



FACT SHEET: HIV/AIDS

HIV/AIDS is one of the most destructive diseases humankind has ever faced, with profound social, economic and public health consequences. Since the beginning of the pandemic over 25 years ago more than 25 million people have died of AIDS-related illnesses and an estimated 33 million people are now living with HIV (PLHIV).

HIV stands for Human Immunodeficiency Virus, and is the virus that causes AIDS. HIV destroys certain blood cells that are crucial to the normal function of the immune system, which defends the body against illness.

AIDS stands for Acquired Immunodeficiency Syndrome. It occurs when the immune system is weakened by HIV to the point where a person is susceptible to any number of opportunistic infections or diseases.

HIV Testing

HIV infection is detected through the test of a sample of blood or oral fluid (oral mucosa). If the blood or oral fluid sample contains HIV antibodies – proteins the body produces in an attempt to fight off the infection – the person is HIV-positive (also referred to as HIV infected or seropositive). Several rapid HIV tests are available, including ones developed for use with oral fluid or blood plasma samples. All rapid tests provide results in less than 30 minutes; however, positive results require confirmatory blood tests. Pre- and post-test counselling can help individuals assess their personal risk for infection and develop strategies for coping with their test results.¹ When a person already knows that she or he is infected with HIV, they may also have a viral load test to detect HIV genetic material and estimate the amount of virus in the blood. Viral load tests are an important tool in the clinical management of HIV disease.

HIV Transmission

HIV does not survive well outside the body. Therefore, it cannot be transmitted through casual, everyday contact. Mosquitoes and other insects do not transmit HIV.

HIV is primarily spread through unprotected vaginal or anal intercourse with someone who is HIV-positive, by sharing contaminated needles, syringes and/or other injecting equipment and, less commonly, through transfusions of infected blood or blood clotting agents (in countries where blood is not screened for HIV antibodies). Babies born to HIV-positive women may become infected before or during birth or through breast-feeding after birth.

Opportunistic Infections (OIs) are illnesses caused by organisms that do not usually cause disease in persons with normal, healthy immune systems. The most common OIs in people living with HIV/AIDS include^{2,3} :

- Candidiasis (Thrush), a fungal infection that usually affects the mouth, throat, lungs or vagina;
- Cryptosporidiosis (Crypto), a diarrheal disease caused by the protozoal infection;
- Cryptococcal Meningitis, a fungal infection of the membranes surrounding the brain and spinal cord;
- Cytomegalovirus (CMV), a herpes virus that can cause infections in most organs of the body, though HIV-infected people are most susceptible to CMV retinitis (infection of the eye), which can lead to blindness;
- Herpes simplex viruses (HSV), which can cause oral or genital herpes. (These are common infections, but outbreaks for PLHIV can be more frequent and more severe.);
- *Mycobacterium avium* Complex (MAC or MAI), a bacterial infection that can cause recurring fevers, problems with digestion and serious weight loss;

- *Pneumocystis carinii* pneumonia (PCP), now known as *Pneumocystis jiroveci* pneumonia, is a fungal infection that can cause a fatal pneumonia;
- Toxoplasmosis (also referred to as Toxo), a protozoal infection that can infect many parts of the body but most commonly causes an infection of the brain; and
- Tuberculosis (TB), a bacterial infection that attacks the lungs and can cause meningitis. TB is the leading cause of death for people living with HIV worldwide.

HIV/AIDS Statistics and Trends

Regional HIV/AIDS Statistics, 2007⁴

Region	Adults & children living with HIV	Adults & children newly infected with HIV	Adult prevalence (%) [*]	Adult & child deaths due to AIDS
Sub-Saharan Africa	22 million	1.9 million	5.0	1.5 million
North Africa & Middle East	380,000	40,000	0.3	27,000
South & South-East Asia	4.2 million	330,000	0.3	340,000
East Asia	740,000	52,000	0.1	40,000
Oceania	74,000	13,000	0.4	1,000
Latin America	1.7 million	140,000	0.5	63,000
Caribbean	230,000	20,000	1.1	14,000
Eastern Europe & Central Asia	1.5 million	110,000	0.8	58,000
Western & Central Europe	730,000	27,000	0.3	8,000
North America	1.2 million	54,000	0.6	23,000
TOTAL	33 million (30.0 – 36.0)	2.7 million (2.2 – 3.2)	0.8 (0.7 – 0.9)	2.0 million (1.8 – 2.3)

* The proportion of adults living with HIV/AIDS in 2007, using 2007 population numbers

- Each day, over 6,800 individuals worldwide are infected with HIV, and more than 5,700 die from AIDS-related illness.²
- Global prevalence of HIV (the percentage of persons living with HIV) is remaining fairly level, although the total number of PLHIV is increasing because of accumulating new infections and longer survival times.²
- Investments in HIV prevention are showing results in a number of countries, where national HIV prevalence is declining, including: Côte d'Ivoire, Kenya, Zimbabwe, Cambodia, Myanmar, and Thailand.²
- Globally, the number of new HIV infections annually has declined between 2001 and 2007.²
- The number of HIV-related deaths also has declined, due in part to the more widespread availability of antiretroviral treatment.²
- Sub-Saharan Africa continues to be the most heavily impacted region of the world, with AIDS as the primary cause of death.²
 - In 2007, sub-Saharan Africa accounted for 67% of all PLHIV and 75% of all HIV-related deaths globally.⁴
 - There are an estimated 11.4 million orphans in sub-Saharan Africa due to AIDS.²
- In Eastern Europe, the number of PLHIV grew by 150% between 2001 and 2007, though the number of new infections annually has declined, from 230,000 in 2001 to 150,000 in 2007.²
 - The Russian Federation and Ukraine have the largest epidemics in the region.²
- Since 2001, new HIV infections have remained relatively stable in the Caribbean, Latin America, the Middle East, North America, North Africa and Western Europe.²
- East Asia has seen a 20% increase in new infections between 2001 and 2007.²
- In 2007, an estimated 15.4 million women were living with HIV globally.²
 - In sub-Saharan Africa, nearly 61% of those living with HIV are women, while in the Caribbean, women account for 43% of adults living with HIV.²
 - The proportions of women living with HIV/AIDS in Latin America, Asia and Eastern Europe is slowly growing.²
- There are an estimated 2.5 million children living with HIV worldwide, with nearly 90% of these children living in sub-Saharan Africa.²
- In many regions, HIV infections are concentrated among young people (15-24 years of age). Men who have sex with men (MSM) and injecting drug users (IDUs) continue to be disproportionately affected.

- As of December 2007, an estimated 3 million people in low- and middle-income countries had access to antiretroviral treatment, representing 31% of the estimated 9.7 million people in need of treatment.⁵
 - Although the number of people on antiretroviral therapy in low- and middle-income countries grew by 950,000 in 2007, in this same year, 2.5 million people were newly infected.⁵
- In 2007, 33% of pregnant women living with HIV in low- and middle-income countries received antiretroviral drugs to prevent transmission to their children versus 10% in 2004. However, only 12% of pregnant women living with HIV identified during antenatal care were assessed for their eligibility to receive antiretroviral therapy for their own health.⁵
- By fully scaling up all scientifically proven prevention strategies, an estimated 30 million of the 60 million infections expected to occur by 2015 could be averted.⁶
- Globally, most injecting drug users and men who have sex with men lack meaningful access to HIV-prevention services. Sex workers are somewhat more likely to receive HIV-prevention services, although access is sharply limited in many countries.⁷

Prevention

Microbicides are substances (usually delivered via gels or foams) that, when applied to the vagina, can substantially reduce transmission of one or more sexually transmitted infections (STIs). They work by either destroying the microbes or preventing them from establishing an infection. An HIV microbicide would provide a female-controlled method of prevention. Scientists are currently exploring microbicide development as a potential HIV prevention method. There is also research exploring rectal microbicides.

Condom use is one of the least expensive, most cost-effective methods for preventing HIV transmission. Consistent, correct use of condoms significantly reduces the risk of transmission of HIV and other STIs. There are currently condoms available for use by both men and women.

Vaccines to prevent HIV infection or improve the ability of the immune system to defend itself are being tested by researchers. Global investment in HIV vaccine research in 2006 was US\$ 933 million, but it is likely that a successful vaccine is still a number of years away.⁸

Mother-to-child transmission (MTCT) of HIV can occur before or during delivery, or after delivery via breast milk. The risk of MTCT can be reduced significantly through the use of antiretrovirals by HIV-positive women during pregnancy and delivery, and by their infants following birth, as well as by refraining from breast-feeding. These regimens reduce the risk of MTCT by decreasing viral replication in the mother and through prophylaxis of the infant during and after exposure to the virus.⁹

Post-exposure prophylaxis (PEP) involves the short-term use of antiretrovirals to prevent infection in people who have recently been exposed (such as health care workers through needlestick injuries, women who have been raped, or sex where the condom breaks). PEP reduces the risk of infection, but is not 100% effective.

Socio-behavioural interventions include educational programs designed to encourage individuals to change their behaviour to reduce their exposure to HIV and risk for infection. Such efforts include encouraging proper and consistent condom use, a reduction in the number of sexual partners, abstinence and the delaying of sexual initiation among youth. On a broader scale, social/cultural interventions are used to change norms that contribute to HIV risk and vulnerability, such as gender inequality, homophobia and HIV-related stigma.

Pre-Exposure Prophylaxis (PrEP) involves taking antiretrovirals before engaging in behaviour(s) that place one at risk for HIV infection (such as unprotected sex or sharing contaminated needles) in order to reduce or prevent the possibility of HIV infection. The effectiveness of PrEP as an HIV prevention tool in humans is not yet proven; large-scale clinical trials are underway in several countries to determine the safety and efficacy of PrEP.

Male Circumcision has been shown to reduce the risk of HIV transmission by approximately 60%. In March 2007, WHO and UNAIDS announced recommendations that male circumcision be considered an important intervention – as part of a comprehensive prevention package - to reduce the risk of heterosexually acquired HIV infection in men based on studies done in Kenya, Uganda and South Africa.¹⁰

Treatment¹¹

ARV stands for antiretroviral and refers to a type of drug that works by interfering with the replication of HIV. The five classes of antiretroviral drugs currently available are:

- Nucleoside Reverse Transcriptase Inhibitors (NRTIs), which block the replication of HIV by interfering with a protein called Reverse Transcriptase (RT), essential for the reproduction of HIV;
- Non-nucleoside Reverse Transcriptase Inhibitors (NNRTIs), which also block RT, but in a slightly different way than NRTIs;
- Protease Inhibitors (PIs), which block the function of a protein called protease, essential for HIV reproduction;
- Entry Inhibitors, which block HIV from entering target cells. There are two licensed entry inhibitors available: a fusion inhibitor and a CCR5 co-receptor antagonist; and
- Integrase Inhibitors, which prevent HIV from integrating its genetic message (RNA reverse transcribed into DNA) into the nucleus of cells. There is one licensed integrase inhibitor.

HAART (Highly Active Antiretroviral Treatment) is a modality of antiretroviral treatment that involves the use of three or more ARVs in a treatment regimen. HAART interferes with the virus' ability to replicate, which allows the body's immune system to maintain or recover its ability to produce the white blood cells necessary to respond to opportunistic infections.

Despite significant medical advances in the treatment and prevention of HIV, there is still no cure for this devastating disease.

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* Please check the AIDS 2008 website for information on how to contact the on-site Media Centre during the conference.

This material was prepared by the AIDS 2008 Communications Team using information provided by the Kaiser Family Foundation, UNAIDS, WHO and other sources listed below.

¹ UNAIDS. [Fast Facts about Testing and Counselling](#). May 2008.

² Kaiser Family Foundation. [Reporting Manual on HIV/AIDS](#). December 2007.

³ AIDS.org. Online [Fact Sheet: Opportunistic Infections](#).

⁴ UNAIDS. [2008 Report on the Global AIDS Epidemic](#). August 2008.

⁵ WHO, UNAIDS, and UNICEF. [Towards Universal Access: Scaling up priority HIV/AIDS interventions in the health sector](#). June 2008.

⁶ Global HIV Prevention Working Group. [Bringing HIV Prevention to Scale: An Urgent, Global Priority](#). June 2007.

⁷ United Nations Secretary-General Ban Ki-moon. [Declaration of Commitment on HIV/AIDS and Political Declaration on HIV/AIDS: midway to the Millennium Development Goals, Report of the Secretary-General](#). April 2008.

⁸ [HIV Vaccines and Microbicides Resource Tracking Working Group](#). Accessed through the IAVI website on 26 June 2008.

⁹ WHO. [Mother-to-Child Transmission of HIV](#).

¹⁰ WHO and UNAIDS. [Recommendations from expert consultation on male circumcision for HIV prevention](#). 28 March 2007.

¹¹ US Food and Drug Administration. [Drugs Used in the Treatment of HIV Infection](#). January 2008.