THE FUTURE OF HIV PREVENTION

In the United States, it is estimated that prevention efforts have already averted more than 350,000 HIV infections.[1] Since the height of the epidemic in the mid-1980s, the annual number of new HIV infections in the United States has been reduced by more than two-thirds, and recent scientific breakthroughs have equipped us with an unprecedented number of effective tools to prevent infection.[2-6]

CDC believes that maximizing the impact of these tools within the framework of a new approach called High-Impact Prevention offers more hope than ever before for reversing the U.S. HIV epidemic. Through High-Impact Prevention, CDC is working to advance the goals of the first National HIV/AIDS Strategy (NHAS) and to help ensure that HIV prevention efforts have the greatest possible impact.

National HIV/AIDS Strategy

In July 2010, the White House released NHAS, a comprehensive roadmap for reducing the impact of HIV.[7] The Strategy sets clear priorities and targets for HIV prevention and care in the United States, and calls on government agencies and their public and private partners to align efforts toward a common purpose.

NHAS lays out clear priorities for increasing the impact of HIV prevention efforts:

- Intensify HIV prevention in the communities where HIV is most heavily concentrated
- Expand targeted use of effective combinations of evidence-based HIV prevention approaches
- Educate all Americans about the threat of HIV and how to prevent it

NHAS Vision

The United States will become a place where new HIV infections are rare and when they do occur, every person, regardless of age, gender, race/ethnicity, sexual orientation, gender identity or socio-economic circumstance, will have unfettered access to high quality, life-extending care, free from stigma and discrimination.

High-Impact Prevention

To advance NHAS, CDC and its partners are currently pursuing a High-Impact Prevention approach. This approach seeks to consider not only program effectiveness but also the overall impact on the course of the epidemic. While combining effective prevention tools is essential, it is not enough. To maximize reductions in new HIV infections, prevention strategies need to be combined in the smartest and most efficient ways possible for the populations and areas most affected by the epidemic.

CDC is working at the national level and with state and local partners throughout the United States to identify and implement the most cost-effective and scalable interventions in the geographic areas hardest hit by HIV and among the most severely affected populations within those areas. High-Impact Prevention will help achieve a higher level of impact with every federal prevention dollar spent.

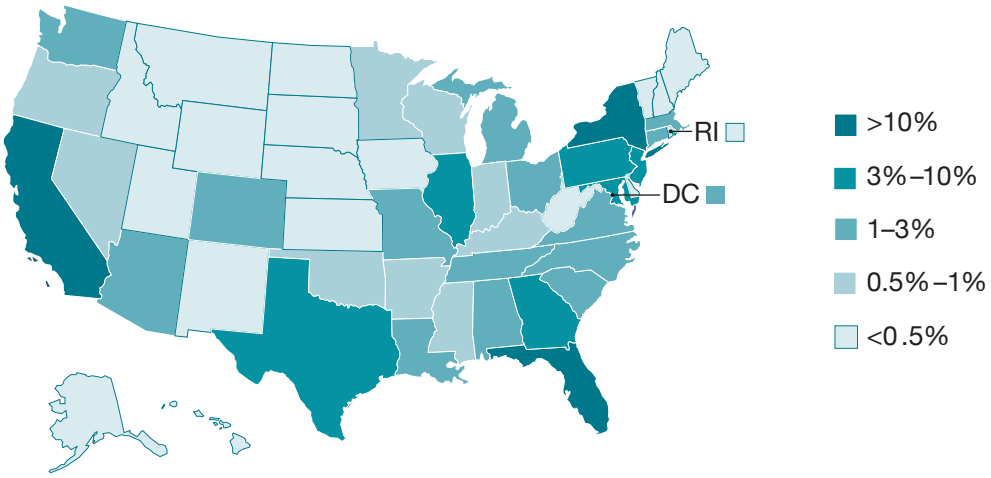
CDC has already taken a number of key steps to advance this approach, including implementing an improved approach to funding distribution, expanding HIV testing, and initiating demonstration projects in many of the hardest-hit communities in the United States.

Better Geographic Targeting of Resources. In June 2011, CDC announced a new five-year HIV prevention funding opportunity that better aligns funds to the current geographic burden of the U.S. HIV epidemic. Funding for health departments in states, territories, and selected cities is now allocated to each area based on the number of people living with an HIV diagnosis in the area. Additionally, the majority of funding is directed to the prevention activities that are most likely to have a significant and lasting impact on the HIV epidemic, including HIV testing and comprehensive prevention and care services for HIV-infected individuals and their partners. The first-year awards were announced in January 2012.

Aligning Prevention Funds to the Epidemic

High-Impact Prevention will prioritize funding for geographic areas with the greatest burden of HIV.

Targeted Distribution of CDC Core HIV Prevention Funding—FY2016, Based on Proportion of All Americans Diagnosed with HIV Who Live in Each State



* Targets are based on 2008 data and will be adjusted over time. New funding allocation methodology will be fully implemented by FY2016; this breakdown assumes level overall funding.

Expanding HIV Testing. Testing is critical to the nation's prevention strategy. It is the only way to identify the nearly one in six Americans living with HIV who do not know they are infected, and it is the first step in connecting them to the prevention, care, and treatment services they need. Expanding HIV testing, especially among the populations with the highest rates of HIV infection, is an integral and cost-effective component of U.S. prevention efforts.

CDC's Expanded Testing Initiative

2.8 million
HIV tests in 3 years

18,432
people learned they were HIV-positive

CDC's three-year Expanded Testing Initiative (ETI) supported state and local health department efforts to provide routine HIV testing in health care and select community settings, with a primary focus on reaching African Americans. Between October 2007 and September 2010, ETI provided nearly 2.8 million HIV tests in 25 of the U.S. areas most affected by HIV, and diagnosed 18,432 individuals who were previously unaware that they were HIV-positive.[8] Estimates indicate that ETI has saved almost $2 in medical costs for every dollar invested.[9] ETI has now been expanded to include testing efforts targeting gay and bisexual men, Latinos, and injecting drug users, and the provision of HIV testing in non-clinical settings, such as pharmacies.

Identifying the Combination of Approaches with the Greatest Impact. CDC is supporting Enhanced Comprehensive HIV Prevention Planning (ECHPP) demonstration projects in 12 heavily affected cities that represent 44 percent of the total U.S. AIDS cases. ECHPP funding allows local health departments to identify and begin implementing the mix of HIV prevention approaches likely to have the greatest impact in their communities, based on the profile of their local epidemic and an assessment of the gaps in current HIV prevention programs. While the exact combination of approaches varies by area, all ECHPP projects emphasize intensifying HIV prevention and testing for individuals at greatest risk; prioritizing prevention and linkage to and retention in care for people living with HIV; and directing these efforts to the populations with the highest burden of HIV. (See box, next page, for examples of ECHPP activities.)

Comprehensive Prevention in Action: ECHPP Successes

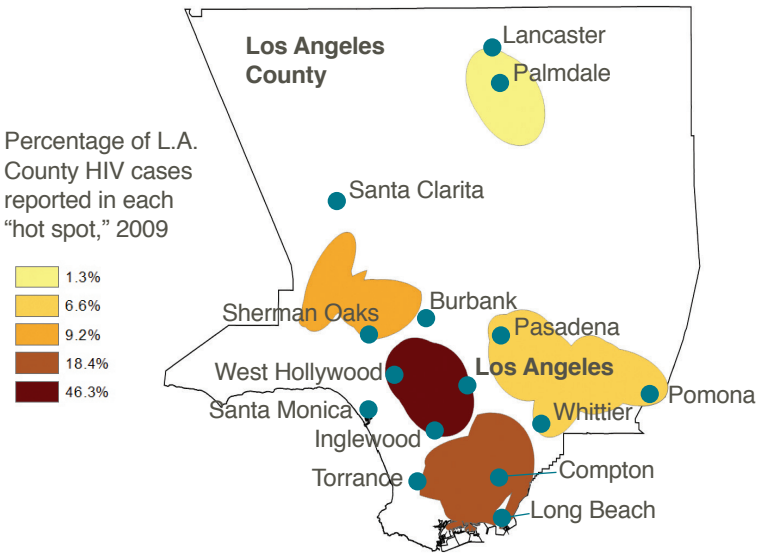
- In **Houston**, ECHPP funding allowed health officials to identify five neighborhoods in the city with particularly high rates of HIV and STDs – areas where prevention programs would have the greatest impact. In response, the Houston Department of Health and Human Services launched the Strategic AIDS/HIV Focused Emergency Response (SAFER), which delivers to these high-burden areas intensified HIV testing, services for the partners of those infected, educational workshops, condom education and distribution, and social marketing efforts.

Participants in a rapid HIV testing training session

- In **New York City**, ECHPP supported modeling work conducted by the Department of Health and Mental Hygiene (DOH) to assess the impact of a range of prevention approaches, identifying prevention efforts with HIV-positive people as the most cost-effective strategy for reducing new infections in the city. As a result, the DOH is focusing efforts on a number of interventions, including implementation of the Antiretroviral Treatment and Access to Services (ARTAS) model. ARTAS is a CDC-developed approach in which case managers meet with patients five times within the first 90 days following their HIV diagnosis to identify and overcome barriers to receiving ongoing medical care. Research shows that nearly 8 in 10 patients who participated in ARTAS visited an HIV clinic for medical care within six months.* In 2011, as part of ECHPP Phase 2, the DOH began requiring that all agencies implementing city-funded HIV testing undergo ARTAS training.

- In **Los Angeles**, ECHPP enabled analysis of integrated HIV and STD surveillance data to identify five "hot spots" where approximately 80 percent of all HIV, syphilis, and gonorrhea cases in Los Angeles County are reported, and where prevention programs will be prioritized. The integrated data analysis also made possible more sophisticated modeling that identified the underlying factors that increase HIV risk, including high STD rates, homelessness, poverty, substance addiction, and mental illness. Armed with this deeper understanding of the forces that fuel the epidemic, the county is now working to deliver more integrated health services to those living with and at risk for HIV.

More Than 80 Percent of Los Angeles County HIV Diagnoses Occur in Five "Hot Spots"



*Craw JA, Gardner LI, Marks G, et al. Brief strengths-based case management promotes entry into HIV medical care - Results of the antiretroviral treatment access study-II. J Acquir Immune Defic Syndr 2008;47(5):597-606.

The Potential Impact of Prevention

CDC believes that High-Impact Prevention can have a major impact on the U.S. HIV epidemic and will help advance the ambitious goals of the National HIV/AIDS Strategy. The heavy burden of HIV in the United States in neither inevitable nor acceptable. While significant challenges remain, it is possible to end the U.S. epidemic. Such an achievement will require a collective resolve across all sectors of society to intensify our response and alter the current course of HIV. Modeling studies suggest that a substantial impact is possible, but that the degree of impact, both in terms of lives and of dollars saved, will depend on how quickly we act and expand access to the most effective prevention approaches.[10,11]

By maximizing the opportunities now before us, we can envision a reality in which HIV and AIDS are no longer part of our daily lives, but only part of our history.

CDC's HIV Prevention Activities: Four Focus Areas

Supporting prevention programs – CDC provides approximately $415 million to fund prevention programs in health departments and community-based organizations working to prevent new HIV infections across the United States, as well as ongoing technical assistance and guidance to implement the most effective prevention programs. CDC also provides $11.4 million to fund HIV and STD education coordinators in state, local, and territorial agencies and tribal governments to help schools implement effective policies and practices.

Tracking the epidemic – CDC coordinates comprehensive national surveillance systems to track the HIV epidemic, risk behaviors, and usage of health care and prevention services. This information helps ensure that funding is directed to the populations and communities most in need.

Supporting prevention research – CDC supports biomedical, behavioral, and operational research to develop new HIV prevention strategies and improve existing programs.

Raising awareness – Through efforts like the Act Against AIDS communications campaign and other key partnership activities, CDC works to ensure that all Americans know the facts about HIV, are aware of their status, and understand how to protect themselves.

Testing Makes Us Stronger is an Act Against AIDS campaign designed to increase HIV testing among one of the populations most affected by HIV – African American gay and bisexual men.

Key References

[1] Farnham PG, Holtgrave DR, Sansom SL et al. Medical costs averted by HIV prevention efforts in the United States, 1991-2006. *J Aquir Immune Defic Syndr* 2010;54:565-67.

[2] CDC. Estimated HIV incidence among adults and adolescents in the United States, 2007–2010. *HIV Surveillance Supplemental Report 2012*;17(No. 4). http://www.cdc.gov/hiv/topics/surveillance/resources/reports/#supplemental. Published December 2012.

[3] Grant RM, Lama JR, Anderson PL, et al. Preexposure chemoprophylaxis for HIV prevention in men who have sex with men. iPrEx Study Group. *N Engl J Med* 2010;363(27):2587-99.

[4] Cohen MS, Chen YQ, McCauley M, et al. Prevention of HIV-1 infection with early antiretroviral therapy. The HPTN 052 Study Team. *N Engl J Med* 2011. DOI:10.1056/nejmoa1105243.

[5] Thigpen MC, Kebaabetswe PM, Smith DK, et al. Daily oral antiretroviral use for the prevention of HIV infection in heterosexually active young adults in Botswana: results from the TDF2 study. 6th IAS Conference on HIV Pathogenesis, Treatment and Prevention. July 17-20, 2011. Rome. Abstract WELBC01.

[6] Baeten J. Antiretroviral pre-exposure prophylaxis for HIV-1 prevention among heterosexual African men and women: the Partners PrEP study. 6th IAS Conference on HIV Pathogenesis, Treatment and Prevention. July 17-20, 2011. Rome. Abstract MOAX0106.

[7] The White House Office of National AIDS Policy. *National HIV/AIDS Strategy for the United States*. July 2010. Available at: http://www.whitehouse.gov/sites/default/files/uploads/NHAS.pdf. (Accessed June 25, 2012)

[8] CDC. Results of the expanded HIV testing initiative – 25 jurisdictions, United States, 2007-2010. *MMWR* 2011;60(24):805-10.

[9] Hutchinson AB, Farnham PG, Duffy N, et al. Return on public health investment: CDC's Expanded HIV Testing Initiative. *J Acquir Immune Defic Syndr* 2012;59(3):281-86.

[10] Lasry A, Sansom S, Hicks K, et al. Allocating HIV prevention funds in the United States: recommendations from an optimization model. *PLoSOne* 2012;7(6):e37505. DOI: 10.1371/journal.pone.0037545.

[11] Hall HI, Green TA, Wolitski RJ et al. Estimated future HIV prevalence, incidence, and potential infections averted in the United States: a multiple scenario analysis. *J Acquir Immune Defic Syndr* 2010;55(2):271-76.