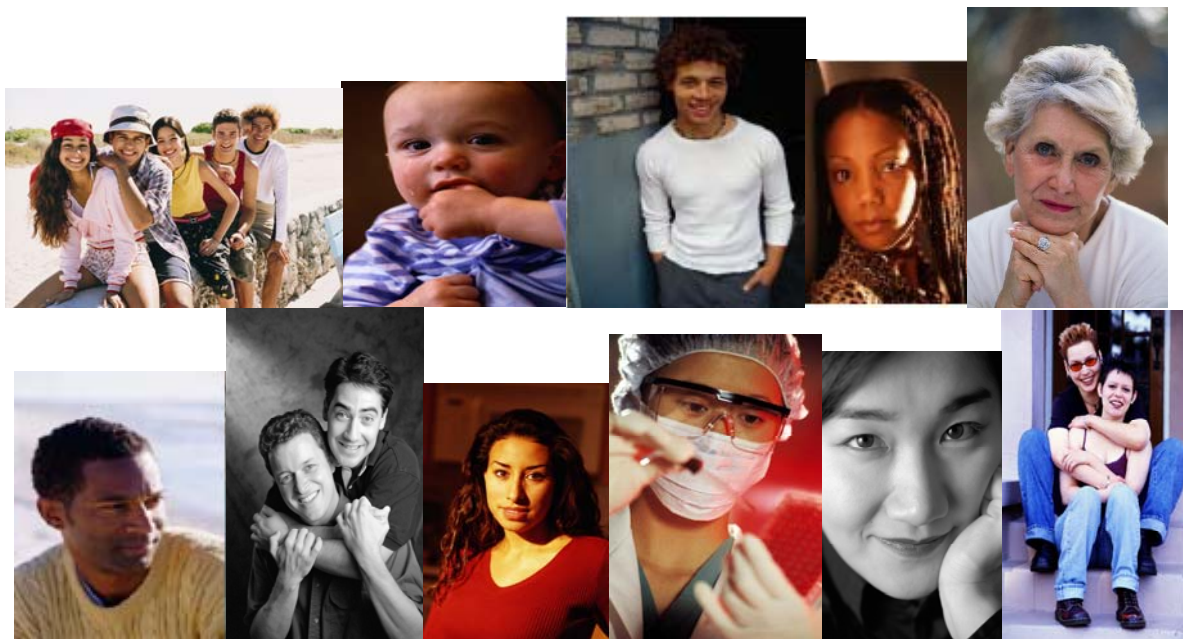




Comprehensive HIV Prevention Essential Components of a Comprehensive Strategy to Prevent Domestic HIV 2006



“A hopeful society acts boldly to fight disease like HIV/AIDS, which can be prevented, and treated, and defeated.... We will also lead a nationwide effort...and come closer to the day when there are no new infections in America.”

President George W. Bush
January 31, 2006

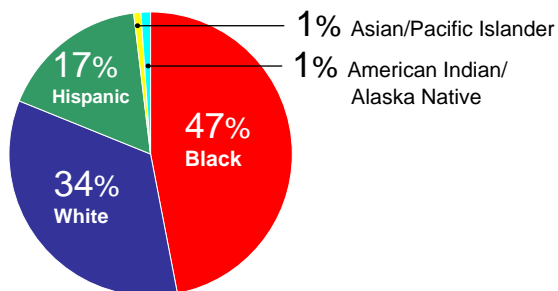
U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL AND PREVENTION
SAFER • HEALTHIER • PEOPLE

The Toll of the HIV Epidemic

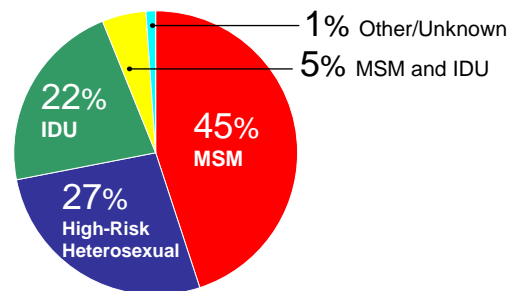
More than 20 years into the AIDS epidemic, HIV continues to exact a tremendous toll in the United States. To date, more than 500,000 people have died of AIDS in the U.S. and the latest estimates indicate that, as of the end of 2003, there are approximately 1,039,000 to 1,185,000 people living with HIV infection. Despite the growing pool of persons capable of transmitting the virus, the number of persons becoming newly infected each year has remained constant over the last 10 years, at approximately 40,000 new infections per year. Of particular concern is that approximately 25 percent of those infected with HIV are unaware of their infection. Infections from this group are believed to account for more than half of new HIV infections each year.

Since its beginning, the HIV/AIDS epidemic has changed in a number of important ways. Initially, it primarily affected whites, but today the majority of those affected are people of color. Out of the approximate 1 million people currently living with HIV infection, 47 percent are Black, 34 percent are White, 17 percent are Hispanic, 1 percent are Asian/Pacific Islanders and 1 percent are American Indians/Alaska Natives. The epidemic continues to have a great impact on men who have sex with men (MSM). By risk group, MSM represent the largest population living with HIV (45%), followed by those infected through heterosexual contact (27%), individuals infected through injection drug use (IDU) (22%), and finally those who are both MSM and injection drug users (5%).¹

People Living with HIV in the U.S. — Race/Ethnicity



People Living with HIV in the U.S. — Transmission Category



Prevention Pays

HIV/AIDS prevention efforts have been effective in helping to slow the rate of the epidemic. The following are some of the successes due to these prevention efforts:

- The number of new HIV infections in the United States has declined from over 150,000 in the late 1980s to an estimated 40,000 per year by the early 1990s.
- Dramatic decreases in mother-to-child HIV transmission (perinatal transmission). The number of perinatal HIV infections has dropped from 1,000 to 2,000 per year in the early 1990s to 280-370 per year in 2000.
- The number of HIV/AIDS cases attributed to injection drug use has declined by approximately 9 percent per year from 2001 to 2004.²
- Advances in drug therapy have delayed onset of AIDS and more people are living longer and healthier after a diagnosis of HIV.
- Better understanding of which communities are at high-risk for HIV infection has allowed more targeted prevention programs and interventions.
- Increased community involvement in HIV prevention efforts has provided new partners in the fight against the epidemic.

- Behavioral interventions shown to be effective through randomized controlled trials have been implemented and disseminated for use with at-risk populations.

In addition to being effective, HIV prevention pays. The Federal Government alone, through the Ryan White CARE Act, Medicaid, and Medicare and other care programs, spent \$11.7 billion on HIV-related medical care in 2005. CDC estimates that the average cost of lifetime treatment for HIV infection is \$210,000. If 40,000 people are newly infected with HIV in one year, the additional cost to society for their lifetime HIV-related medical care may be as high as \$8.4 billion. At CDC's current budget level, only 3,430 infections must be prevented annually to actually result in cost savings. Several published studies have concluded that HIV prevention efforts can be cost-saving to society.

CDC's Leadership in the Fight Against HIV

CDC's Overarching National Goal for HIV Prevention

Reduce the number of new HIV infections in the U.S. from an estimated 40,000 to 20,000 per year, focusing particularly on eliminating racial and ethnic disparities in new HIV infections.

- 1. Decrease the number of persons at high risk for acquiring or transmitting HIV infection.**
- 2. Increase the proportion of HIV-infected people who know they are infected.**
- 3. Increase the proportion of HIV-infected people who receive prevention services and are linked to appropriate care and treatment.**
- 4. Strengthen the capacity nationwide to monitor the epidemic, develop and implement effective HIV prevention interventions and evaluate prevention programs.**

CDC provides leadership in preventing and controlling HIV infection. CDC works in collaboration with partners at community, state, national, and international levels applying well-integrated, multi-disciplinary programs of research, surveillance, risk factor and disease intervention, and evaluation. CDC achieves its mission by:

- Developing, implementing, and evaluating effective science-based prevention programs.
- Developing high quality research and translating relevant findings into prevention policy and programs.
- Creating and strengthening strategic relationships and networks with individuals and organizations.
- Strengthening and promoting surveillance activities and findings for program planning, public health response, and evaluation.

In Fiscal Year 2006, CDC received \$651.1 million for domestic HIV/AIDS prevention activities conducted by the National Center for HIV, STD, and TB Prevention. It is estimated that 14% of this total will be spent on surveillance activities; 6% on prevention research; 9% on capacity building/technical assistance efforts; 66% on intervention activities including testing programs and other prevention activities carried out by state, local and community-based organizations (CBOs); and 5% on program evaluation and policy development. An additional \$68.6 million will be spent CDC-wide on efforts such as HIV school health education, safe motherhood, hemophilia programs, and preventing nosocomial transmission. The vast majority of CDC's domestic HIV/AIDS funding is spent extramurally through cooperative agreements to private-sector, state and local health departments, education agencies, non-governmental organizations, and CBOs.

Comprehensive HIV Prevention

Prevention is the best strategy for reducing the human and economic toll from HIV/AIDS. To have the largest impact on the HIV epidemic, CDC utilizes a comprehensive approach to HIV prevention. Comprehensive HIV prevention is a broad term that incorporates surveillance, research, prevention interventions and evaluation. CDC's surveillance and research activities help to better define and understand the HIV/AIDS epidemic across the nation. CDC's prevention interventions and capacity building efforts are based on behavioral, laboratory and medical science and work to contain the spread of HIV and AIDS. Program evaluation and policy research and development assess intervention effectiveness and refine prevention approaches.

Components of Comprehensive HIV Prevention

Tracking the Epidemic

CDC's HIV/AIDS surveillance system is the nation's source for key information used to track the epidemic. CDC funds and assists state and local health departments, which collect information about cases of HIV and AIDS and related risk behaviors. Health departments in turn report their data to CDC so that information from around the country can be analyzed to determine who is being affected and why.

CDC carefully monitors the status of HIV and AIDS by race, risk group, and gender, enabling communities to base public health strategies on the best possible understanding of the epidemic. This effort includes HIV and AIDS case reporting, and systems to estimate HIV incidence and monitor trends in risk behavior. In addition, CDC has recently initiated behavioral surveillance for the three groups at highest risk for acquiring HIV infection: MSM, IDU, and high-risk heterosexuals. The ultimate surveillance goal is a nationwide system that combines information on AIDS cases, new HIV infections, and behaviors and characteristics of people at high risk so that CDC can monitor the epidemic and target HIV prevention funding to where it is needed the most.

CDC's surveillance data are used to:

- ***Monitor HIV-related morbidity and mortality in the population;***
- ***Plan and evaluate prevention programs; and***
- ***Guide the allocation of HIV program funds for prevention, care and treatment services.***

Identifying Causes & Solutions

In order to design more effective prevention programs for high-risk men who have sex with men, CDC has funded the Brothers y Hermanos study, which seeks to understand the cultural, social, psychological, and behavioral factors that are associated with risk for HIV infection in African-American and Latino men who have sex with men.

CDC conducts extensive biomedical and behavioral research to better understand the complex factors that lead to HIV infection and to identify effective approaches to prevent infection. Priorities for HIV research include research related to diagnostic tests, microbicides, vaccines, and behavioral research focused on eliminating health disparities. Prior to the approval of the OraQuick HIV rapid test, CDC was involved in studies of the test's accuracy as well as how the test could be used in certain settings. CDC is also actively involved in research to identify and test potential HIV microbicides. Most recently, CDC has initiated trials investigating the safety

and efficacy of the prophylactic use of tenofovir, an anti-retroviral medication for use in preventing HIV infection.

CDC's HIV vaccine research focuses on conducting and evaluating HIV vaccine trials in the United States and internationally. CDC also supports behavioral research projects to investigate health disparities associated with HIV prevention as well as to improve prevention efforts for high-risk populations.

Implementing Prevention Programs

The primary component in CDC's fight against HIV/AIDS is the support and funding of HIV prevention programs. Programs consist of interventions intended to eliminate or reduce risky behavior and improve the health of the people served. CDC provides funding for state and local health departments as well as for CBOs to conduct HIV prevention programs with at-risk populations and in a variety of settings across the nation. All prevention programs funded by CDC are designed to meet the cultural needs, expectations, and values of the populations they serve. In addition, CDC helps to ensure that available prevention funding goes to those who need it the most by involving affected communities in the HIV prevention community planning process. Through the community planning process, communities prioritize populations to be served.

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 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 issues guidelines that are used to develop counseling, testing and referral services in traditional and non-traditional settings and provides financial support for counseling and testing services provided at publicly funded clinics. In addition, CDC is developing guidelines for screening for HIV in health care settings.
- **Partner notification, including partner counseling and referral services (PCRS) 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 notification services locate these individuals based on information provided by the patient and provide counseling and education about the exposure as well as services to prevent infection or, if infected, linkages to care. CDC issues guidance on conducting PCRS and provides funding to state, local, and CBOs to ensure that PCRS is a high-priority and that services are offered to all HIV-infected persons.
- **Prevention for high-risk populations** – Prevention efforts for high-risk populations, including HIV-infected persons, are critical to reducing the spread of HIV. Efforts ensure that those at highest risk of acquiring or transmitting the virus are given the tools necessary to protect themselves and others. CDC supports prevention services for persons infected with HIV/AIDS and other high-risk populations. In addition, CDC encourages all grantees to work with the primary health care clinics in their communities to integrate HIV prevention services into care and treatment services.
- **Health education and risk reduction (HE/RR) activities** – Health education is a powerful tool in the prevention of HIV. HE/RR services include individual, group, community and structural interventions as well as prevention case management 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. CDC supports focused health communications campaigns directly and provides funding for state and local health departments and CBOs to offer HE/RR services focused on those most at-risk of transmitting or acquiring HIV infection.

- **Perinatal transmission prevention** – 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. CDC provides funding for state and local health departments to work with all health-care providers to promote routine, universal HIV screening of all of their pregnant patients. In addition, CDC grantees work with organizations involved in prenatal and postnatal care for HIV-infected women to ensure that appropriate HIV prevention counseling, testing, and therapies are provided to reduce the risk of perinatal transmission.
- **School-based HIV Prevention** – Schools have a critical role to play in promoting the health and safety of young people and helping them establish lifelong healthy behavior patterns. CDC's school-based HIV prevention program support 47 state education agencies, 18 large city education agencies, and 42 national non-governmental organizations to help set up school health programs that provide young people with skills and information to avoid or reduce behaviors that put them at risk for HIV infection. These programs are tailored to community norms.

Building Capacity of State & Local Programs

CDC works to ensure that organizations implementing HIV prevention programs on the state and local

Dissemination of effective interventions is a critical part of building community capacity. The Diffusion of Effective Behavioral Interventions project is a national-level strategy to provide high quality training and on-going technical assistance regarding prevention interventions to state and community HIV/STD program staff. As of July 2005, a total of 488 health department employees and 2613 CBO employees had attended DEBI trainings. Over 200 trainings on 11 different interventions had been conducted.

level are equipped with the information and training necessary to implement effective programs and build long term capacity for prevention in their communities. To build the capacity of its state and CBO partners to prevent HIV, CDC: 1) supports national meetings and satellite broadcasts as a forum for sharing new ideas and best practices; 2) funds non-governmental organizations to provide training and materials; 3) provides direct technical assistance to CBOs and health departments; and 4) synthesizes and disseminates information on science-based interventions.

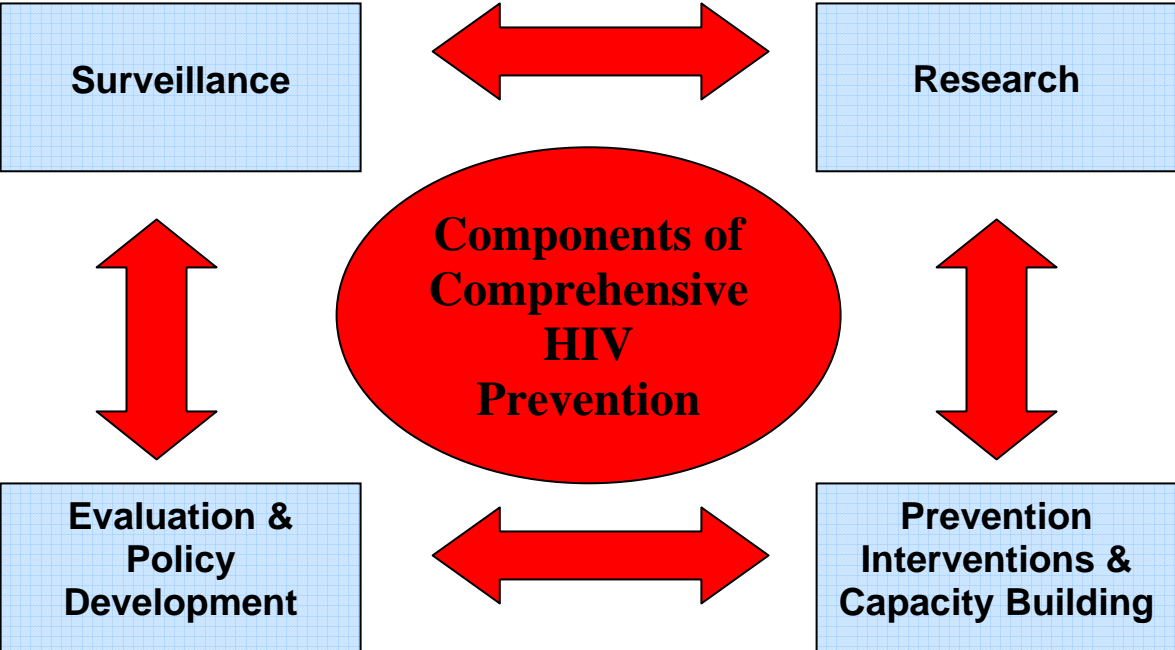
Program Evaluation and Policy Development

Evaluation is an essential component of comprehensive HIV prevention. CDC works to identify and fund science-based interventions with proven effectiveness. All programs funded by CDC are required to develop evaluation plans and activities, establish performance indicators, and target activities to those persons living with HIV/AIDS and those at highest risk for HIV acquisition and transmission. One of the most significant actions to strengthen the assessment of program impact and effectiveness in reducing HIV infections is CDC's Program Evaluation and Monitoring System (PEMS). PEMS will improve CDC's ability to monitor, evaluate, and coordinate HIV prevention programs and ensure that timely and verifiable data are available for use by both grantees and CDC.

In addition to evaluation activities, CDC conducts policy research to identify critical policy-related questions, particularly legislative statutes at the local, state, or national level that hinder or strengthen HIV prevention programs. Using best practices and available research, CDC also helps to set prevention policy at the national level. CDC is particularly involved in developing and recommending policies that would facilitate comprehensive HIV prevention programs. For example, based on available information about effective screening strategies to prevent perinatal HIV transmission, CDC has advised that physicians use the “opt-out” testing approach for pregnant women. Under this approach, pregnant women are notified that an HIV test will be routinely included in the standard battery of prenatal tests for all pregnant women, but they can decline HIV testing. Recently, CDC presented an assessment of policies and regulations related to the opt-out approach and other recent HIV prevention recommendations in a national forum. This information can be used by state and local governments as they examine their own prevention policies.

Combining the Parts to Get to the Whole

Each of these individual components, when combined, represents a comprehensive HIV prevention program. Surveillance efforts track and monitor the epidemic, guiding research questions and policy development and allowing prevention efforts to be targeted to areas where they are needed the most. Ongoing research contributes to a better understanding of the complex factors that lead to HIV infection and helps to identify effective approaches to preventing infection. Intervention activities are designed to change risky behaviors and improve the health of the people served, and therefore work to contain the spread of the disease. Capacity building efforts ensure that organizations implementing HIV prevention programs are equipped with the necessary training, information, and skills to implement effective programs. Evaluation of prevention programs allows CDC to monitor progress and refine its efforts by identifying the most effective programs. Finally, policy research and development identifies critical policy questions and underpins national policies that support and facilitate HIV prevention efforts.



Future Directions

In partnership with national, state, local, and community organizations, CDC will continue to focus prevention efforts on populations at highest risk for HIV infection, especially communities of color. CDC's key strategies for future efforts, as outlined in "Advancing HIV Prevention: New Strategies for a Changing Epidemic," include: 1) Make HIV testing as a routine part of medical care, 2) Implement new models for diagnosing HIV infections outside medical settings, 3) Prevent new infections by working with persons diagnosed with HIV and their partners, and 4) Further decrease perinatal HIV transmission.³

**For more information, please contact the
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¹ Glynn, M., et al. Estimated HIV prevalence in the United States at the end of 2003. 2005 National HIV Prevention Conference; June 12 – 15, 2005. Atlanta, GA Abstract 595.

² CDC. (2005) Trends in HIV Diagnoses – 33 States, 2001 – 2004. *Morbidity and Mortality Weekly Reports*. 54(45):1149-1153.

³ CDC. (2003) Advancing HIV Prevention: New Strategies for a Changing Epidemic. *Morbidity and Mortality Weekly Reports* 52(15):329-332.