facilities with at least 17 newly diagnosed HIV cases per 100,000 women screened for HIV during pregnancy per year.

- Women who are known to be at high risk for acquiring HIV. Examples of women likely to be at high risk include injection drug users and their sex partners, women who exchange sex for money

** A second HIV test in the third trimester is cost-effective at an incidence of 17 cases per 100,000 person-years among women of childbearing age. In 2004, in jurisdictions with HIV case rate data available, a rate of 17 new HIV diagnoses per year per 100,000 women aged 15-45 was associated with an AIDS case rate of at least 9 AIDS diagnoses per year per 100,000 women aged 15-45 (CDC, unpublished data 2005). Therefore, if data on HIV diagnosis rate are not available, repeat testing is recommended for women receiving care in jurisdictions with at least 9 newly diagnosed AIDS cases per 100,000 per year among women aged 15-45. As of 2004, jurisdictions meeting one or both of these criteria were: Alabama, Connecticut, Delaware, Florida, Georgia, Illinois, Louisiana, Maryland, Massachusetts, Mississippi, New Jersey, Nevada, New York, North Carolina, Pennsylvania, Puerto Rico, Rhode Island, South Carolina, Tennessee, Texas, Virginia, and Washington, DC. (CDC unpublished data, 2005)
or drugs, sex partners of HIV-infected persons, women who have had a new or more than one sex partner during this pregnancy, or women who have signs and symptoms of HIV infection. When acute retroviral syndrome is suspected, a plasma RNA test should be used in conjunction with an HIV antibody test to diagnose acute HIV infection.66

- Retesting may be omitted in the third trimester if a woman was tested for HIV within the last 6 weeks.

**Rapid testing in labor and delivery:**

- Any woman with undocumented HIV status at the time of delivery should be screened with a rapid HIV test unless she declines (opt-out screening).
- Reasons for declining a rapid test should be explored (see “Reasons for declining testing”).
- Appropriate antiretroviral prophylaxis69 should be recommended to women on the basis of a reactive test result without waiting for the result of a confirmatory test.

**Postpartum/Newborn testing:**

- When a woman’s HIV status is still unknown at the time of delivery, she should be tested immediately postpartum unless she declines (opt-out screening). If she declines an HIV test, she should be informed that the newborn will be tested for HIV unless she declines. She should be informed that identifying HIV antibodies in her infant indicates HIV infection of herself.
- For infants whose HIV exposure status is unknown and who are in foster care, the person legally authorized to provide consent should be informed that HIV testing is recommended for infants whose biological mothers have not been tested.
- The benefits of antiretroviral prophylaxis are best realized if initiated within the first 12 hours after birth.70

**Confirmatory testing:**

- Whenever possible, uncertainties regarding laboratory test results indicating HIV infection status should be resolved before final decisions are made regarding reproductive options, antiretroviral therapy, cesarean delivery, or other interventions.
- If confirmatory testing is not possible before delivery, antiretroviral prophylaxis should be recommended to any pregnant patient with a reactive HIV screening test result. A short course of antiretroviral prophylaxis as currently recommended by the USPHS69 has no known long-term safety effects for women and infants who are not infected.

**Similarities and Differences between Current and Previous Recommendations**
Aspects of these recommendations that remain unchanged from previous recommendations\textsuperscript{10} include:

- Universal HIV testing with notification should be performed for all pregnant women as early as possible during pregnancy;
- HIV screening should be repeated in the third trimester of pregnancy for select, high-risk women;
- Providers should explore and address reasons for refusal of HIV testing;
- Pregnant women should receive appropriate health education as a routine part of prenatal care, including information about HIV and its transmission; and
- Access to clinical care, prevention counseling, and support services are essential for women with positive HIV test results.

Aspects of these recommendations that differ from previous recommendations\textsuperscript{10} include:

- HIV screening should be included in the routine panel of prenatal screening tests for all pregnant women. Patients should be informed that HIV screening is recommended for all pregnant women and will occur unless she declines (opt-out screening);
- Repeat HIV testing in the third trimester is recommended for all women in jurisdictions with at least 17 newly diagnosed HIV cases per 100,000 women per year among women aged 15-45 and for women receiving health care in facilities with at least 17 newly diagnosed HIV cases per 100,000 pregnant women per year; and
- Rapid HIV testing should be performed for all women who present in labor without documentation of results from an HIV test during pregnancy. Patients should be informed that HIV testing is recommended for all pregnant women and will occur unless she declines (opt-out screening). Immediate initiation of antiretroviral prophylaxis should be offered on the basis of a reactive rapid test result, without awaiting the result of confirmatory testing.

**ADDITIONAL CONSIDERATIONS FOR HIV SCREENING:**

- **Test Results**
  - **Communicating test results:** The central goal of HIV screening in health care settings is to maximize the number of persons who are aware of their HIV infection and receive care and prevention services. Definitive mechanisms should be established to inform patients of their test results. Negative test results may be conveyed without direct personal contact between the patient and provider. Persons known to be at high risk for HIV infection should also be advised of the need for periodic retesting, and offered or referred for prevention counseling.
HIV-positive test results should be communicated through personal contact. This may be done by a clinician, nurse, or counselor. Active efforts are essential to ensure that infected patients receive their positive test results and linkage to clinical care, counseling, support and prevention services. If the necessary expertise is not available in the health care venue where screening is performed, arrangements should be made to obtain necessary services from another clinical provider, local health department or community-based organization.

- **Rapid HIV tests:** Because of the time that elapses before results of conventional HIV tests are available, providing patients with their test results can be resource intensive and a challenge for screening programs, especially in episodic care settings such as emergency departments, urgent care clinics, and STD clinics where continuing relationships with patients do not typically exist. The use of rapid HIV tests can significantly decrease the number of people who fail to learn their test results and reduce the resources expended to locate persons identified as HIV-infected.

- **Documenting HIV test results:** Positive or negative HIV test results should be documented in the patient’s confidential medical record and be readily available to all health care providers involved in the patient’s clinical management. In the case of pregnant women, the mother’s HIV test result should also be documented in the medical record of her infant. If the mother’s HIV test result is positive, maternal health care providers should, after informing the mother, notify pediatric care providers of the impending birth of an HIV-exposed infant and any anticipated complications. If HIV is first diagnosed in the infant, health-care providers should discuss the implications for the mother’s health and help her to obtain care.

- **Clinical care for HIV-infected individuals:** Persons diagnosed with 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 promptly receive or be referred for clinical care consistent with USPHS guidelines for management of HIV-infected persons. HIV-exposed infants need clinical monitoring and diagnostic testing to determine their HIV status.

- **Partner counseling and referral:** When HIV infection is diagnosed, providers should strongly encourage patients to disclose their HIV status to their current and past sex partners. Providers should recommend that these partners receive HIV testing. Health departments can assist patients by notifying, counseling, and providing HIV testing for partners without disclosing the patient’s identity.

- **Prevention services for HIV-negative persons:**
  - **Risk screening:** HIV screening should not be contingent on assessment of patients’ behavioral risks. However, risks for infection with HIV and other STDs should be assessed with all sexually active patients as part of
routine health education, anticipatory guidance for adolescents, and during prenatal care, when doing so does not pose a barrier to HIV testing. Even when risk information is not sought, notifying a patient that routine HIV testing will be performed may result in acknowledgement of behavioral risks, and offers an opportunity to introduce a discussion about HIV infection and how it can be prevented. Patients found to have risk behaviors (such as men who have sex with men or heterosexuals with numerous sex partners, recent diagnosis of STDs, exchange of sex for money or drugs, or substance abuse) and those who want assistance with changing behaviors should be provided with or referred to HIV risk-reduction services such as drug treatment, STD treatment, and prevention counseling.

- **Prevention counseling:** In health care settings, prevention counseling need not be explicitly linked to HIV testing. However, some patients may be more likely to think about HIV and consider their risks when undergoing an HIV test. This may present an ideal opportunity to provide or arrange for prevention counseling to assist with behavior changes that can reduce risks for acquiring HIV infection. Prevention counseling should be offered or available through referral in all health care facilities serving high risk patients and in those, such as STD clinics, where information on HIV risk behaviors is routinely elicited.

- **HIV/AIDS Surveillance:**
  - **Risk factor ascertainment for HIV-infected persons:** CDC recommends that providers ascertain all known HIV risk factors and document them in the confidential medical record of all HIV-infected individuals. Health care providers can obtain tools and materials to assist with ascertainment, and receive guidance on risk factors as defined for surveillance purposes from HIV/AIDS surveillance professionals in their state or local health jurisdiction. This risk factor information is important to inform public health decisions, especially for prevention and care, at clinical, local, state, and national levels.

  - **HIV/AIDS reporting:** All states require that providers report AIDS cases to the health department, and most jurisdictions also require reporting of persons diagnosed with HIV infection. Case report forms are available from the state or local health jurisdiction.

  - **Pediatric exposure reporting:** CDC and the Council for State and Territorial Epidemiologists recommend that all states and territories contact providers to conduct follow-up after perinatal HIV exposure to determine HIV-infection status of the infant. Information is collected on the pediatric HIV/AIDS case report form on dates of maternal HIV tests, receipt of prenatal care, and maternal and neonatal use of antiretroviral drugs during pregnancy.

- **Monitoring and evaluation:** The recommended thresholds for screening are based on estimates of the prevalence of undiagnosed HIV infection in U.S. health
care settings, for which no recent accurate data exist. The optimal frequency for retesting is not yet known. Cost-effectiveness parameters for HIV screening were based on existing program models, most of which include a substantial counseling component, and did not consistently consider secondary infections averted as a benefit of screening. To assess the need for revised thresholds for screening adults and adolescents or repeat screening of pregnant women and to confirm their continued effectiveness, screening programs should monitor the yield of new diagnoses of HIV infection, costs, and evaluate whether patients diagnosed with HIV infection are linked to and remain engaged in care. With minor modifications, laboratory information systems may provide a practical alternative for monitoring HIV prevalence among adults, adolescents, and pregnant women screened for HIV.

• Primary prevention and HIV testing in non-clinical settings: These recommendations are designed to increase HIV screening in health care settings. Often, however, the population most at risk for HIV includes many persons who are least likely to interact with the conventional health care system.\textsuperscript{74,75} The need to maintain primary prevention activities and provide HIV testing for high-risk persons in non-clinical venues remains undiminished. New approaches such as enlisting HIV-positive persons and HIV-negative persons at high risk to recruit persons from their social, sexual, and drug-use networks for counseling, testing, and referral have shown considerable efficacy for identifying persons who were previously unaware of their HIV infection.\textsuperscript{76}

• Regulatory and legal considerations: Some states, local jurisdictions, or agencies may have statutory or other regulatory impediments to opt-out screening, or may impose other specific requirements for counseling, written consent, confirmatory testing, or for communicating HIV test results that conflict with these recommendations. Jurisdictions should review their laws and regulations and initiate steps to resolve barriers that might conflict with these recommendations.

• Other guidelines: Issues that fall outside the scope of these recommendations are addressed by other guidelines from the U.S. Public Health Service. It is emphasized that concepts relevant to HIV management evolve rapidly. The U.S. Public Health Service Task Force has a mechanism to update recommendations on a regular basis. The most recent information is available on the AIDSinfo Web site (http://AIDSinfo.nih.gov) for:
  o Guidelines for the Use of Antiretroviral Agents in HIV-Infected Adults and Adolescents
  o Guidelines for the Use of Antiretroviral Agents in Pediatric HIV Infection
  o Recommendations for Use of Antiretroviral Drugs in Pregnant HIV-1-Infected Women for Maternal Health and Interventions to Reduce Perinatal HIV-1 Transmission

Other guidelines, current as of the date of this publication, include:

Guidelines for Management of Possible Sexual, Injecting-Drug-Use, or Other Nonoccupational Exposure to HIV, Including Considerations Related to Antiretroviral Therapy. MMWR 54, No. RR-2, January 21, 2005.

Incorporating HIV Prevention into the Medical Care of Persons Living with HIV: Recommendations of CDC, the Health Resources and Services Administration, the National Institutes of Health, and the HIV Medicine Association of the Infectious Diseases Society of America. MMWR 52, No. RR-12, July 18, 2003.
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9. CDC. Recommendations for HIV testing services for inpatients and outpatients in acute-care hospital settings. MMWR 1993;42 (No. RR-2).


37. CDC. HIV prevalence, unrecognized infection, and HIV testing among men who have sex with men – five U.S. cities, June 2004 – April 2005. MMWR 54;597-601.


