

About HIV/AIDS

Entering 2003, HIV is the deadliest and most massive epidemic of infectious disease in medical history, with close to 65 million people living, dying, or dead with HIV.

What is HIV/AIDS?

- *AIDS stands for acquired immunodeficiency syndrome.*
- *HIV stands for human immunodeficiency virus.*
- A positive HIV test result does not mean that a person has AIDS. A diagnosis of AIDS is made by a physician using certain clinical criteria (e.g., AIDS indicator illnesses).
- Infection with HIV can weaken the immune system to the point that it has difficulty fighting off certain infections. These types of infections are known as "opportunistic" infections because they take the opportunity a weakened immune system gives to cause illness.
- Many of the infections that cause problems or may be life-threatening for people with AIDS are usually controlled by a healthy immune system. The immune system of a person with AIDS is weakened to the point that medical intervention may be necessary to prevent or treat serious illness.

Source: Center for Disease Control "What is AIDS? What causes AIDS?" CDC Divisions of HIV/AIDS Prevention <http://www.cdc.gov/hiv/pubs/faq/faq2.htm> November 30, 1998

The HIV-AIDS Connection

- AIDS was first recognized in 1981 and has since become a major worldwide pandemic. Abundant evidence indicates that AIDS is caused by the human immunodeficiency virus (HIV), which was discovered in 1983. By leading to the destruction and/or functional impairment of cells of the immune system, notably CD4+ T cells, HIV progressively destroys the body's ability to fight infections and certain cancers

Source: NIAID "Focus On" NIAID <http://www.niaid.nih.gov/newsroom/focuson/hiv00/default.htm> July 18, 2003.

How long does it take for HIV to cause AIDS?

- Since 1992, scientists have estimated that about half the people with HIV develop AIDS within 10 years after becoming infected. This time varies greatly from person to person and can depend on many factors, including a person's health status and their health-related behaviors.
- Today there are medical treatments that can slow down the rate at which HIV weakens the immune system. There are other treatments that can prevent or cure some of the illnesses associated with AIDS, though the treatments do not cure AIDS itself. As with

other diseases, early detection offers more options for treatment and preventative health care.

Source: Center for Disease Control "How long does it take for HIV to cause AIDS?" CDC Divisions of HIV/AIDS Prevention , www.cdc.gov/hiv/pubs/faq/faq4.htm, November 30, 1998

How is HIV passed from one person to another?

HIV transmission can occur when blood, semen (including pre-seminal fluid, or "pre-cum"), vaginal fluid, or breast milk from an infected person enters the body of an uninfected person.

HIV can enter the body through a vein (e.g., injection drug use), the anus or rectum, the vagina, the penis, the mouth, other mucous membranes (e.g., eyes or inside of the nose), or cuts and sores. Intact, healthy skin is an excellent barrier against HIV and other viruses and bacteria.

These are the most common ways that HIV is transmitted from one person to another:

- By having sexual intercourse (anal, vaginal, or oral sex) with an HIV-infected person
- By sharing needles or injection equipment with an injection drug user who is infected with HIV
- From HIV-infected women to babies before or during birth, or through breast-feeding.

Source: Center for Disease Control "How is HIV passed from one person to another?" CDC, Divisions of HIV/AIDS Prevention <http://www.cdc.gov/hiv/pubs/faq/faq16.htm> November 30, 1998.

These body fluids have been proven to spread HIV:

- Blood
- Semen
- Vaginal fluid
- Breast milk
- Other body fluids containing blood

Source: Center for Disease Control "What is HIV?" CDC, Divisions of HIV/AIDS Prevention <http://www.cdc.gov/hiv/pubs/faq/faq1.htm> February 27, 2002

Who is at risk?

Everyone is at risk, but young sexually active people in particular.

- Half of all new HIV infections in the United States each year and two thirds of all new STD infections occur in young adults under the age of 25 years.

Source: Centers for Disease Control and Prevention. Trends in sexual risk behaviors among high school students: United States, 1991–1997. MMWR Morb Mortal Wkly Rep 1998; 47: 749–752

- AIDS is the leading cause of death among individuals aged 25-44

- Younger adults are more likely to engage in sexual behaviors that might increase their STD risk.

Sources: Centers for Disease Control and Prevention. Trends in sexual risk behaviors among high school students: United States, 1991–1997. MMWR Morb Mortal Wkly Rep 1998; 47: 749–752. Centers for Disease Control and Prevention. Selected behaviors that increase risk of HIV infection, other sexually transmitted diseases, and unintended pregnancy among high school students: United States, 1991. JAMA 1992; 269: 329–331. Centers for Disease Control and Prevention. Trends in HIV-related sexual risk behaviors among high school students: selected US cities, 1991–1997. MMWR Morb Mortal Wkly Rep 1999; 48: 440–443. Coker AL, Richter DL, Valois RF, et al. Correlates and consequences of early initiation of sexual intercourse. J School Health 1994; 64: 372–377. Collins C. Dangerous Inhibitions: How America is Letting AIDS Become an Epidemic of the Young. San Francisco: Center for AIDS Prevention Studies. 1997. Eng TR, Butler WT, eds. The Hidden Epidemic: Confronting Sexually Transmitted Disease. Washington, DC: National Academy Press, 1997. Zabin LS, Hayward SC. Adolescent sexual behavior and childbearing. Newbury Park, CA: Sage Publications, 1993.

Heterosexuals at risk:

- Heterosexual transmission accounted for the largest proportionate increase in the number of reported AIDS cases in the United States between 1996 and 2000.

Source: Centers for Disease Control and Prevention (CDC), HIV and AIDS--United States, 1981-2000, Morbidity and Mortality Weekly Report, 2001, 50(21):430-434.

- About 42 million people worldwide are infected with HIV/AIDS, 70% of whom have contracted the virus through heterosexual sex. Another 10% occurs through sex between men, and the remainder is due to mother-to-child transmission, intravenous drug injection, and unsafe blood supply.

Source: Joint United Nations Programme on HIV/AIDS. (2002). Epidemic update. Geneva, Switzerland: Author.

Minorities are more likely to become infected with HIV in America, not because of race, but because of certain challenges they are more likely to face than their white counterparts. However, white people make up a substantial portion, but minorities are at an even greater risk.

- Since 1985, the proportion of all AIDS cases reported among adult and adolescent women has more than tripled, from 7% in 1985 to 25% in 1999. The epidemic has increased most dramatically among women of color. African American and Hispanic women together represent less than one-fourth of all U.S. women, yet they account for more than three-fourths (78%) of AIDS cases reported to date among women in our country. In 2000 alone (see chart above), African American and Hispanic women represented an even greater proportion (80%) of cases reported in women.

Source: Center for Disease Control “*HIV/AIDS Among US Women: Minority and Young Women at Continuing Risk*” CDC, Divisions of HIV/AIDS Prevention <http://www.cdc.gov/hiv/pubs/facts/women.htm> March 27, 2003.

- Although African Americans make up only about 12 percent of the U.S. population, they accounted for half of the new HIV infections reported in the United States

Source: States in 2001 1 CDC. HIV/AIDS Surveillance Report. 2001;13(2).

- African-American men account for 43 percent of HIV cases reported among men in 2001.

Source: HIV/AIDS Surveillance Report. 2001;13(2).

- African-American women accounted for nearly 64 percent of HIV1 cases reported among women in 2001.

Source: HIV/AIDS Surveillance Report. 2001;13(2).

- *Substance Abuse.* Injection drug use is the second leading cause of HIV infection for both African-American men and women. But sharing needles is not the only HIV risk related to substance abuse. Both casual and chronic substance abusers are more likely to engage in high-risk behaviors, such as unprotected sex, when they are under the influence of drugs or alcohol.

Source: H B. Leigh, R. Stall. Substance Use and Risky Sexual Behavior for Exposure to HIV: Issues in Methodology, Interpretation and Prevention. *Am Psychol* 1993;48(10):1035-1045.

Women Increasingly are at Risk for HIV/AIDS

- During 2001, adolescent and adult women represented 26% of new AIDS cases, compared to only 11% in 1990 and 6% in 1982. 13% of men who received AIDS diagnoses in 1999 were exposed to HIV solely through heterosexual activity, a proportion that has grown substantially in recent years.

Source: CDC, HIV/AIDS Surveillance Report, 2001, 13(2); Office of HIV/AIDS Policy, "HIV and Minority Women, U.S. Department of Health and Human Services, nd; AGI, In Their Own Right: Addressing the Sexual and Reproductive Health Needs of American Men, New York: AGI, 2002.

- Heterosexual contact with an HIV-infected male is fast surpassing injection-drug use as the most common way women acquire HIV--currently accounting for 40% of the identified risk for women with AIDS and, presumably, for a large portion of the 16% of unidentified risk.

Source: CDC, HIV/AIDS Surveillance Report, U.S. HIV and AIDS Cases Year-End 2000 Edition, Atlanta: CDC, 2001.

- In 2000, 38% of women reported with AIDS were infected through heterosexual exposure to HIV; injection drug use accounted for 25% of cases. In addition to the direct risks associated with drug injection (sharing needles), drug use also is fueling the heterosexual spread of the epidemic. A significant proportion of women infected heterosexually were infected through sex with an injection drug user. Reducing the toll of the epidemic among women will require efforts to combat substance abuse, in addition to reducing HIV risk behaviors.

Sources: Center for Disease Control "HIV/AIDS Among US Women: Minority and Young Women at Continuing Risk" CDC, Divisions of HIV/AIDS Prevention <http://www.cdc.gov/hiv/pubs/facts/women.htm>, March 27, 2003

Interesting facts:

- Men in their 20s are more likely to be sexually active and are less likely to use condoms than teenagers.

Sources: Ku L, Sonenstein FL and Pleck JH, Young men's risk behaviors for HIV infection and sexually transmitted diseases, 1988 through 1991, American Journal of Public Health, 1993, 83(11):1609-1615; and Ku L, Sonenstein FL and Pleck JH, The dynamics of young men's condom use during and across relationships, Family Planning Perspectives, 1994, 26(6):246-251.

- The link between childhood sexual abuse or rape and subsequent high-risk sexual behavior is well established.

Sources: Eng TR, Butler WT, eds. The Hidden Epidemic: Confronting Sexually Transmitted Disease. Washington, DC: National Academy Press, 1997. Boyer D, Fine D. Sexual abuse as a factor in adolescent pregnancy and child maltreatment. Fam Plann Perspect 1992; 24: 4-11,19. Zierler S, Feingold L, Laufer D, et al. Adult survivors of childhood sexual abuse and subsequent risk of HIV infection. Am J Public

- Almost all HIV infections in young children (< 14 years) and 90% of pediatric AIDS cases are attributed to mother-to-child (MTC) transmission

Sources: Centers for Disease Control and Prevention. HIV/AIDS surveillance report, vol. 11. Atlanta, GA, USA; 1999, pp. 1-24.

- Most women begin seeing a doctor for routine reproductive health care services after they become sexually active, and women who have children become linked to the health system when they are pregnant and giving birth. Men do not have a similar routine for obtaining sexual and reproductive health services.

Sources: Center for Disease Control "Heterosexually Active Men's Beliefs About Methods for Preventing Sexually Transmitted Diseases," CDC <http://agi-usa.org/pubs/journals/3512103.html>, June 2003.

Spermicide may actually increase your chances of getting HIV...

- *Nonoxynol-9 may actually enhance HIV transmission.* A gel containing nonoxynol-9, a spermicide effective in preventing pregnancy (especially when used with a diaphragm), was tested as a microbicide to prevent HIV transmission. Not only did the compound fail to prevent transmission of the virus, but it may somehow have facilitated it. According to a presentation at the 13th International AIDS Conference held in July in Durban, South Africa, nearly 1,000 HIV-negative women were randomly assigned to use either the nonoxynol-9 product or a placebo gel; they were also given condoms and encouraged to use them. After four years, the women who used the test product had a 50% higher rate of HIV infection than did women who used the placebo gel.

Source: Stephenson J. JAMA 2000;284(8):949

- N9 for HIV prevention has not been confirmed and may even enhance HIV transmission because of the breakup of the mucosal barrier. In addition, women may substitute less-

effective protection (spermicides) for more effective protection (condoms), often because using a spermicide does not require cooperation of male partners. Little is known about how the recommendation to use spermicides in place of condoms will affect condom usage.

Sources: Kreiss J, Ngugi E, Holmes K, et al. Efficacy of nonoxynol-9 contraceptive sponge use in preventing heterosexual acquisition of HIV in Nairobi prostitutes. *JAMA* 1992; 268:477–482. Feldblum PJ, Morrison CS, Roddy RE, Cates W Jr. The effectiveness of barrier methods of contraception in preventing the spread of HIV. *AIDS* 1995; 9(suppl A):585–593.

- A recently completed trial reported greater HIV transmission in the women using N9 compared to those using a placebo gel, possibly due to detergent-induced compromise of the epithelial barrier after intensive use.

Source: Van Damme L. Advances in topical microbicides. XIII International Conference on AIDS. Durban, July 2000 [abstract P104].

Pregnancy and Childbirth

A pregnant woman can infect her unborn child with HIV, but if proper precautions are taken, it is very rare. Many people with AIDS/HIV have healthy babies. Elimination of breastfeeding, and natural births, will almost guarantee a healthy HIV free baby.

- Mother-to-child transmission is largely preventable through interventions such as antiretroviral therapy during pregnancy, elective caesarean section and formula feeding.

Sources: Dabis F, Ekpini ER. HIV-1/AIDS and maternal and child health in Africa. *Lancet* 2002, 359:2097–2104. Newell M-L. Prevention of mother-to-child transmission of HIV: challenges for the current decade. *Bull WHO* 2001, 79: 1138–1144.

- The risk of mother-to-child HIV-1 transmission in predominantly breastfed populations is estimated to range from 25% to 48%.

Source: DeCock, K, Fowler, MG, Mercier E, et al. Prevention of mother-to-child transmission of HIV-1 in resource poor countries: translating research into policy and practice. *JAMA* 2000, 283:1175–1182.

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