



**Testimony
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Reform Committee
United States House of Representatives**

**HIV/AIDS in the United States: A Look Back
and a Look Forward**

Statement of

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Introduction:

Good morning Mr. Chairman and Members of the Subcommittee. I am Dr. Julie Louise Gerberding, Director of the Centers for Disease Control and Prevention within the Department of Health and Human Services (HHS). I am accompanied by Dr. Kevin Fenton, Director of CDC's National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention. Thank you for the opportunity to discuss the 2006 estimates of HIV incidence for the United States and the status of the domestic HIV/AIDS epidemic.

CDC has always taken very seriously its responsibility to monitor the HIV/AIDS epidemic and to constantly improve our nation's ability to describe the leading edge of the epidemic. Recent surveillance data indicate that, more than 25 years into the epidemic, HIV continues to exact a tremendous toll here in the United States. CDC maintains a comprehensive HIV/AIDS surveillance system that monitors many aspects of the epidemic including incidence of new HIV infections, HIV and AIDS diagnoses, risk behaviors associated with HIV, and deaths among persons with AIDS. All of these components work together to provide the most complete profile of the epidemic that our country has ever had.

To provide context for the new incidence numbers, it might be helpful to differentiate between the various types of surveillance data CDC collects and their utility in HIV prevention. As of 2008, all state and local health departments report HIV and AIDS diagnoses to CDC. This includes all 50 states, the District of Columbia, and 5 US dependent areas, including Puerto Rico. CDC uses reported HIV/AIDS cases to estimate the number of unduplicated HIV and AIDS cases that are diagnosed in a given year. Only states that have been conducting name-based HIV surveillance for

at least 4 years are included in the estimates for HIV cases to allow for reporting adjustments and stabilization of the data. At present, 33 states and the 5 U.S. dependent areas are included in these estimates. This number will increase steadily in each coming years, and by 2013, data from all 50 states will be available. In 2006, nearly 39,000 estimated cases of HIV infection were identified in the 33 states and 5 US dependent areas with mature confidential name-based HIV reporting. This represents the number of persons who learned they were infected that year and were newly known to be in need of HIV-related medical care and prevention programs to reduce their risk of transmitting HIV and to contact partners who may have been unknowingly exposed to HIV. As such, estimated HIV diagnoses are essential for planning HIV treatment and prevention programs, resource allocation, and program evaluation.

Estimated AIDS cases and AIDS-related deaths are also critical types of surveillance data because they represent the most severe outcomes of HIV disease and are indicators of missed opportunities. In 2006, in states and areas with mature confidential name-based HIV reporting systems, 38% of persons with HIV were diagnosed with AIDS within a year of learning that they have HIV. Persons who progress to AIDS have likely been infected for years, meaning that critical opportunities to diagnose HIV early, prevent transmission to others, and provide HIV-infected persons with antiretroviral treatments have been missed. Across the country, more than 14,000 persons with AIDS died in 2006. We know that existing HIV treatments, when started sufficiently early in the course of the disease dramatically slow progression to AIDS and death. These AIDS cases and deaths should not be happening in this country at this rate.

As important as these data are, they have not allowed us to track the epidemic in real-time because some individuals are not diagnosed with HIV or AIDS until years after they became infected. Our new incidence estimates give us that information—by estimating the number of individuals who become newly infected in a given year. As you are aware, CDC recently reported 2006 incidence estimates from this surveillance system in the *Journal of the American Medical Association*. These more precise estimates are possible only because of breakthrough technology developed by CDC that can distinguish recent from long-standing HIV infections.

CDC worked for years with state and local health departments to plan, establish and evaluate this critical surveillance system, and we consider the publication of these estimates to be a sentinel event in the course of the HIV/AIDS epidemic for two reasons: (1) this is the first national surveillance system of its kind in the world and is based on direct measurement of new HIV infections; and (2) we now have much more direct information about the leading edge of the epidemic, which will allow us to better target our efforts to reduce the unacceptable burden of HIV/AIDS in this country.

Status of the epidemic: Incidence

The estimates from our nation's new HIV incidence surveillance system reveal that the U.S. epidemic is and has been worse than previously estimated. Using the new approach called Serological Testing Algorithm for Recent HIV Seroconversion (STARHS) that distinguishes recent from longstanding HIV infections, CDC estimates that 56,300 new HIV infections occurred in the United States in 2006. Prior to the availability of STARHS, CDC estimated that approximately 40,000 new HIV infections occurred annually since the 1990s.

It is important to note that the 2006 estimate does not represent an actual increase in the annual number of new infections; rather, a separate CDC historical trend analysis published alongside the incidence estimate suggests that the number of new HIV infections was never as low as 40,000 and has been roughly stable since the early 2000s. Even though the analysis shows overall stability in new HIV infections in recent years, the HIV/AIDS epidemic remains at an unacceptably high level and has been steadily increasing among men who have sex with men (MSM). Taking a closer look at the 2006 HIV incidence estimates, we see that:

Seventy-three percent (73%) of new HIV infections were among men. Even though many heterosexual men are affected by HIV, most of the infections in men occur in gay and bisexual men. In 2006, MSM represented 53% of all new HIV infections. Historical trend analyses indicate that HIV incidence has been steadily increasing among gay and bisexual men since the early 1990s (see Figure 1), confirming a trend suggested by prior data showing increases in risk behavior, sexually transmitted diseases, and HIV diagnoses in this population throughout the past decade.

New CDC data released last week show that there are differences by race in the ages at which MSM become infected. Young MSM of color are of particular concern. Among black and Latino MSM, those ages 13-29 had the most new HIV infections, accounting for 52% of new infections among black MSM and 43% of new infections among Latino MSM. Among all MSM, black MSM ages 13-29 had the largest number of new infections (Figure 2). Among white MSM, those ages 30-39 had the most new HIV infections, accounting for 35% of new infections among white MSM.

The new data reinforce that another group disproportionately affected by HIV is African Americans. Although blacks constitute only 13% of the U.S. population, 45% of new HIV

infections were among blacks. While the number is alarmingly high, historical trend analyses show the number of infections among blacks has been roughly stable, with some fluctuations, since the early 1990s. However, blacks are more severely affected by HIV and AIDS than any other racial or ethnic group in the United States, with an HIV incidence rate that is 7 times higher than whites and almost 3 times higher than Latinos (Figure 3). The new analysis shows that among African Americans, men account for the majority of new infections and women are disproportionately affected compared to women of other races and ethnicities. Sixty-four percent of infections among African Americans were in men, and of those, 62% were among MSM. Thirty-five percent of infections among African Americans were in women. Eighty-three percent of those infections occurred through high-risk heterosexual contact.

Latinos are also disproportionately affected, and had rates of new HIV infections that were 3 times higher than rates among whites. Latinos account for 17% of new HIV infections, but constitute only 13% of the US population. Seventy-six percent of new HIV infections among Latinos were in men, and of those, 72% were in MSM. Twenty-four percent of new infections among Latinos were in women. Eighty-two percent of those infections occurred through high-risk heterosexual contact. Overall, these data clearly show that levels of HIV infection in the U.S. are too high—and we cannot allow the HIV epidemic in this country to continue at this rate. (See Figures 1-3)

HIV is still a problem in the U.S.: Prevention works—but challenges exist

The new HIV incidence estimate clearly shows that HIV infection is taking a greater toll on the lives of Americans than was previously known. A large number of research studies and multiple independent reviews show that prevention works, but too many people who are living with HIV or

are at-risk for HIV infection are not being reached by prevention programs. For example, 25% of people living with HIV/AIDS in the U.S. are unaware of their infection. These persons are believed to unknowingly account for more than half of new HIV infections in the United States.

The new estimates underscore the continued challenges facing HIV prevention programs but reveal some encouraging signs of success. For example, reductions in new infections among injecting drug users and heterosexuals are important signs of progress. Between 1988-1990 and 2003-2006, new HIV infections among injection drug users (IDUs) declined overall by 80 percent, and HIV infections among heterosexuals have been declining in recent years. Additionally, dramatic decreases in mother-to-child HIV transmission are one of the great success stories of HIV prevention. The number of perinatally infected infants with AIDS has declined more than 95% since the mid-1990s. This decline is due to multiple interventions, such as routine voluntary HIV testing of pregnant women and the use of antiretroviral therapy by HIV-infected women during pregnancy and infants after birth.

The much-welcomed success of HIV treatments means that an increasing number of people are living with HIV than ever before. CDC currently estimates that 1- 1.2 million people are living with HIV/AIDS in the United States. Although this large number of people living with HIV means that there are more opportunities for HIV transmission to occur, the overall number of new HIV infections has remained relatively stable in this decade.

In fact, a new analysis conducted by researchers at Johns Hopkins University and CDC show that the rate of HIV transmission, that is, the number of new infections each year for every 100 persons

living with HIV, has declined significantly. In 1984, the year before HIV testing became widely available, there were approximately 44 new HIV infections for every 100 people living with HIV. This rate has declined by 89% to approximately 5 new HIV infections per 100 people living with HIV in 2006. Looking at a more recent period, from 1997 to 2006, the rate of HIV transmission declined by approximately one-third. These declines represent the significant success of our public health efforts to identify HIV infection early through voluntary HIV testing, linking persons who test positive to medical care and prevention services, and the provision of prevention programs to persons who are at-risk of contracting HIV.

Many persons at risk are not being reached by HIV prevention efforts. Recent data indicate that in the past year, 80% of MSM have not been reached by the intensive interventions we know to be effective. This illustrates some of the myriad challenges to preventing the spread of this disease—reaching new generations, adapting to the evolving epidemic, and sustaining efforts for at-risk persons and those living with HIV as they age. Perceptions of HIV risk and treatment options have changed over time, and prevention barriers such as complacency, stigma, homophobia, and substance abuse allow this disease to continue to spread.

For example, although HIV has been a threat for more than 25 years, many people who are at risk believe they are at low risk of becoming infected or infecting their partner. Antiretroviral treatment success contributes to these beliefs. For example, some individuals may mistakenly believe that they or their partners cannot spread the virus when they take HIV medication or that having HIV is a relatively minor condition with no life-threatening consequences. They may not fully understand

the lifelong implications of HIV infection and, as a result, underestimate the serious impact that this disease continues to have on the health and wellbeing of persons living with HIV.

The HIV epidemic exists within a backdrop of other epidemics and social problems that interact synergistically to increase an individual's risk for HIV infection and make it difficult to obtain high-quality health care that includes appropriate antiretroviral treatments if an individual becomes infected. This context includes other sexually transmitted infections, substance abuse, poor mental health, physical and sexual assault, homelessness, destabilization of relationships due to incarceration, poverty, racism, homophobia, and the stigma, discrimination, and secrecy that often surround HIV and AIDS. For example, methamphetamine use is associated with significantly increased risk of HIV transmission and acquisition, and other sexually transmitted infections increase both infectivity and susceptibility to HIV infection. These coexisting health and social problems continue to exacerbate the challenges associated with stopping the spread of HIV in this country. Overall, the new incidence estimates underscore the need for accelerated progress and a greater resolve among all Americans for HIV prevention.

Despite the inherent challenges, we have considerable evidence that prevention works. As mentioned above, we have seen substantial declines in HIV infections among injection drug users, heterosexuals, mother-to-child transmission, and in the overall rate of HIV transmission. An overwhelming number of published studies and multiple independent reviews have also documented that prevention works. CDC's HIV/AIDS Prevention Research Synthesis (PRS) Project, through its ongoing efficacy review process, identifies evidence-based HIV behavioral interventions to help HIV prevention planners and providers in the U.S. select interventions most

appropriate for their communities. In 2007, CDC published an update to the *Compendium of HIV Prevention Interventions* with evidence of effectiveness, in response to prevention service providers requesting science-based interventions that work. The 49 interventions in the *Compendium* have been proven effective through research studies that showed positive behavioral and/or disease outcomes. Studies employed rigorous research designs, with both intervention and control groups, so that the positive outcomes could be attributed to the interventions. We expect the next update of the *Compendium* to be available in December 2008.

CDC has worked with the researchers to create user-friendly kits that contain the information and materials necessary to implement each intervention. CDC currently supports training and dissemination on 16 of these interventions and is working to increase this number substantially. The dissemination of effective interventions related to effective HIV prevention is a critical part of prevention for populations at risk for HIV.

What CDC is Doing to Address the Epidemic

CDC is firmly committed to achieving the greatest public health impact and supports a wide range of science-based activities to monitor the course of HIV/AIDS in the United States, expand the reach of HIV testing, increase the number of effective HIV prevention programs for persons living with HIV and those who are at-risk for HIV infection, and assess the impact of these efforts. For example, CDC is working in a number of different ways to reduce the number of infected Americans who do not know their HIV status. CDC has provided over \$70 million in additional dollars this year and last to increase testing in areas with the highest number of AIDS cases among African Americans. Grantees from these jurisdictions will be meeting in Atlanta in the fall to

discuss their successes in implementing this program as well as challenges of providing routine testing and to report preliminary outcome data. Additionally, CDC recommended in 2006 that all Americans between the ages of 13 and 64 receive voluntary screening for HIV, and we are working with key stakeholders to increase the implementation of these recommendations. CDC is conducting evaluation projects to assess which testing strategies are most effective and cost effective in reaching African American women and men who have undiagnosed HIV infection. Our state and local health departments are key partners in our HIV prevention efforts and are the recipients of the majority of CDC's HIV funding. We will continue to work with state and local health departments to ensure that the allocation of resources matches the local epidemics and provide health departments with resources that can strengthen their prevention programs. For example, given the data regarding increasing HIV infection among MSM, CDC is providing more than \$4 million this year to health departments to reassess and strengthen evidence-based prevention efforts specifically for gay and bisexual men.

CDC is also working to increase the number of behavioral interventions with proven effectiveness, specifically for populations that are disproportionately affected by the HIV epidemic. We are conducting research to develop new behavioral interventions for communities hardest hit by the epidemic and expanding training and technical assistance on effective interventions. This year CDC will begin providing training and technical assistance to local health departments and community-based organizations on 9 new behavioral interventions that have been scientifically proven to reduce HIV risk behavior. One of these interventions, *D-Up!*, a community-level intervention designed for and developed by black MSM, has been shown to reduce the number of risky sex partners and rates of high-risk sex. Starting later this year, CDC will provide training on

this intervention to more than 200 organizations. Another intervention is Modelo de Intervención Psicomédica (MIP), which was developed and tested in Puerto Rico in Spanish to reduce risk among injection drug users. CDC also distributed 700 copies of *Safe in the City*, a 23-minute educational video that has been proven effective in reducing new sexually transmitted diseases (STDs) among STD clinic patients.

Additionally, CDC is working to develop and widely implement social marketing campaigns designed to increase knowledge of HIV status and promote HIV risk reduction. One of these campaigns, *Take Charge, Take the Test*, is for African American women and has been shown to increase HIV testing and the identification of new cases of HIV infection. A multi-million dollar social marketing campaign aimed at increasing HIV testing among gay and bisexual men is being developed, and planning for other campaigns is underway. CDC is also looking for new ways to address the burden of HIV among youth. *¡Cuídate!* (Take Care of Yourself) is a small-group, culturally based intervention to reduce HIV sexual risk among Latino youth that is currently being readied for nationwide dissemination by CDC. Through the use of role plays, videos, music, and interactive games, *¡Cuídate!* builds on HIV knowledge, an understanding of sexually active youth's vulnerability to HIV infection, attitudes and beliefs that promote healthy behaviors, and promotes abstinence and risk reduction.

In addition, CDC is funding groundbreaking clinical trials and laboratory research to develop effective biomedical interventions to reduce HIV transmission. This is an important area of research, particularly for preventing HIV infection among women. CDC is currently conducting laboratory, safety, and efficacy trials of pre-exposure prophylaxis or PrEP, which involves the use

of antiretroviral drugs by uninfected persons in order to prevent new HIV infections. Research suggests that PrEP is one of the most important prevention approaches being explored today. Multiple data sources suggest the promise of PrEP. These include data on the effectiveness of drugs to prevent transmission of HIV from mother to child during the perinatal period, data on the effectiveness of post-exposure prophylaxis among healthcare workers, and animal studies conducted by CDC. Animal studies have shown that PrEP can significantly reduce, and in some cases prevent, the transmission of a virus similar to HIV in monkeys who are exposed repeatedly to the virus. CDC is currently supporting various stages of research on PrEP in injection drug users, high-risk heterosexuals, MSM, and serodiscordant couples (couples where one person is HIV positive and one person is HIV negative). In addition, CDC is supporting and collaborating on research assessing the safety of vaginal microbicides as well as studies to inform the development of rectal microbicides. Microbicides are gels, creams, or suppositories that can kill or neutralize viruses and bacteria. The success of male circumcision trials in the international setting also holds potential promise in the United States. CDC is currently conducting a demonstration project to assess the feasibility and acceptability of adult voluntary circumcision as a risk reduction strategy for high risk heterosexual men in the US. Biomedical interventions of these types hold considerable promise for preventing new HIV infections in the coming decade. CDC also recognizes the continued importance of vaccine research conducted by NIH and others which ultimately may yield a biomedical intervention with the potential to have the most cost-effective impact on the epidemic.

Further, CDC is committed to continue to expand, reassess, and improve its efforts to address HIV/AIDS among African Americans, Latinos, gay and bisexual men of all races and ethnicities, and all persons at risk of HIV infection. Because, as a nation, we cannot be successful in these

prevention efforts without the support and involvement of local communities and their leaders— CDC is working to intensify efforts to reach out to and mobilize members of disproportionately impacted communities.

For example, CDC—along with our public health partners and leaders in the black community—have joined forces through the Heightened National Response to the Crisis of HIV/AIDS among African Americans (HNR) to mobilize African American communities against HIV/AIDS, change community perceptions about HIV/AIDS and reduce stigma, promote early HIV diagnosis and treatment, and encourage healthy behaviors that prevent the spread of HIV. Since May 2007, 200 African American leaders have joined the HNR initiative. In May 2007, CDC established an internal HIV/AIDS Hispanic/Latino Executive Committee (HLEC) to provide guidance and recommendations in matters concerning the HIV epidemic in Latino communities. Since its inception, HLEC has held a consultation with Latino leaders in HIV prevention and is currently developing an action plan that will guide CDC’s HIV prevention efforts among Latinos.

In addition to efforts described above, CDC is taking additional steps to respond to the U.S. epidemic in light of the new incidence estimates. CDC is appointing an independent panel of national experts who will review our HIV surveillance, research, and program efforts and make recommendations for the future. This review is currently being initiated and will be completed by mid-2009. A report from this review will be made available to the public shortly after the review is completed. The recommendations will form the foundation for the development of a clear and strategic road map for HIV prevention, with measurable objectives, that will guide us through the year 2020. CDC is also developing a resource allocation model that uses information from the new

HIV incidence surveillance system. This model, which will be completed by mid-2009, will allow CDC to assess whether an even greater impact could be achieved by redirecting some resources to different populations or prevention strategies.

While the new incidence system allows us to better monitor the number of new infections, other systems such as the Program Evaluation and Monitoring System (PEMS) increase accountability by allowing grantees to collect agency, community planning, and program plan data and report back to CDC. This accountability means collecting, evaluating, and sharing needed data on how prevention resources are being utilized nationally. PEMS ensures that CDC receives standardized, accurate, and thorough program data from health department and community based organizations. It allows more comprehensive reporting of HIV prevention activities, fiscal information, and local HIV prevention community planning efforts. These data will increase the ability to monitor the utilization of prevention services, assess program implementation, and evaluate progress. In the coming year, data will be linked with PART, GPRA, and Healthy People 2010 indicators to create a comprehensive system for monitoring the progress of HIV prevention efforts.

Closing

In conclusion, CDC's new and innovative HIV incidence surveillance system is a vital component of HIV prevention. The use of the new system signifies a major advancement in our nation's ability to monitor and evaluate HIV prevention. Specifically, the new system makes the following possible: (1) better targeting of prevention programs and resources; (2) more precision with which to measure progress; and (3) more compelling reasons for communities to mobilize against the spread of HIV and to take the steps needed to protect themselves and their loved ones from HIV.

The 2006 incidence estimates emphasize the need for continued access to HIV prevention activities. As a nation, we must agree that it is not acceptable for 56,300 Americans to be infected with HIV annually; for HIV/AIDS to become a rite of passage for gay, bisexual men, and men who have sex with men; for HIV/AIDS to continue to over-burden African American and Latino communities; and for young Americans to grow up without the knowledge, skills, confidence and motivation necessary to protect themselves against HIV for their entire lifetimes. CDC is steadfast in its commitment to ending the epidemic; however, to achieve this goal, the HIV/AIDS epidemic in our own backyards must be met with an even greater sense of commitment, purpose, and urgency by affected individuals, communities, and by the nation as a whole. Thank you.