

HOW HIV AND AIDS AFFECT POPULATIONS

by Lori S. Ashford

The AIDS epidemic is one of the most destructive health crises of modern times, ravaging families and communities throughout the world. By 2005, more than 25 million people had died and an estimated 39 million were living with HIV. An estimated 4 million people were newly infected with HIV in 2005—95 percent of them in sub-Saharan Africa, Eastern Europe, or Asia. While sub-Saharan Africa has been hardest hit, other regions also face serious

AIDS epidemics (see the table and Box 1). In recent years, nationally representative surveys have enabled researchers to lower the previously published HIV prevalence estimates for some countries. But the number of people infected and the effects on their families, communities, and countries are still staggering.¹

This policy brief gives an overview of the effects of HIV and AIDS on population size, characteristics, and well-being. It also highlights the major efforts needed to control the epidemic. The pandemic continues to spread worldwide despite prevention efforts and successes in a few countries. Comprehensive approaches to improve reproductive and sexual health will require continued commitment and investment.

HIV and AIDS by Region, 2005

Region	Prevalence (% of adults with HIV or AIDS)	Number of adults and children living with HIV or AIDS
World	1.0	38,600,000
Sub-Saharan Africa	6.1	24,500,000
Caribbean	1.6	330,000
Eastern Europe/Central Asia	0.8	1,500,000
North America	0.6	1,300,000
South/Southeast Asia	0.6	7,600,000
Latin America	0.5	1,600,000
Oceania	0.3	78,000
Western/Central Europe	0.3	720,000
North Africa/Middle East	0.2	440,000
East Asia	0.1	680,000

NOTE: Estimates of prevalence include adults ages 15 and older who are infected with the HIV virus or who are suffering from AIDS. AIDS may not appear for many years after infection with HIV. AIDS is treatable but not curable at this time.

SOURCES: UNAIDS, *2006 Report on the Global AIDS Epidemic* (2006): Annex 2, table 1; and C. Haub, *2006 World Population Data Sheet* (2006).

Demographic and Health Effects of HIV/AIDS

Countries that have been hard hit by the AIDS epidemic have seen mortality surge and life expectancy drop in the last decade, as detailed below. But because the severely affected countries in sub-Saharan Africa also have high fertility (average births per woman) and most have relatively small populations, the epidemic has not led to population decline in the region. In a few countries, such as Botswana, Lesotho, and South Africa, population growth has slowed dramatically or stopped due to AIDS, but overall growth in the region surpasses that of other world regions. Even accounting for AIDS-related mortality, sub-Saharan Africa's population is projected to grow from 767 million in 2006 to 1.7 billion in 2050.²

AIDS has nevertheless taken a devastating toll on societies. It ranks fourth among the leading causes of death worldwide and first in sub-Saharan Africa. In 2005, UNAIDS estimated that 3.1 million adults and children died of AIDS, 2.4 million of whom were in sub-Saharan Africa.

Effects on mortality and life expectancy

People living with HIV and AIDS are prone to developing other illnesses and infections because of their suppressed immune systems and, as a

Box 1

Emerging AIDS Epidemics

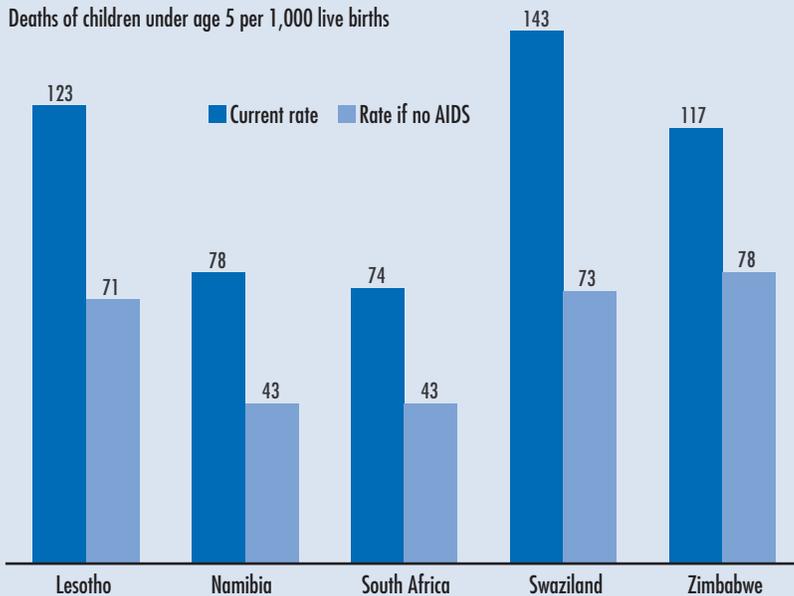
Countries in Eastern Europe and Central Asia—notably Russia and Ukraine—as well as India and China, have seen alarming increases in HIV infections in recent years. India now has the largest number of HIV-infected people, although less than 1 percent of adults are infected. Countries in other parts of Asia, including Vietnam, Indonesia, and Pakistan, could be on the verge of serious epidemics.

In many of these countries, injecting-drug use and commercial sex are driving the nascent epidemics, but as the levels of infections increase, HIV spreads from populations that practice high-risk behavior into the general population. Early and aggressive education and prevention programs are needed to prevent a general epidemic and to spare tens of thousands, if not millions, of lives.

REFERENCE: UNAIDS, *2006 Report on the Global AIDS Epidemic* (Geneva: UNAIDS, 2006).

Effect of AIDS on Child Mortality, Selected Countries, 2002–2005

Deaths of children under age 5 per 1,000 live births



SOURCES: UN Population Division, *World Population Prospects: The 2004 Revision* (2005); and UNAIDS and UNICEF, *A Call to Action: Children, the Missing Face of AIDS* (2005).

result, the AIDS epidemic has fueled an upsurge of pneumonia and tuberculosis in many world regions. In sub-Saharan Africa, mortality rates among children under age 5 are substantially higher than they would be without HIV (see figure). Without lifesaving drugs, one-third of children who are born infected with HIV (transmitted through their mothers) die before their first birthday, and about 60 percent die by age 5.³

The surge of AIDS deaths has also halted or reversed gains in life expectancy in many African countries. For example, in Lesotho, where one-fourth of adults were estimated to be living with HIV/AIDS in 2005, life expectancy was nearly 60 years in 1990–1995, but plummeted to 34 years by 2005–2010, primarily because of AIDS-related mortality. The UN projected that Lesotho’s life expectancy would have improved to 69 years by 2015–2020 if not for excessive AIDS mortality.⁴ Outside Africa, countries expected to see a drop in life expectancy include the Bahamas, Cambodia, Dominican Republic, Haiti, and Myanmar.⁵

Effects on age and sex structure

AIDS-related deaths are altering the age structure of populations in severely affected countries. In developing countries with low levels of HIV and AIDS, most deaths occur among the very young and very old. But AIDS primarily strikes adults in their prime working-ages—people who were infected as adolescents or young adults—shifting the usual pattern of deaths and distorting the age structure in some countries. Because of increasingly high AIDS-mortality in southern Africa, for example, people ages 20 to 49 accounted for almost three-fifths of all deaths in that region between 2000 and 2005, up from just one-fifth of all deaths between 1985 and 1990.⁶

Because AIDS deaths are concentrated in the 25 to 45 age group, communities with high rates of HIV infections lose disproportionate numbers of parents and experienced workers and create gaps that are difficult for society to fill.

Women are more vulnerable than men in some regions, and their deaths rob families of the primary caregivers. In sub-Saharan Africa and in the Caribbean, where the virus is spread predominantly through heterosexual contact, HIV infections are higher among women than among men (see Box 2).

Impact on Societies and Economies

In countries hard hit by the AIDS epidemic, the tragic and untimely loss of parents and productive citizens has not only affected families, but also farms and other workplaces, schools, health systems, and governments. The epidemic is touching almost every facet of life.

Households experience the immediate impact of HIV/AIDS, because families are the main caregivers for the sick and suffer AIDS-related financial hardships. During the long period of illness caused by AIDS, the loss of income and cost of caring for a dying family member can impoverish households. When a parent dies, the household may dissolve and the children are sent to live with relatives or left to fend for themselves.

Health care systems also experience enormous demands as HIV/AIDS spreads. The epidemic has already crippled health systems in Africa, where systems were weak before the epidemic struck.

Expenses have been rising for the treatment of AIDS and AIDS-related “opportunistic” infections. Allocating scarce resources for HIV/AIDS can divert attention from other health concerns, and as public funds for health care grow scarce, the costs are increasingly borne by the private sector and by households and individuals.

Business and agriculture have also been seriously affected by HIV/AIDS. Employers are hard hit by a loss of workers, absenteeism, the rising costs of providing health-care benefits (including the expensive AIDS drugs), and the payment of death benefits. The economic viability of small farms and commercial agriculture is also compromised by a loss of farm workers. A study by the Food and Agriculture Organization found that in the 10 African countries most severely affected by HIV/AIDS, the agricultural workforce will decline between 10 percent and 26 percent by 2020. Another study found that in countries such as Kenya, Malawi, Tanzania, and Zambia, slow growth in agricultural production could result in growing food insecurity by 2010.⁷

Economic stability is therefore compromised as businesses and agriculture suffer. In many highly affected countries, studies have shown a loss of 1 to 2 percentage points of annual gross domestic product compared with a hypothetical “no-AIDS” situation.⁸ But the longer-term impact may be more serious than these analyses suggest. It is difficult to account for the loss of human capital as children’s education, nutrition, and health suffer directly and indirectly due to AIDS. The effects of lower investments in the younger generation could affect economic performance for decades.

The Need for Comprehensive Responses

As HIV continues to spread—and neither a vaccine nor cure exists—prevention remains the key strategy for curbing the epidemic. The most common mode of HIV transmission is sexual contact; thus, HIV prevention is closely linked to men’s and women’s sexual behavior and reproductive health. Effective prevention programs include interventions that promote abstaining from sex,

Box 2

The Impact of HIV and AIDS on Women

The impact of HIV and AIDS on the lives of women is one of the most critical reproductive health concerns of our times. In sub-Saharan Africa, where the epidemic has spread to the general population mainly through sexual contact, women make up 59 percent of adults living with HIV. Young women ages 15 to 24 in that region are between two and six times as likely to be infected as young men their age.

Women are especially at risk of contracting HIV because of the interplay of biological, economic, and cultural factors. Physical differences make it more likely that a woman will contract the virus from a man than vice versa. Perhaps more important, powerlessness, dependence, and poverty tend to diminish women’s ability to protect themselves from unsafe sex. A woman’s choices are often limited by her inability to negotiate when or with whom to have sex or whether to use a condom; by society’s acceptance of men having sex before or outside marriage; and by the need for economic support from men.

In addition, because most infected women are of childbearing age, they risk infecting their children and thus face difficult choices about childbearing. And, as caregivers in their immediate and extended families, women usually care for dying family members and for children orphaned by the disease. All of these factors make the empowerment of women a critical component of programs aiming to curb the epidemic and mitigate its consequences.

REFERENCE: UNAIDS, 2006 *Report on the Global AIDS Epidemic* (Geneva: UNAIDS, 2006).

delaying the onset of sexual activity, staying with one mutually faithful partner, limiting the number of sexual partners, consistently and correctly using condoms, and counseling and testing for HIV. The most effective mix of these interventions depends on the characteristics of the groups infected with HIV. Effective programs also consider the social, economic, and cultural factors that influence people’s behavior.

Preventing HIV transmission from mothers to their infants is also key to saving lives. Women who are HIV positive need contraceptive choices and counseling to help them decide whether to have a pregnancy. Many HIV-positive births could be prevented by helping HIV-infected women avoid unintended pregnancies. Increasing contraceptive use to prevent such pregnancies appears to be at least as cost-effective as providing antiretroviral drug therapy during delivery and to newborns of HIV-infected mothers.⁹

Key challenges for the future include controlling further spread of the epidemic in infants and young adults; treating and supporting the millions of people living with HIV; and mitigating the impacts of the epidemic in poor countries. To meet these challenges, the international community, governments, and civil society need to:

For More Information

PRB's *Population Bulletin*, "The Global Challenge of HIV and AIDS" (March 2006) and this policy brief are available online at www.prb.org.

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Population Reference Bureau
1875 Connecticut Ave., NW
Suite 520
Washington, DC 20009 USA
Tel.: 202-483-1100
Fax: 202-328-3937
E-mail: prborders@prb.org
Website: www.prb.org

- Ensure that prevention remains the backbone of AIDS control programs, even where treatment is available;
- Improve health infrastructure and the capacity to provide services;
- Reduce poverty, illiteracy and other social, economic, and political factors that increase people's vulnerability to HIV infection; and
- Reduce the stigma and discrimination against those living with HIV.

The resources available to address HIV in developing countries have increased dramatically, from an estimated \$300 million in 1996 to \$9 billion in 2006.¹⁰ Yet, funding for AIDS treatment often competes with funding for prevention, and funding for both can crowd out other spending for reproductive health.¹¹ Shortchanging reproductive health programs may be counterproductive, because increasing women's and men's knowledge about sexuality, family planning, and safe pregnancies can reinforce HIV prevention efforts. Better access to contraception and counseling can reduce maternal and child deaths and enhance efforts to empower women. Thus, well-designed programs that link HIV prevention to other reproductive health programs have the potential to strengthen all of these programs—and ultimately to save more lives.

References

¹ UNAIDS, *2006 Report on the Global AIDS Epidemic* (Geneva: UNAIDS, 2006). New estimates of HIV prevalence are derived from Demographic and Health Surveys (DHS), which take a representative sample of the total population ages 15-49. In countries without a DHS, HIV estimates are calculated from antenatal care facilities and other sources not representative of the total population.

² Carl Haub, *2006 World Population Data Sheet* (Washington, DC: Population Reference Bureau, 2006).

³ Peter R. Lamptey, Jami L. Johnson, and Marya Khan, "The Global Challenge of HIV and AIDS," *Population Bulletin* 61, no. 1 (2006): 8-9.

⁴ UN Population Division, *World Population Prospects: The 2004 Revision* (New York: UN, 2005); and UNAIDS, *2006 Report on the Global AIDS Epidemic*.

⁵ United Nations, *The Impact of AIDS* (New York: UN Department of Economic and Social Affairs/Population Division, 2004).

⁶ Lamptey, Johnson, and Khan, "The Global Challenge of HIV and AIDS."

⁷ United Nations, *The Impact of AIDS*: 63.

⁸ United Nations, *The Impact of AIDS*: 85.

⁹ Kim Best, "Family Planning and the Prevention of Mother-to-Child Transmission of HIV," *FHI Working Paper Series* WP04-01 (Research Triangle Park, NC: Family Health International, 2004).

¹⁰ UNAIDS, *2006 Report on the Global AIDS Epidemic*: 224.

¹¹ Lamptey, Johnson, and Khan, "The Global Challenge of HIV and AIDS"; and Jeremy Shiffman, "Has Donor Prioritization of HIV/AIDS Control Displaced Aid for Other Health Causes?" (paper presented at the annual meetings of the Population Association of America, Los Angeles, March 30, 2006).

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POPULATION REFERENCE BUREAU

1875 Connecticut Ave., NW, Suite 520, Washington, DC 20009 USA

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