

HIV in the United States: An Overview

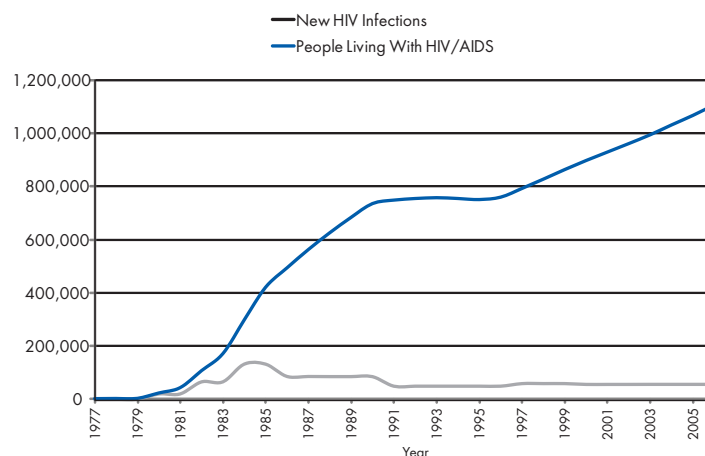
CDC HIV/AIDS FACTS

JUNE 2010

Creating an overview of the HIV epidemic in the United States requires combining different indicators of the epidemic, such as prevalence, incidence, transmission rates, and deaths. Therefore, this document uses multiple sources to provide a comprehensive picture of HIV in this country.

- **The number of people living with HIV infection in the United States (HIV prevalence) is higher than ever before.** CDC has estimated that more than 1 million (1,106,400) adults and adolescents were living with HIV infection in the United States at the end of 2006, the most recent year for which national prevalence estimates are available. This represents an increase of approximately 11% from the previous estimate in 2003.¹ The increase may be due to
 - a higher proportion of people living with HIV infection knowing their status, and seeking care and antiretroviral treatment that can increase survival;
 - a higher number of people becoming infected with HIV than the number of people with HIV or AIDS who die each year.
- **Despite increases in the total number of people living with HIV infection, the annual number of new HIV infections (HIV incidence) has remained relatively stable in recent years.** According to the most recent incidence estimates, approximately 56,000 persons have been infected with HIV annually during the past decade.² This estimate has been relatively stable since the late 1990s - despite more people living with HIV infection every year and, thus, increased opportunities for transmission to occur. CDC expects to release the next incidence estimates later in 2010.
- **The great majority of persons with HIV infection do not transmit HIV to others.** CDC estimates that there were 5 transmissions per 100 persons living with HIV infection in the United States in 2006.³ This means that at least 95% of those living with HIV infection did not transmit the virus to others that year - an 89% decline in the estimated rate of HIV transmission since the peak level of new infections in the mid-1980s. The decline in transmission is likely due to effective prevention efforts and the availability of improved testing and treatments for HIV. The lower transmission rate is what has enabled HIV incidence to remain stable despite increasing prevalence.

Estimated number of new HIV infections and persons living with HIV, 1977-2006



● CDC. HIV prevalence estimates—United States, 2006. *MMWR* 2008;57: 1073-1076

● Hall HI, Song R, Rhodes P, et al. Estimation of HIV incidence in the United States. *JAMA* 2008; 300:520-529

Despite continued increases in the number of people living with HIV infection over time, HIV prevention efforts have helped to keep the number of new infections stable.

- **More people in the United States with HIV know of their HIV infection.** The estimated proportion of persons in the United States with HIV who know they are infected increased from 75% in 2003 to 79% in 2006.⁴ This is a sign of progress for HIV prevention because research shows that most individuals reduce behaviors that could transmit HIV when they know they are infected.⁵
- **Diagnoses of HIV infection reported to CDC have increased in recent years.** In 2008, 41,269 persons were diagnosed with HIV infection^a in the 37 states with long term, confidential, name-based HIV infection reporting - an increase of 8% overall since 2005.⁶ The overall increase in diagnoses reported to CDC may be due to a number of reasons
 - increases in HIV testing;⁷
 - uncertainty inherent in statistical estimates;
 - an increase in incidence that could account for at least some of the increase in diagnoses of HIV infection. However, available incidence estimates do not suggest an overall increase in new HIV infections in recent years.²



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- **The HIV diagnosis rate has remained stable in recent years.** From 2005-2008, the annual estimated rate of diagnoses of HIV infection (the number of new HIV diagnoses per 100,000 persons) remained relatively stable, which is a result of increases in diagnoses of HIV infection and increases in the size of the US population during this period.⁶
- **HIV disproportionately affects certain populations.** Men who have sex with men (MSM), blacks/African Americans, and Hispanics/Latinos are the groups most affected by HIV infection.
 - **MSM** represent approximately 2% of the US population. However, MSM have an HIV diagnosis rate more than 44 times that of other men, and more than 40 times that of women.^{8,b}
 - MSM account for more than half of all new HIV infections in the United States and nearly 30,000 MSM are newly infected with HIV each year.²
 - MSM is the only risk group with increasing annual numbers of new HIV infections.²
 - From 2005-2008, estimated diagnoses of HIV increased approximately 17% among MSM.⁶ This increase may be due to a combination of factors: increased incidence, increased testing, and diagnosis earlier in the course of infection.^{9,c} These increases may also be affected by the degree of uncertainty inherent in statistical estimates.
 - **Blacks/African Americans** are the racial/ethnic group most affected by HIV. Blacks/African Americans represent approximately 12% of the US population, but account for almost half of all new HIV infections.²
 - At some point in their life, 1 in 16 black/African American men will receive a diagnosis of HIV, as will one in 30 black women.¹⁰
 - The rate of new HIV infection for black/African American men is 6 times as high as that of white men, nearly 3 times that of Hispanic/Latino men, and more than twice that of black/African American women.¹¹
 - The rate of new HIV infection for black/African American women is nearly 15 times as high as that of white women, and nearly 4 times that of Hispanic women.¹¹
 - From 2005-2008, estimated HIV diagnoses increased approximately 12% in blacks/African Americans.⁶ This may be due to increased testing or diagnosis earlier in the course of HIV infection; it may also be due to uncertainty inherent in statistical estimates.
 - From 2005-2008, the rate of HIV diagnoses among blacks/African Americans increased from 68/100,000 persons to 74/100,000.⁶
 - **Hispanics/Latinos** represent 15% of the population, but account for an estimated 17% of new infections.²
 - The rate of new HIV infection among Hispanic/Latino men is more than double that of white men.¹¹
 - The rate of new HIV infection among Hispanic/Latina women is nearly 4 times that of white women.¹¹
 - From 2005-2008, estimated HIV diagnoses increased approximately 5% among Hispanics/Latinos.⁶ However, this increase is within the boundaries of normal fluctuations and may be due to uncertainties inherent in statistical estimates.
 - The rate of HIV diagnoses among Hispanic/Latinos decreased, most likely reflecting the growing population of Hispanics/Latinos in the United States.⁶

Currently, only 37 states have collected HIV diagnosis data from name-based HIV reporting systems for a sufficient length of time (defined as being submitted to CDC since at least January 2005) to be included in CDC's HIV surveillance estimates. However, CDC's AIDS data are representative of all 50 states and the District of Columbia. The 2008 HIV Surveillance report contains HIV and AIDS tables that include 50 states, Washington DC, and 5 US territories (American Samoa, Guam, Northern Mariana Islands, Puerto Rico, and the US Virgin Islands). National prevalence estimates (number of persons living with HIV infection) are also for the 50 states and DC, as are estimates for incidence (the number of new HIV infections) and transmission rate (the number of HIV transmissions per 100 people).

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1. CDC. HIV prevalence estimates—United States, 2006. *MMWR*. 2008;57(39):1073-1076.
2. Hall HI, Song R, Rhodes P, et al. Estimation of HIV incidence in the United States. *JAMA* 2008;300(5):520-529.
3. Holtgrave DR, Hall HI, Rhodes PH, et al. Updated annual HIV transmission rates in the United States, 1977-2006. *J Acquir Immune Defic Syndr* 2009;50(2):236-238.
4. Campsmith, ML, Rhodes PH, Hall HI et al. Undiagnosed HIV prevalence among adults and adolescents in the United States at the end of 2006. *J Acquir Immune Defic Syndr*. 2010 Apr;53(5):619-24.
5. Marks G, Crepaz N, Senterfitt JW, Janssen RS. Meta-analysis of high-risk sexual behavior in persons aware and unaware they are infected with HIV in the United States: implications for HIV prevention programs. *J Acquir Immune Defic Syndr* 2005;39:446-453

a. New diagnoses are not the same as new infections (incidence). A person can be infected with HIV for years before being diagnosed.

6. CDC. HIV Surveillance Report, 2008; vol 20. Available at: www.cdc.gov/hiv/topics/surveillance/resources/reports/
 7. CDC. National Health Interview Survey, 2008: Early Release of Selected Estimates. Tables 10.1, 10.2, 10.3 Available at: <http://www.cdc.gov/nchs/nhis/released200906.htm#10> Accessed May 19, 2010.
 8. Purcell DW, Johnson C, Lansky A, et al. Presented at 2010 National STD Prevention Conference; Atlanta, GA. abstract #22896. Available at <http://www.cdc.gov/hiv/topics/msm/resources/research/msm.htm> . Accessed May 4, 2010.
- b. The MSM rates were calculated using the methodology described in reference #8, which is different than the methodology used to calculate the other rates in this fact sheet, which are based on population estimates from the US Census Bureau.

- **Despite many prevention and treatment successes, people are still dying from AIDS.** HIV remains a significant cause of death for some populations. For example, in 2006, HIV was the third leading cause of death for black males and black females aged 35-44 and the fourth leading cause of death for Hispanic/Latino males and females in the same age range.¹² Further, MSM are strongly affected by HIV and represent the majority of persons with an HIV diagnosis who have died in the United States. Overall, more than 576,000 persons with an AIDS diagnosis in the United States have died^d since the beginning of the epidemic through 2007 (the most recent year that death data are available).⁶ From 2005 through 2007, deaths of persons with a diagnosis of HIV infection have increased 17% and the estimated rate of deaths increased 14%. Interpreting data regarding deaths of persons with a diagnosis of HIV can be difficult because many factors can affect the data. For example
 - the increases may be influenced by significant efforts that have been made to improve death reporting by state HIV surveillance programs;
 - the number of people living with HIV infection has increased over time, so the number of deaths would also be expected to increase;
 - the group of persons living with HIV infection is aging, which may result in an increased number of deaths from any cause, including those unrelated to HIV infection.
 - there are uncertainties inherent in statistical estimates.
- **Too many people are diagnosed with HIV late in the course of infection.** Despite an increase in persons getting diagnosed with HIV earlier in the course of their infection,⁹ far too many continue to be diagnosed late. In 2008, about one-third (32%) of individuals with an HIV diagnosis reported to CDC received a diagnosis of AIDS within 12 months of their initial HIV diagnosis.⁶ These late diagnoses represent missed opportunities for treatment and prevention.

- **AIDS disproportionately affects different parts of the country.** HIV and AIDS have had a severe impact on all regions of the country. It remains mostly an urban disease, with the majority of individuals diagnosed with AIDS in 2008 residing in areas with more than 500,000 people. Areas hardest hit (by ranking of AIDS cases per 100,000 people) include Miami and Jacksonville, Florida; New Orleans and Baton Rouge, Louisiana; Baltimore, Maryland; and Washington DC. However, due to differences in population sizes, rates do not always highlight the large number of people diagnosed with AIDS in certain metropolitan areas, such as New York City or San Francisco.⁶

Key References that Explain the HIV Epidemic in the United States

Following are some of the key indicators of HIV disease in the United States and the references that best explain them.

- **HIV incidence in the United States:** Hall HI, Song R, Rhodes P, et al. Estimation of HIV incidence in the United States. *JAMA* 2008;300(5):520-529
- **HIV incidence in the United States by subpopulation estimates:** CDC. Subpopulation estimates from the HIV Incidence Surveillance System --- United States, 2006. *MMWR* 2008. 57(36); 985-989
- **HIV prevalence in the United States:** CDC. HIV prevalence estimates—United States, 2006. *MMWR*. 2008;57(39):1073-1076
- **Estimate of undiagnosed persons with HIV in the United States:** Campsmith, ML, Rhodes PH, Hall HI et al. Undiagnosed HIV prevalence among adults and adolescents in the United States at the end of 2006. *J Acquir Immune Defic Syndr*. 2010;53(5):619-624.
- **HIV transmission rates:** Holtgrave DR, Hall HI, Rhodes PH, et al. Updated annual HIV transmission rates in the United States, 1977-2006. *J Acquir Immune Defic Syndr* 2009;50(2): 236-238.
- **Lifetime risk of HIV infection:** Hall HI, An Q, Hutchinson A, et al. Estimating the lifetime risk of a diagnosis of the HIV infection in 33 states, 2004-2005. *J Acquir Immune Defic Syndr* 2008; 49(3):294-297.

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9. CDC. Late HIV testing – 34 states, 1996-2005. *MMWR* 2009;58:661-665.
- c. MSM accounts for a higher proportion of testing for acute (newly acquired) infection relative to other risk groups.
10. Hall, I, An Q, Hutchinson A, et al. Estimating the Lifetime Risk of a Diagnosis of the HIV Infection in 33 States, 2004-2005. *J Acquir Immune Defic Syndr*. 2008;49(3):294-297
11. CDC. Subpopulation Estimates from the HIV Incidence Surveillance System – United States, 2006. *MMWR* 2008. 57(36):985-989
12. CDC. WISQARS Leading Causes of Death Reports, 1999 – 2006. Available at: <http://webappa.cdc.gov/sasweb/ncipc/leadcaus10.html> accessed May 4, 2010.
- d. Deaths of persons with a diagnosis of HIV or AIDS may be due to any cause, not necessarily HIV disease.

- **Deaths from HIV:**

- CDC. WISQARS Leading Causes of Death Reports, 1999 – 2006. Available at: <http://webappa.cdc.gov/sasweb/ncipc/leadcaus10.html>
- NCHS. Deaths: Final data for 2006. *Statistics Reports* 2009;57(14).

- **Estimate of number of MSM in the United States and MSM's rates of HIV and syphilis:** Purcell DW, Johnson C, Lansky A, et al. Presented at 2010 National STD Prevention Conference; Atlanta, GA. abstract #22896. Available at <http://www.cdc.gov/hiv/topics/msm/resources/research/msm.htm>.

The following indicators can be found in the CDC's HIV Surveillance Report (CDC. HIV Surveillance Report, 2008; vol 20. Available at: www.cdc.gov/hiv/topics/surveillance/resources/reports/)

- Diagnoses of HIV infection in the United States (37 states and 5 US dependent areas)
- Persons living with a diagnosis of HIV infection (37 states and 5 US dependent areas)
- AIDS diagnoses in the United States and 5 US dependent areas
- Persons living with an AIDS diagnosis in the United States and 5 US dependent areas
- Deaths of persons with a diagnosis of HIV infection or AIDS
- Time to AIDS diagnosis after a diagnosis of HIV infection (late HIV diagnoses)
- Survival time after diagnosis of HIV infection or AIDS
- Geographic information (United States) on distribution of diagnoses of HIV infection or AIDS



HIV/AIDS RESOURCES

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www.cdc.gov/hiv
CDC HIV/AIDS resources

CDC-INFO

1-800-CDC-INFO (232-4636)
Information about personal risk and where to get an HIV test

CDC National HIV Testing Resources

www.hivtest.org
Location of HIV testing sites

CDC National Prevention Information Network (NPIN)

1-800-458-5231
www.cdcpin.org
CDC resources, technical assistance, and publications

AIDSinfo

1-800-448-0440
www.aidsinfo.nih.gov
Resources on HIV/AIDS treatment and clinical trials