AIDS in Africa

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compared with 1% worldwide. Nine southern African countries have infection rates above 10%. Ten African countries with the largest infected populations account for over 50% of infected adults worldwide. By the end of 2005, an estimated 27.1 million or more Africans had died of AIDS since 1982, including 2 million in 2005. AIDS has surpassed malaria as the leading cause of death in Africa, and it kills many times more Africans than war. In Africa, about 59% of infected adults are women.

Experts attribute the severity of Africa's AIDS epidemic to the region's poverty, women's relative lack of empowerment, high rates of male worker migration, and other factors. Health systems are ill-equipped for prevention, diagnosis, and treatment. AIDS' severe social and economic consequences are depriving Africa of skilled workers and teachers, and reducing life expectancy by decades in some countries. There are an estimated 12.3 million African AIDS orphans. They face increased risk of malnutrition and reduced prospects for education. AIDS is blamed for declines in farm production in some countries and is seen as a major contributor to hunger and famine.

Donor governments, non-governmental organizations, and African governments have responded by supporting programs aimed at preventing and reducing the number of new infections and by trying to abate damage done by AIDS to families, societies, and economies. The adequacy of this response is the subject of much debate. An estimated 810,000 Africa AIDS patients were being treated with antiretroviral drugs in late-2005, up from 150,000 in mid-2004. An estimated total of 4.7 million persons were in need of such therapy. U.S. and other initiatives are expected to sharply expand access to treatment in the near future. Advocates see this goal as an affordable means of reducing the impact of the pandemic. Skeptics question whether drugs can be made widely accessible without costly health infrastructure improvements.

U.S. concern over AIDS in Africa grew in the 1980s, as the epidemic's severity became apparent. Legislation enacted in the 106th and the 107th Congresses increased funding for worldwide AIDS programs. P.L. 108-25, signed into law on May 27, 2003, authorized $15 billion over five years for international AIDS programs. President Bush announced his Emergency Plan for AIDS Relief (PEPFAR) in his 2003 State of the Union message. Twelve of 15 PEPFAR "focus countries" are in Africa. Under the FY2007 budget request, the 12 countries would receive a 61% boost in AIDS-related aid, to $1.99 billion, under the State Department's Global HIV/AIDS Initiative account. Nonetheless, activists and others urge that more be done, given the scale of the African pandemic. This CRS report replaces CRS Issue Brief IB10050, *AIDS in Africa*, by Nicolas Cook. It will be updated as circumstances warrant.

List of Tables

The Group of Eight (G8) member states, meeting at their 2006 summit in Russia, took note of their shared support for and participation in passing the *Political Declaration on HIV/AIDS* (A/RES/60/262), adopted at the 2006 U.N. High-level Meeting on AIDS. The G8 also made a commitment to help secure funding and support for the Global Fund to Fight AIDS, Tuberculosis and Malaria during its 2006-2007 replenishment period. Members did not make any joint new Africa-specific commitments to fight AIDS.[1] The U.N. High-level Meeting, which was held from May 31 to June 2, 2006, received a Joint United Nations (U.N.) Program on HIV/AIDS (UNAIDS)-coordinated update on the epidemic, entitled the *2006 Report on the Global AIDS Epidemic*. Released on May 30, the report describes and provides current data on the worldwide impact of AIDS on people and societies, the status of prevention, treatment, and care, and other issues concerning national and international response to AIDS, including in Africa.[2]

High-level Meeting participants reviewed progress made in countering AIDS since the passage by the U.N. General Assembly Special Session on AIDS (UNGASS) in 2001 of the *Declaration of Commitment on HIV/AIDS* (A/RES/S-26/2). They also considered recommendations to achieve AIDS treatment, care and other targets, and renewed diverse global political commitments to counter AIDS, as reflected in their passage of the *Political Declaration on HIV/AIDS*. It reaffirms their commitment to fully implement their 2001 declaration and to scale up activities and the provision of financial and other resources necessary to ensure universal international access to comprehensive HIV prevention, treatment, care and support programs by 2010.[3]

In April 2006, the Government Accountability Office (GAO) issued a report entitled *Global Health: Spending Requirement Presents Challenges for Allocating Prevention Funding under the President's Emergency Plan for AIDS Relief*.[4] The

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[1] G8, *Update on Africa*, July 16, 2006, [http://en.g8russia.ru/docs/13.html]. On the G8, see CRS Report RS22403, *The Group of Eight Summits: Evolution and Possible Reform*, by Martin A. Weiss. On the Global Fund, see CRS Report RL33396, *The Global Fund to Fight AIDS, Tuberculosis, and Malaria: Progress Report and Issues for Congress*, by Tiaji Salaam-Blyther.

[2] Online version: [http://www.unaids.org/en/HIV_data/2006GlobalReport/default.asp]. Selected key findings from the report are presented in relevant sections of this CRS report.

[3] Online versions of the meeting documents: [http://www.un.org/ga/aidsmeeting2006].

[4] The report is online: [http://www.gao.gov/docsearch/abstract.php?rptno=GAO-06-395].

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rise in U.S. international AIDS spending. It also spotlighted the PEPFAR New Partners Initiative, launched by the President on World AIDS Day in December 2005. The Initiative seeks to identify and provide U.S. competitive grant support to "new partners," including faith-based and community health care providers that are active in the developing world but lack experience working with the U.S. government. Also in February, the Global Partners Forum, a group of public and private sector organizations and governments met to seek ways to enhance global commitments for HIV-affected children in areas such as protection, prevention, treatment, and care capacities globally. The Global Steering Committee, a new international effort to provide universal AIDS treatment access by 2010, was launched in Washington in January 2006. It seeks to overcome key challenges to global anti-AIDS program effectiveness, such as lack of sustainable financing, health care system constraints, lack of development of and access to low-cost drugs and tests, and AIDS-related social stigma.

The Assistance for Orphans and Other Vulnerable Children in Developing Countries Act of 2005 (P.L. 109-95; see section on Orphans, below), was signed into law in November 2005. At a September 2005 London conference, the United States pledged $600 million of $3.7 billion in total pledges by governments to the Global Fund in 2006 and 2007. This amount would fund renewals of existing Global Fund grants but not new ones. International AIDS issues are further covered in CRS Report RL33485, *U.S. International HIV/AIDS, Tuberculosis, and Malaria Spending: FY2004-FY2007*, CRS Report RL33396, *The Global Fund to Fight AIDS, Tuberculosis, and Malaria: Progress Report and Issues for Congress*, by and CRS Report RL31712, *The Global Fund to Fight AIDS, Tuberculosis, and Malaria: Background*, all three written by Tiaji Salaam-Blyther.

Background

Sub-Saharan Africa ("Africa" hereafter) has been far more severely affected by AIDS than any other world region. In May 2006, UNAIDS reported that in 2005, there were between 21.66 million and 27.40 million HIV-positive adults and children in Africa, including 2.7 million newly infected during the year. Africa has just over 11% of the world's population but about 64% of the global HIV-positive population. The infection rate among adults averaged an estimated 6.1% in Africa in 2005, compared with about 1% worldwide. About 2 million adults and children were

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[4] (...continued)

More Than 10%		5% - 10%		<0.1% - 5%			
Swaziland	33.4	Gabon	7.9	Nigeria	3.9	Burkina Faso	2
Botswana	24.1	Côte d'Ivoire	7.1	Guinea-Bissau	3.8	Benin	1.8
Lesotho	23.2	Uganda	6.7	Angola	3.7	Mali	1.7
Zimbabwe	20.1	Tanzania	6.5	Chad	3.5	Sierra Leone	1.6
Namibia	19.6	Kenya	6.1	Burundi	3.3	Sudan	1.6
South Africa	18.8	Cameroon	5.4	Congo, Dem. Rep.	3.2	Guinea	1.5
Zambia	17	Congo	5.3	Equat. Guinea	3.2	Niger	1.1
Mozambique	16.1			Togo	3.2	Senegal	0.9
Malawi	14.1			Djibouti	3.1	Somalia	0.9
Cent. African Rep.	10.7			Rwanda	3.1	Mauritania	0.7
				Eritrea	2.4	Mauritius	0.6
				Gambia	2.4	Madagascar	0.5
				Ghana	2.3	Comoros	<0.1

Source: UNAIDS, *2006 Report on the Global AIDS Epidemic*. No prevalence rates were reported for Cape Verde or Sao Tome. Preliminary data for Ethiopia of between 0.9% and 3.5% were reported. Data for Liberia of between 2% and 5% were reported; estimates from other sources range as high as 12%. UNAIDS is a key source of national AIDS data in Africa. Its data are widely seen as accurately reflecting trends, though some researchers assert that improved data collection and statistical models are showing that it may have overestimated infection rates in some countries. See Craig Timberg, "How AIDS in Africa was Overstated," *Washington Post*, Apr. 6, 2006.

Characteristics of the African Epidemic[6]

Transmission. In Africa according to most experts, HIV — the human immunodeficiency virus that causes AIDS — is spread primarily by heterosexual contact, though some believe that the role of unsafe medical practices in the spread of HIV may have been underestimated. Medical HIV transmission prevention is a component of the President's Emergency Plan for AIDS Relief (PEPFAR).

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[5] These totals reflect rough estimates of total numbers of deaths and were compiled by aggregating the total numbers of deaths reported for all years since 1982, based on data reported in various published UNAIDS and World Health Organization (WHO) sources (list available from the author). This method may not be statistically or methodologically sound, in part because statistical and data collection methods have changed over time or varied from study to study, and because many statisticians harbor doubts about the reliability of death and infection rate data collected during the early years of the epidemic. UNAIDS does not regularly publish aggregate historical regional mortality figures for Africa for similar reasons, and because not all countries have authorized the release of data covering all years.

[6] The following data are primarily drawn from UNAIDS, *2006 Report on the Global AIDS Epidemic*, supplemented by other UNAIDS and other U.N. agency source data.

both the total adult and infected populations have increased. Stabilization means that numbers dying approximate the numbers of newly infected. HIV has become endemic in many countries and at a minimum will affect several future generations. There have been declines in Kenya, Zimbabwe, and urban areas in some countries, but prevalence is increasing in southern Africa (apart from Zimbabwe and Angola); remains unchanged or slightly declining in West and Central Africa, where overall rates are lower than in other regions of Africa; and is level or decreasing in several East and Horn of Africa countries, though there is much local variation.

Highest Rates. Southern Africa, where nine countries have adult infection rates above 10% (**Table 1)**, is the most severely affected region. With about 1.65% of the world's population in 2005, based on U.S. Census estimates, these countries account for about 31.2% of infected people worldwide and 49% of those in Africa. However, populous Nigeria in West Africa, with an estimated 3.9% adult infection rate, has an estimated 2.9 million infected people,[7] the largest number in Africa apart from South Africa, where between 5.5 million and 6.1 million [UNAIDS average and South African government estimates] are infected — the largest such population in the world.

Children. Africa's AIDS epidemic has a proportionally much greater effect on children in Africa than in other world regions. According to UNAIDS, over 600,000 African infants become infected yearly with HIV through mother-to-child transmission, either at birth or through breast-feeding. Most die before the age of two. Nonetheless, an estimated 2 million African children under age 15 were living with AIDS in late 2005. Nearly 90% of HIV-positive children worldwide live in Africa. Less than 10% of these African children receive basic support services. An estimated 12 million children less than 17 years of age, slightly less than 10% of all African children, have lost one or both parents to AIDS.

Orphans. By late 2005, according to UNAIDS estimates published in 2006, there were about 12 million AIDS orphans (children 17 and under who had lost one or both parents to HIV) in Africa, up from about 10.2 million in late 2003, when AIDS orphans comprised in the range of 28% of all orphans in the region. By 2010, their number is forecast to rise to 18.4 million, or 36.8% of all orphans.[8] Because of

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[7] UNAIDS estimates for Nigeria vary widely, however, from 1.7 million to 4.2 million.

[8] UNAIDS/UNICEF/U.S. Agency for International Development, *Children on the Brink*, July 2004. Estimates vary. Some earlier estimates had put the number as high as 12.3 million. In November 2003, UNICEF predicted that 20 million children would be orphaned

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not addressed the myriad barriers to education faced by AIDS-affected OVCs. P.L. 108-25 included sense of Congress language recommending that 10% of U.S. HIV/AIDS international assistance should fund orphans and vulnerable children.

As previously noted, the Assistance for Orphans and Other Vulnerable Children in Developing Countries Act of 2005 (P.L. 109-95) became law in November 2005. It authorizes U.S. assistance for basic care for orphans and vulnerable children in developing countries, including aid for community-based care, school food programs, education and employment training, psycho-social support, protection of inheritance rights, and AIDS care.

Explaining the African Epidemic

AIDS experts attribute Africa's AIDS epidemic to a variety of economic and social factors, but place primary blame on the region's poverty, which has deprived Africa of effective systems of health information, health education, and health care. As a result, Africans suffer from high rates of untreated sexually-transmitted infections other than AIDS, increasing their susceptibility to HIV. African health systems often have limited capabilities for AIDS prevention work, and HIV counseling and testing are difficult for many Africans to obtain. Until very recently, AIDS treatment was generally available only to elites.

Poverty forces large numbers of African men to migrate long distances in search of work, and while away from home they may have multiple sex partners, increasing their risk of infection. Some of these partners may be women who engage in commercial or "transactional" sex because of poverty, which makes them highly vulnerable to infection. Migrant workers may carry the infection back to their wives when they return home. Long-distance truck and public transport drivers are also seen as key agents in the spread of HIV.

Women and girls are disproportionately affected by AIDS in Africa. According to UNAIDS officials and publications, among other sources, contraction of HIV by girls from older men is a significant factor contributing to higher rates of infection among young women than in young men. While older men are more likely than young men to be HIV-positive, girls in impoverished contexts often view relationships with older men as vital opportunities for achieving financial, material,

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[8] (...continued)
by AIDS by 2010 and that in a dozen countries orphans from all causes would make up 15% to over 25% of children under 15; see *Africa's Orphaned Generations*.

for greater support for fidelity campaigns primarily aimed at African men. Women also lack or have weak property rights in many African countries, making their homes or property vulnerable to seizure by relatives when women suffer the loss of their spouses due to AIDS.

Social and Economic Consequences

AIDS is having severe negative social and economic consequences in Africa, and these effects are expected to continue for many years, as suggested by a January 2000 Central Intelligence Agency National Intelligence Estimate on the infectious disease threats:

> At least some of the hardest-hit countries, initially in Africa and later in other regions, will face a demographic catastrophe as HIV/AIDS and associated diseases reduce human life expectancy dramatically and kill up to a quarter of their populations over the period of this Estimate. This will further impoverish the poor, and often the middle class, and produce a huge and impoverished orphan cohort unable to cope and vulnerable to exploitation and radicalization (CIA, *The Global Infectious Disease Threat and Its Implications for the United States,* [http://www.cia.gov/]).

The estimate predicted that AIDS would generate increased political instability and slow democratic development. The World Bank (*Intensifying Action Against HIV/AIDS in Africa,* September 1999) has reached similar conclusions with respect to Africa's economic future:

> The illness and impending death of up to 25% of all adults in some countries will have an enormous impact on national productivity and earnings. Labor productivity is likely to drop, the benefits of education will be lost, and resources that would have been used for investments will be used for health care, orphan care, and funerals. Savings rates will decline, and the loss of human capital will affect production and the quality of life for years to come.

In the most severely affected countries, sharp drops in life expectancy are occurring, reversing major gains achieved in recent decades. According to UNAIDS, average life expectancy in Africa is now 47 years due to AIDS, whereas it would have been 62 years in its absence. A March 2004 U.S. Census Bureau report

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[9] See, e.g., HRW, *A Dose of Reality Women's Rights in the Fight against HIV/AIDS*, March 2005, among other HRW statements and reports.

carry out farm and domestic work. Many also become orphans. In 2001, the U.N. Food and Agriculture Organization reported that AIDS had killed about 7 million agricultural workers in 25 hard-hit countries in Africa and would likely cause 16 million more to die by 2020. In 10 of the most affected countries, labor force losses of between 10% to 26% were forecast. (FAO, *HIV/AIDS, Food Security, and Rural Livelihoods*, 2001). Some experts attribute serious food shortages in southern Africa in 2002 and 2003 to AIDS-related production losses.[10] In February 2003, in separate testimony before the Senate Foreign Relations Committee and the House International Relations Committee, World Food Program (WFP) Executive Director James Morris said that AIDS was a central cause of the famine. In June 2004, Morris said that southern Africa was in a "death spiral" due to the effects of the AIDS pandemic, including the loss of human capacity and the devastation of rural areas, with resulting negative consequences for food security (WFP press release). The FAO supports many programs to alleviate the diverse threats that AIDS poses to agricultural production and food security.[11]

Workforce Depletion. AIDS is blamed, in part, for increasing shortages of skilled workers and teachers in several countries and is claiming many African lives at middle and upper levels of public and private sector management. Although unemployment is generally high in Africa, trained personnel are not readily replaced. Dr. Peter Piot, UNAIDS Executive Director, told a June 2, 2005, special U.N. General Assembly meeting on AIDS that by 2006, 11 African countries will have lost 10% of their workforce to the disease. A May 2002 World Bank study, *Education and HIV/AIDS: A Window of Hope*, reported that over 30% of teachers are HIV positive in parts of Malawi and Uganda, 20% in Zambia, and 12% in South Africa. Reports from diverse sources have since continued to mirror such findings.

Security. AIDS may have serious security consequences for much of Africa, since HIV infection rates in many militaries are reportedly high. Domestic political stability could also be threatened in African countries if the security forces become unable to perform their duties due to AIDS. Peacekeeping is also at risk, because African soldiers are expected to play an important peacekeeping role in Africa in the years ahead. The infection rate in South Africa has been estimated at 23%, with higher rates reported for units based in heavily infected KwaZulu-Natal province. Some Southern African militaries, however, are pursuing efforts to treat and counter an increase in AIDS infections (*Chicago Tribune*, March 2006).

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[10] For example, see FAO, HIV/AIDS and the Food Crisis in Sub-Saharan Africa, ARC/04/INF/8, March 2004.

[11] See [http://www.fao.org/hivaids].

in some African contexts, as treatment and drug distribution efforts expand, but ARVs remain inaccessible to the vast majority of those in need of them in Africa (See below, "AIDS Treatment Issues").

Anti-AIDS programs and projects typically provide information on how HIV is spread and on how it can be avoided through the media, posters, lectures, and skits. Some success has been claimed for these efforts in persuading youth to delay the age of "sexual debut" and to remain faithful to a single partner. The Bush Administration advocates an expansion of prevention programs focusing on abstinence until marriage and marital faithfulness as effective means of slowing the spread of HIV, although some critics maintain that this may be unrealistic in social environments characterized by poverty and lack of education. Some also question whether such approaches can benefit poor married women in Africa, who have little power to refuse the sexual demands of their husbands, whether infected or not — or, in some cases, to control their extra-marital activities. They are also often unable to refuse spousal decisions to take more than one wife, given that polygamous marriage is common and deeply embedded in many African societies. In January 2006, First Lady Laura Bush defended abstinence approaches, saying that she had "always been a little bit irritated by criticism of abstinence, because abstinence is absolutely, 100 percent effective in fighting a sexually transmittable disease." She added that "In many countries where girls feel obligated to comply with the wishes of men, girls need to know that abstinence is a choice."[12]

Donor-sponsored voluntary counseling and testing (VCT) programs, where available, enable African men and women to learn their HIV status. In Botswana, HIV tests are now offered as a routine part of medical visits, and many experts are urging that this be done continent-wide. AIDS awareness programs are found in many African schools and, increasingly, in the workplace, where employers are recognizing their interest in reducing infection rates among their employees. Many projects seek to make condoms readily available and to provide instruction in condom use. Several projects have had success in reducing mother-to-child transmission by administering the anti-HIV drug AZT or nevirapine, before and during birth, and during infant nursing. Nevirapine, however, has been the subject of controversy. In December 2004, the Associated Press reported that important reporting flaws, including non-disclosure of bad drug reactions, had been found in a study of nevirapine conducted in Uganda under U.S. National Institutes of Health (NIH) sponsorship. The allegations sparked criticism in Africa, including from the South Africa's ruling Africa National Congress, which in December 2004 charged that top U.S. officials had "entered into a conspiracy with a pharmaceutical company

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[12] Deborah Orin, "Laura Defends Sex Abstinence," *New York Post*, January 16, 2006.

Church groups and humanitarian organizations have helped Africa deal with the consequences of AIDS by setting up care and education programs for orphans. Public-private partnerships have also become an important vehicle for responding to the African AIDS pandemic. The Bill and Melinda Gates Foundation has been a major supporter of AIDS vaccine research and diverse AIDS programs pursued in cooperation with African governments and donors. The Rockefeller Foundation, working with UNAIDS and others, has sponsored programs to improve AIDS care in Africa, and both Bristol-Myers Squibb and Merck and Company, together with the Gates Foundation and the Harvard AIDS Institute, have undertaken programs with the Botswana government aimed at improving the country's health infrastructure and providing AIDS treatment to all who need it. In Uganda, Pfizer and the Pfizer Foundation fund Uganda's AIDS Support Organization and the Infectious Diseases Institute. It has trained 250 AIDS specialists annually, many slated to work in rural areas. In January 2006, the Swiss drug firm Roche said it plans to help African firms produce generic versions of its World Health Organization (WHO)-endorsed ARV, Saquinavir, under its Technology Transfer Initiative.[13]

The Global Fund to Fight AIDS, Tuberculosis, and Malaria, created in January 2002, commits about 60% of its grant funds to Africa, and about 60% of its grants worldwide go toward fighting AIDS.[14] Despite these responses, UNAIDS maintains that significant AIDS funding gaps remain. According to a recent study, $14.9 billion will be needed in 2006 to fight HIV/AIDS in low- and middle-income countries globally in 2006, whereas $8.9 billion is likely to be provided. The funding gap is projected to rise in future years, according to a June 2005 UNAIDS report.

Leadership Reaction in South Africa and Elsewhere

Many observers believe that the spread of AIDS in Africa could have been slowed if African leaders had been more engaged and outspoken at earlier stages of the epidemic. President Thabo Mbeki of South Africa has come in for particular criticism on this score. In April 2000, he wrote to then-President Clinton and other heads of state defending dissident scientists who maintain that AIDS is not caused by the HIV virus. In March 2001, Mbeki rejected appeals that the national assembly declare the AIDS pandemic a national emergency. Under mounting domestic and international pressure, the South African government seemed to modify its position

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[13] Roche, "Roche offers help to local manufacturers to produce HIV medicine for sub-Saharan Africa and Least Developed Countries," Jan. 12, 2006.

[14] For further information, see CRS Report RL31712, *The Global Fund to Fight AIDS, Tuberculosis, and Malaria: Background and Current Issues*, by Tiaji Salaam-Blyther.

its 2006 National Budget Review, the government reported that 112,000 patients were "enrolled" for ARV therapy by December 2005 but did not specify the number in publicly funded programs. Estimates of total numbers in treatment and proportions under public and private care vary widely. In February 2005, TAC estimated that about 38% of 70,000 patients under ARV therapy were in public programs; the remainder were receiving private care. Another activist group, the International Treatment Preparedness Coalition, reported in November 2005 that of 150,000 persons receiving treatment in August 2005, 50%-53% were in public programs. In May 2006, UNAIDS reported that about 190,000 South Africans were receiving ARV treatment, but that nearly 1 million, or more than 80% of those in need of ARV therapy, were not yet receiving it in 2005.

The delays in South Africa's response to the pandemic have been costly, many experts believe. South African Health Department data have shown HIV infection rates continuing to rise, though according to UNAIDS figures, rates were similar between 2003 and 2005, though they rose among pregnant women. About 29.5% of pregnant women in South Africa were found to be HIV positive in 2004, up from 27.9% in 2003 and 26.5% in 2002. The Health Department estimates that there were 5.6 million HIV-positive South Africans in 2004. A September 2004 report by the Bureau of Market Research at the University of South Africa predicted that AIDS-related deaths would exceed 500,000 yearly from 2007 to 2011. A lower rate of growth in infections may reportedly be under way; a November 2005 South African Human Sciences Research Council data release stated that South Africa's AIDS epidemic may be "leveling off." Some critics of the government have accused government leaders of being "AIDS denialists" and of curtailing the rate of scaling up access to ARVs because of some officials' reported doubts about ARV use. South Africa's Health Minister Manto Tshabalala Msimang has repeatedly questioned the effectiveness of ARV drugs and has asserted that healthy diets and special foods, such as raw garlic and lemon peel, can offer protection from the disease (*Mail and Guardian Online*, May 5, 2005). Former President Nelson Mandela, seeking to combat the stigma associated with AIDS, announced in January 2005, that his son, Makgatho, had died of AIDS.

In the rest of Africa, many heads of state, including the presidents of Uganda, Botswana, Nigeria, and several other countries, are taking major roles in fighting the epidemic. Several regional AIDS initiatives have been launched. For example, in August 2003, the Southern African Development Community (SADC) agreed to an AIDS strategic framework, including the creation of a regional fund to fight the disease. The New Partnership for Africa's Development (NEPAD), in partnership with the African Union, UNAIDS, and other multinational entities, has formulated a range of strategies for countering AIDS, though the products of these efforts appear to be limited at present.

prevalence declines. Sophia Mukasa Monico, a member of the Global Health Council and a former AIDS worker in Uganda, testified that all three program elements are necessary for prevention to work but noted that the Ugandan epidemic was still "raging"and that much work to counter it remained to be done.

In February 2005, Johns Hopkins and Columbia University researchers released a study of Rakai District, Uganda reporting that a local HIV prevalence decline was due to condom use and the deaths of infected people.[15] Abstinence and monogamy appeared not to be increasing. Some saw this as evidence that sexual behavior change programs were less important than expected. Others argued that behavior had likely changed substantially prior to the study. In July 2005, First Lady Laura Bush, speaking in South Africa during a trip to Africa that included visits with AIDS patients and orphans, said that the Uganda-developed ABC model was "successful" and added that "ABC stands for Abstinence, Be faithful, and correct and consistent use of Condoms." Conflicting reports appeared in late summer 2005 regarding a shortage of condoms in Uganda for preventing HIV. Some AIDS activists and others blamed the alleged shortage on an emphasis on abstinence in U.S.-funded AIDS prevention programs and a change in policy by Ugandan government officials, who denied a shortage existed. A U.S. official attributed the problem to a shipment of defective condoms.

AIDS Antiretroviral Treatment Issues

Access by the poor to antiretroviral drugs (ARVs) has been perhaps the most contentious issue surrounding the response to Africa's AIDS epidemic. ARVs are used in a treatment regime generally dubbed Antiretroviral Therapy (ART). Three or more ARVs are often used in combination to halt the genetic replication of the HIV virus at different stages in its life cycle, a treatment regime known as Highly Active ART (HAART). ART can enable AIDS victims to live relatively normal lives and permit long-term survival rather than early death. ARVs have proven highly effective in developed countries, including the United States, where AIDS, the eighth-ranked cause of death in 1996, was no longer among the top 15 causes by 1998, according to the U.S. Health and Human Services Department.

The high cost of ARVs has proved a key obstacle to large scaling-up of access to ART in Africa, where most patients are poor and lack health insurance. Once estimated at between $10,000 and $15,000 per person per year, ART costs have

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[15] See Maria Wawer, R. Gray, et al., "Declines in HIV Prevalence in Uganda: Not as Simple as ABC," *12th Conference on Retroviruses and Opportunistic Infections*, Boston.

launched its "3 by 5" campaign to treat 3 million AIDS patients in poor countries by 2005, with resources from the Global Fund and donors. Leaders of the G8, concluding their summit in Scotland in July 2005, promised "a package for HIV prevention, treatment, and care," with the goal of providing "universal access to treatment for all those who need it by 2010."

In October 2003, former President Bill Clinton announced that his Clinton Foundation HIV/AIDS Initiative (CHAI) had organized a program to provide generic three-drug ARV treatment in Africa and the Caribbean for about $.38 per day per AIDS patient using drugs manufactured in India and South Africa with backing from private donors and some donor governments, among other sources. In April 2004, the Clinton Foundation announced an agreement with UNICEF, the World Bank, and the Global Fund to expand the program to more than 100 developing countries. In April 2005, CHAI announced a pediatric AIDS program intended to put 10,000 HIV-positive children on ARV therapy in at least 10 countries in 2005, doubling the number of children in treatment. On January 12, 2006, former President Bill Clinton announced that CHAI had negotiated new agreements to lower prices of WHO-evaluated HIV tests by 50% and those of two antiretroviral drugs by 30%. These will be made available to the CHAI Procurement Consortium, a group of countries eligible to make purchases under CHAI agreements. It includes 50 developing countries. CHAI also helps countries to implement large-scale, integrated care, treatment, and prevention programs. Partner governments take the lead; CHAI provides technical aid, mobilizes human and financial resources, and promotes sharing of best practices.

As a result of ARV scaling up efforts, UNAIDS reported in May 2006 an estimated 810,000 or about 17% of a total of about 4.7 million Africans in need of ART (72% of those in need worldwide) were receiving it by late 2005.[16] This number was up from about 500,000 in June 2005 and up from about 150,000 a year earlier.[17] Despite such successes, UNAIDS and WHO had reported in December 2005 that progress in expanding treatment and care in Africa was uneven across the region and within countries. In general, according to a report by UNAIDS in December 2005, there was "extensive unmet need" in most of Africa. By late 2005, UNAIDS reported, RT coverage levels of 45% or greater had been achieved in countries such as Botswana, Senegal, and Uganda, Namibia. In slightly under a third of African countries, coverage rates ranged between 10% and 31%, while in 18 countries, rates were below 10%. About 23.5% of all those receiving ART resided

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[16] UNAIDS, *2006 Report on the Global AIDS Epidemic.*

[17] UNAIDS/WHO, *AIDS Epidemic Update*, Dec. 2005.

possible in much of Africa. Monitoring is necessary, they maintain, to deal with side effects and to adjust medications if drug resistance emerges. Many fear that if the drugs are taken irregularly, resistant HIV strains will emerge that could cause untreatable infections globally, although many African patients reportedly follow their AIDS therapy regimens equally or more consistently than many American patients. The creation of once-daily combined ARV tablets is widely seen as a likely way to facilitate access to and adherence to ARV therapy, notably in impoverished settings. In January 2006, the multinational drug firms Gilead and Bristol-Myers Squibb announced that they had jointly developed such a tablet for certain drugs. For some, the correct response to weaknesses in Africa's basic health care systems is to devote resources to strengthening those systems. News reports indicate that scaling up of treatment is often stymied by African government administrative inefficiencies and by donor limitations on what their funds may be used to purchase.

Botswana's President Festus Mogae told a November 2003 meeting, held in Washington by the Center for Strategic and International Studies, that the widely-praised treatment program in his country is being hampered by a "brain drain" of health personnel. African physicians, nurses, and technicians are often hired by foreign governments, international organizations, and non-governmental organizations outside of Africa, or migrate to developed countries to take advantage of generally better job opportunities in such countries. The health minister of Mozambique, which has launched a pilot ARV drug treatment program, said in May 2004 that the country was unable to launch a nationwide program because of serious shortages of staff and equipment. WHO and other organizations have reported that Africa has the lowest ratio of health workers to population of any region. WHO reported that in 2005, thee were 2.3 health workers (of all kinds) per 1,000 persons on average across Africa. It also reported that 36 of 46 (78%) African countries surveyed had critical shortages of doctors, nurses and midwives, and would have to increase such professionals by 139% in order to adequately meet current needs.[19]

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[18] In late 2005, 190,000 of a total of 810,000 ART patients were South African; see UNAIDS, *2006 Report*.

[19] WHO, "Chapter 1: Health Workers: A Global Profile," *The World Health Report 2006 - Working Together for Health*, 2006. The study reflects findings from a number of other studies by other organizations on healthcare capacity in Africa. See, for instance, papers published by the now defunct Harvard-based Joint Learning Initiative on Human Resources for Health and Development on human resources for health in Africa: [http://www.globalhealthtrust.org/Publication.htm#wg4].

permitted to export to poor countries was left for further negotiation through a committee known as the Council for TRIPS.

Although the Doha declaration drew broad praise, some AIDS activists criticized it for not permitting imports of generics. Some in the pharmaceutical industry, on the other hand, expressed concern that the declaration was too permissive and might reduce profits that, they argued, fund medical research. Others, however, maintained that the declaration would have little practical impact; in their view, poverty, rather than patents, is the key obstacle to drug access in Africa.[20] In August 2003, the WTO reached agreement on a plan to allow poor countries to import generic copies of essential drugs, but the debate over access to ARVs in Africa seems likely to continue. This agreement was ratified in December 2005 at the Hong Kong WTO ministerial meeting. In March 2005, India's parliament passed patent legislation expected to sharply raise prices in Africa and elsewhere for Indian-manufactured generic copies of newly discovered AIDS medications. Cheap generic copies of existing drugs can still be sold, although sellers will have to pay licensing fees to patent holders.

Effectiveness of the Response

The response to AIDS in Africa has had some successes, most notably in Uganda, where the rate of infection among pregnant women in urban areas fell from 29.5% in 1992 to 5% in 2001 (UNAIDS, *AIDS Epidemic Update, December 2002).*[21] In most African countries, prevalence rates in 2005 were roughly similar to those in 2003, with only marginal increases or decreases. UNAIDS findings have indicated that sexual behavior patterns among young urbanites in some other countries may be changing in ways that combat the spread of HIV, although increases among populations continue in many African cities. Despite some success stories, however, the number of infected people in Africa continues to grow, in part due to general

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[20] See Amir Attaran and Lee Gillespie-White, "Do Patents for Anti-retroviral Drugs Constrain Access to AIDS Treatment in Africa?," *Journal of the American Medical Association*, October 17, 2001.

[21] However, while Uganda's infection rate had been seen as continuing to drop (adult prevalence nationwide had been reported as having dropped from 4.1% in 2003, compared with 5.1% in 2001), recent statistical reassessments indicate that Uganda's actual 2003 prevalence rate was 6.8%, and that its 2005 rate was 6.7%. This finding appears to indicate that Uganda's infection rate has generally stabilized, but not declined quite as much as experts had previously believed. See UNAIDS, *2006 Report*..., pp. 10-11, *op. cit.*

strong support for an intensification of such efforts, as well as adaptations to make them more effective.

The lives of HIV patients could be significantly prolonged and improved, some maintain, if more were done to identify and treat the opportunistic infections, notably tuberculosis (TB), that often accompany AIDS. Millions of Africans suffer dual HIV-TB infections, and their combined effects dramatically shorten life. TB can be cured by multi-month, combined drug treatments, even in HIV-infected patients. However, according to the WHO, Africans often delay seeking treatment for TB or do not complete their drug regimens, contributing to high death rates among those with dual infections. UNAIDS and the WHO have recommended that Africans infected with HIV be treated with an antibiotic/sulfa drug combination known as cotrimoxazole in order to prevent opportunistic infections. Studies indicate that the drug could reduce AIDS death rates at a cost of between $8 and $17 per year per patient. The Pfizer Corporation donates the anti-fungal Diflucan (fluconazole), used to treat AIDS-related opportunistic infections (such as cryptococcal meningitis, a dangerous brain inflammation) to patients in 18 African countries through the Pfizer Diflucan Partnership Program (DPP). DPP is a public-private effort in collaboration with health ministries, local clinics, and non-governmental organizations. In partnership with the International Association for Physicians in AIDS Care, Pfizer also supports education and training for health care providers of diagnosis and management for opportunistic infection.

Further information on the response to AIDS in Africa and elsewhere may be found at the following websites.

— Centers for Disease Control (CDC): [http://www.cdc.gov/nchstp/od/nchstp.html]
— Global Fund to Fight AIDS, Tuberculosis & Malaria: [http://www.theglobalfund.org/en]
— International AIDS Vaccine Initiative: [http://www.iavi.org]
— International Association of Physicians in AIDS Care: [http://www.iapac.org]
— Kaiser Network: [http://www.kaisernetwork.org]; click “HIV Daily Reports”
— UNAIDS: [http://www.unaids.org/en/default.asp]
— USAID: [http://www.usaid.gov/our_work/global_health/aids/index.html]
— World Bank: [http://www.worldbank.org]; click “Topics >> AIDS”

Nevertheless, a widely discussed July 2000 *Washington Post* article called into question the adequacy and timeliness of the early U.S. response to the HIV/AIDS threat in Africa (Barton Gellman, "The Global Response to AIDS in Africa: World Shunned Signs of Coming Plague," *Washington Post*, July 5, 2000).

Clinton Administration

As the severity of the epidemic continued to deepen, many of those concerned for Africa's future, both inside and outside government, came to feel that more should be done. In July 1999, the Clinton Administration proposed $100 million in additional spending for a global LIFE (Leadership and Investment in Fighting an Epidemic) AIDS initiative, with a heavy focus on Africa.[22] Funds approved during the FY2000 appropriations process supported most of this initiative, and funded the engagement of the Department of Health and Human Services (HHS), the Departments of Labor (DoL), and the Department of Defense (DoD), in addition to USAID, in the global fight against HIV/AIDS. On June 27, 2000, the Peace Corps announced that all volunteers serving in Africa would be trained as AIDS educators. USAID asserted in 2001 that its support of multilateral efforts and direct sponsorship of regional and bilateral programs had made it the global leader in the international response to AIDS since 1986, when it initiated AIDS prevention programs in developing countries (USAID, *Leading the Way: USAID Responds to HIV/AIDS*, September 2001). USAID had sponsored AIDS education programs; trained AIDS educators, counselors, and clinicians; supported condom distribution; and sponsored AIDS research. USAID claimed several successes in Africa. These included helping to reduce HIV prevalence among young Ugandans; preventing an outbreak of the epidemic in Senegal; reducing the frequency of sexually transmitted infections in several African countries; sharply increasing condom availability in Kenya and elsewhere; assisting children orphaned by AIDS; and sponsoring the development of useful new technologies, including the female condom.

Bush Administration

Combating the AIDS pandemic in Africa has been an important Bush Administration foreign assistance program goal. In May 2001, President Bush made the "founding pledge" of $200 million to the Global Fund, and in June 2002, he announced a $500 million International Mother and Child HIV Prevention Initiative to support efforts to prevent mother-to-child AIDS transmission. Eight African

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[22] *Leadership and Investment in Fighting an Epidemic (LIFE), A Global AIDS Initiative*, [http://clinton4.nara.gov/media/pdf/2pager.pdf]

not face this epidemic alone." In September 2003, then Secretary of State Colin Powell told a U.N. General Assembly special session on AIDS that the epidemic was "more devastating than any terrorist attack" and that the United States would "remain at the forefront" of efforts to combat the epidemic.

PEPFAR was authorized by P.L. 108-25, the United States Leadership Against Global HIV/AIDS, Tuberculosis, and Malaria Act of 2003, signed into law by President Bush on May 27, 2003. Its implementation has resulted in major spending increases for HIV/AIDS prevention, care, and treatment in 15 "focus countries," 12 in Africa (Botswana, Cote d'Ivoire, Ethiopia, Kenya, Mozambique, Namibia, Nigeria, Rwanda, South Africa, Tanzania, Uganda, and Zambia). PEPFAR funds are provided through the Global HIV/AIDS Initiative (GHAI), headquartered at the State Department. The GHAI is headed by a U.S. Global AIDS Coordinator, who coordinates GHAI programs in focus countries and other international AIDS programs implemented by USAID and other agencies. Permanent incumbents in the Global AIDS Coordinator position are nominated by the president and confirmed by the Senate. The first Global AIDS Coordinator was Randall Tobias, who is now Administrator of USAID and the Director of U.S. Foreign Assistance. Dr. Mark Dybul is the Acting U.S. Global AIDS Coordinator.

In February 2004, the State Department issued a report [http://www.state.gov/s/gac/rl/or/c11652.htm] which provided details on how PEPFAR would be implemented, and proposed to use initial PEPFAR funds to support several "public-private partnership" treatment programs. PEPFAR aims to prevent 7 million new infections globally, provide ARV drugs for 2 million infected people, and provide care for 10 million infected people, including orphans. The Administration has submitted to Congress two subsequent annual PEPFAR reports that describe the status of PEPFAR program policy and program administration, as well as a number of other related reports.[23]

Many AIDS activists and others have praised the President's initiatives. During the initial stages of its implementation, however, some critics maintained that PEPFAR was starting too slowly. Some have also characterized the program as too strongly unilateral and would like the United States to act in closer cooperation with other countries and donors, especially the Global Fund. Some have questioned whether PEPFAR will do enough to directly strengthen African health care institutions and capabilities for coping with AIDS over the long term, or whether the funds will go primarily to U.S.-based organizations. Some also urged increased appropriations, as some have continued to do. U.N. Secretary General Kofi Annan,

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[23] These reports are published online. See [http://www.state.gov/s/gac/progress].

a programmatic over-emphasis on efforts to promote the use of abstinence in the prevention of HIV, as opposed to the distribution and promotion of condoms for this purpose. Critics have charged that funding for PEPFAR abstinence programs, notably in Africa, has increasingly replaced other HIV prevention measures and that the United States is today sending fewer condoms abroad than in 1990 (Center for Health and Gender Equity, *Prevention Funding Under* [PEPFAR]*: Law, Policy and Interpretation*, December 2005). Some have cited as evidence for this contention, an April 2006 Government Accountability Office (GAO) report entitled *Global Health: Spending Requirement Presents Challenges for Allocating Prevention Funding under the President's Emergency Plan for AIDS Relief*.[25] The GAO found that guidance requiring that 33% of PEPFAR HIV prevention funds be spent on abstinence and faithfulness-focused programs had, in some cases, led to decreases in funding for certain other types of HIV prevention efforts. It also suggested that the guidance contained ambiguities that had created uncertainties among some country field teams about how to implement PEPFAR programs.

In March 2005, the Department of State released *Engendering Bold Leadership: The President's Emergency Plan for AIDS Relief*, the first annual report to Congress on the initiative. In an introductory letter to the report, Randall Tobias called PEPFAR "coordinated, accountable, and powerful." The report stated that 152,000 African patients were receiving AIDS treatment due to PEPFAR and that 119 million had been reached with mass media campaigns promoting abstinence and faithfulness, while 71 million had been reached with messages promoting other prevention measures, including the use of condoms. The President's second annual report to Congress stated that while 115.23 million condoms had been shipped to Focus Countries in 2001, 198.4 million had been shipped in 2005 — a 72% increase over 2001.

Other Potential U.S. Measures. Senator Frist introduced S. 850 on April 19, 2005, that would authorize a Global Health Corps to send U.S. health volunteers abroad and expand the availability of health personnel, items, and related services. That same day, the National Academies' Institute of Medicine (IOM) released a report calling for a U.S. Global Health Service to mobilize health personnel to work in the 15 PEPFAR focus countries. An initial deployment of 150 key professionals would be paid full salary; others would receive $35,000 fellowships and student loan

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[24] See CRS Report RL31712, *The Global Fund to Fight AIDS, Tuberculosis, and Malaria: Background and Current Issues*, by Tiaji Salaam-Blyther.

[25] The report is online: [http://www.gao.gov/docsearch/abstract.php?rptno=GAO-06-395].

made by different companies, on grounds that they are simpler to prescribe and need to be taken just once or twice a day. U.S. officials had expressed concerns that further study was needed to assure that their widespread or improper distribution did not contribute to the emergence of resistant HIV strains. The issue was submitted to a panel of experts instructed to report by mid-May 2004. Several members of Congress later wrote to President Bush asking that the United States join an international consensus that generics are safe and essential for AIDS treatment. In May 2004, then-Health and Human Services Secretary Tommy Thompson announced that the U.S. Food and Drug Administration (FDA) was instituting an expedited process that could lead to the approval of the use of FDCs in PEPFAR-funded programs. Many hailed the news as a step forward in making cheaper and more reliable antiretroviral therapy available in Africa, but critics said it placed an unnecessary hurdle in the way of distributing such pills. They maintained that the United States should have relied on the approval process of the World Health Organization, which had already cleared such pills. By June 2005, the FDA had reportedly cleared seven generic antiretrovirals manufactured in South Africa and India. However, the *Boston Globe* reported on June 20 that four African countries, Nigeria, Uganda, Ethiopia, and Tanzania, were refusing to accept generic FDA-approved drugs for use in U.S.-funded treatment programs. Instead, the countries sought approval of the drugs by WHO.

Spending. **Table 2** reports available information on recent U.S. spending levels on AIDS programs in Africa. Under the FY2007 budget request, the 12 countries would receive a 61% boost in AIDS-related aid, to $1.99 billion, under the State Department's Global HIV/AIDS Initiative account. The Office of the Global AIDS Coordinator (OGAC) at the State Department administers the bulk of U.S. AIDS assistance to Africa. PEPFAR was enacted, in part, to simplify the international AIDS budget, enhance transparency, and stress the President's interest in fighting AIDS and his backing for what the State Department reports is "the largest commitment ever by a single nation for an international health initiative."[26] Prior to PEPFAR, the principal channels for HIV/AIDS assistance to Africa were USAID and the Global AIDS Program (GAP) of the Centers for Disease Control (CDC) in the Health and Human Services Department. Most USAID spending on AIDS in Africa is through the Child Survival and Health Programs Fund. Limited amounts are provided through other accounts, such as multi-functional Economic Support Fund, Peace Corps, and Migration and Refugee Assistance. The Department of Defense (DoD) has undertaken an HIV/AIDS Prevention Program, primarily with African armed forces and administered by the Naval Health Research Center in San Diego.

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[26] See *Emergency Plan Basics*, [http://www.state.gov/s/gac/plan].

United Nations (U.N.), the World Bank, and the Global Fund.

The scale of the response to the pandemic in Africa by the United States and other donors remains a subject of intense debate. The U.N. Special Envoy for HIV/AIDS in Africa, Stephen Lewis, has been a persistent critic, telling a September 2003 conference on AIDS in Africa that he was "enraged by the behavior of the rich powers" with respect to the epidemic. Many activist groups have made similar critiques. The singer Bono said he had a "good old row" with President Bush in a September 2003 meeting on the level of U.S. funding for fighting the international AIDS epidemic. Nonetheless, as noted above, others have argued that Africa's ability to absorb increased AIDS funding is limited and that health infrastructure will have to be expanded before new funds can be spent effectively.

Table 2. U.S. Bilateral Spending on Fighting AIDS in Africa

($ millions)

	FY2005 Actual	FY2006 Estimate	FY2007 Request
USAID	81.44	78.48	78.48
CDC (GAP)	63.90	69.17	69.17
State (GHAI)	885.66	1,238.65	1,994
DOD	4.1	3.2	-
FMF	1.98	1.98	1.60
Total	**1,037.08**	**1,391.48**	**2,143.25**

Legislative Action, 2000-2004

The Global AIDS and Tuberculosis Relief Act of 2000 (P.L. 106-264), enacted in August 2000, authorized funding for FY2001 and FY2002 for a comprehensive, coordinated, worldwide HIV/AIDS effort under USAID. In the 107th Congress, several bills were introduced with international or Africa-related AIDS-related provisions. A major international AIDS authorization bill, H.R. 2069, passed both chambers during the 107th Congress but did not go to conference.[28] In May 2003, Congress approved and President Bush signed into law H.R. 1298/ P.L. 108-25, the U.S. Leadership Against HIV/AIDS, Tuberculosis, and Malaria Act of 2003. It

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[27] For details, see CRS Report RL33485, *U.S. International HIV/AIDS, Tuberculosis, and Malaria Spending: FY2004-FY2007*, by Tiaji Salaam-Blyther.

[28] For information on appropriations for HIV/AIDS programs, see CRS Report RS21114, *HIV/AIDS: Appropriations for Worldwide Programs in FY2001 and FY2002*, by Raymond W. Copson.

Vulnerable Children in Developing Countries Act of 2005, was signed into law in November 2005. P.L. 109-102 (formerly H.R. 3057, Kolbe), the Foreign Operations, Export Financing, and Related Programs Appropriations Act, 2006 and P.L. 109-149 (formerly H.R. 3010, Regula, the Departments of Labor, Health and Human Services, and Education, and Related Agencies Appropriations Act, 2006, provided the bulk of U.S. international AIDS funding in FY2006. Bills introduced in the 109th Congress, with provisions related to the African AIDS pandemic, include the following: H.R. 155 (Millender-McDonald), Mother to Child Plus Appropriations Act for Fiscal Year 2005; H.R. 164 (Millender McDonald), International Pediatric HIV/AIDS Network Act of 2005; H.R. 2601 (Smith), Foreign Relations Authorization Act, Fiscal Years 2006 and 2007; S. 600 (Lugar), Foreign Affairs Authorization Act, Fiscal Years 2006 and 2007; S. 850 (Frist), Global Health Corps Act of 2005; and S. 2125 (Obama), Democratic Republic of the Congo Relief, Security, and Democracy Promotion Act of 2005.

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[29] For further information, see CRS Report RL33485, *U.S. International HIV/AIDS, Tuberculosis, and Malaria Spending: FY2004-FY2007*, by Tiaji Salaam-Blyther.