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ISSUE BRIEF

Smart Investments in AIDS and Global Health: Building on What Works

The response to the HIV/AIDS pandemic has transformed global health financing and programming, demonstrating the potential to make substantial progress against diseases in low- and middle-income countries and placing a new emphasis on accountability, public engagement, and the health needs of the most vulnerable populations.[1,2]

There are indications that the U.S. government is considering a significant slowing in the scale-up of global AIDS programming in 2010 and beyond. Such a slowdown would have serious negative impacts on both the global response to the AIDS epidemic and broader efforts to advance global health.

Instead of pulling back, U.S. policy makers should leverage the achievements of the AIDS response, continue the accelerated scale-up of HIV/AIDS prevention and treatment, and use these efforts as a foundation on which to build broader and more sustainable healthcare capacity in low- and middle-income countries. Such strategies capitalize fully on global health investments made over the last several years.

The response to the AIDS pandemic to date

Over the last decade the U.S. commitment to global HIV/AIDS initiatives has grown markedly. Funding for PEPFAR [The President's Emergency Plan for AIDS Relief, which includes all bilateral funding for HIV and tuberculosis (TB), and U.S. contributions to the Global Fund to Fight AIDS, Tuberculosis and Malaria], has risen from $2.3 billion in FY 2004 to more than $6.6 billion in FY 2009.[4] Among all sources worldwide, available funding to address the HIV/AIDS pandemic has grown from an estimated $2.1 billion in 2001[5] to $15.6 billion in 2008.[6]

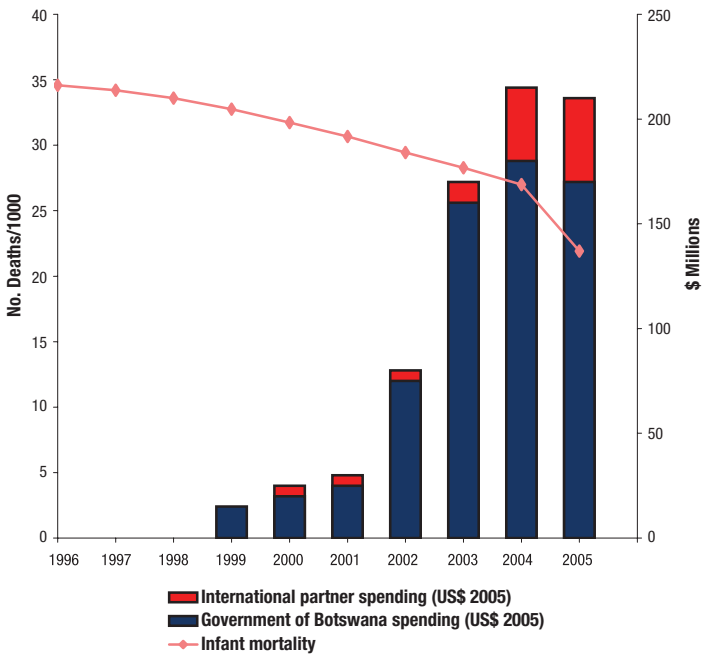
The Joint United Nations Programme on HIV/AIDS (UNAIDS)[7] has documented many positive outcomes from these investments, including dramatically expanded coverage of lifesaving antiretroviral therapy (ART) among children and adults, from 5%[8] of those in need in 2003 to 42%[7] in 2008.

Many of the investments made in HIV/AIDS programs have also yielded important outcomes well beyond the AIDS epidemic.[2] There are preliminary but clear indications that investments in HIV/AIDS programs are demonstrating sustainable positive results—establishing new healthcare infrastructure and catalyzing policy change—that hold promise for improving healthcare for millions.

The intensive response to HIV/AIDS is changing the trajectory of the pandemic

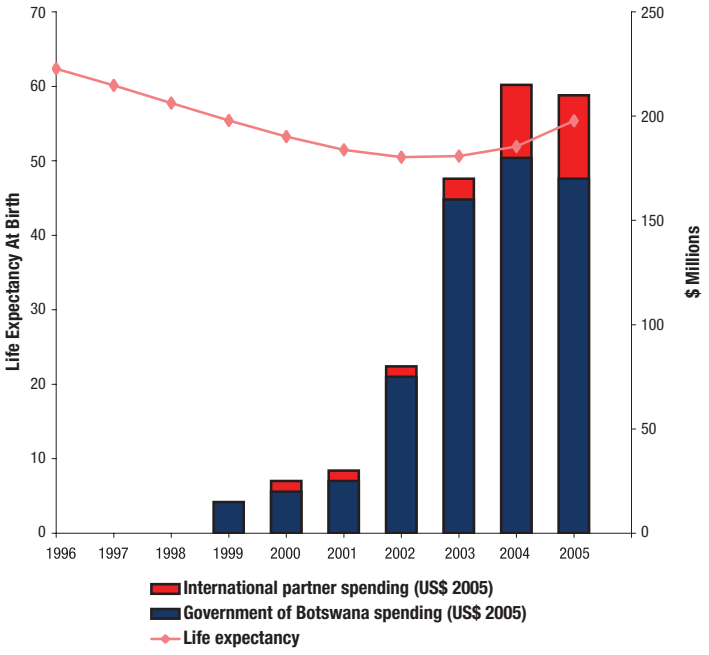
- Reduced mortality: UNAIDS estimates that the global number of AIDS-related deaths recently declined for the first time, from 2.2 million in 2005 to 2 million in 2008, largely as a result of expanded access to ART.[58]
- Reduced HIV incidence: The number of new HIV infections declined from 3 million in 2005 to 2.7 million in 2008.[58]
- Lives saved: A study from Stanford University[16] indicates that PEPFAR has averted 1.2 million deaths and in only three years (2004–07) has cut the HIV/AIDS death toll by 10.5% in targeted countries.
- Increased life expectancy: The United Nations Population Division estimates that if recent progress against HIV/AIDS and other infectious diseases continues, life expectancy in the world's poorest countries will increase from 56 years today to 69 years in 2050.[17]

Figure 1: Infant Mortality and HIV Spending In Botswana



Source: PEPFAR Fifth Annual Report to Congress. Infant mortality data from U.S. Census Bureau, 2009, International Data Base, accessed 11/17/09 from www.census.gov/ipc/www/idb. Funding data is estimated based on data provided by the government of Botswana and CDC; may not include all funding sources.

Figure 2: Life Expectancy and HIV Spending In Botswana



Source: PEPFAR Fifth Annual Report to Congress. Life expectancy data from U.S. Census Bureau, 2009, International Data Base, accessed 11/17/09 from www.census.gov/ipc/www/idb. Funding data is estimated based on data provided by the government of Botswana and CDC; may not include all funding sources.

The HIV/AIDS response is beginning to reverse the overall trend in mortality

- A study of Ugandan adults found a 95% reduction in mortality in HIV-infected individuals after 16 weeks of combination treatment with ART and co-trimoxazole, an 81% reduction in mortality in their uninfected children younger than 10, and an estimated 93% reduction in orphanhood.[18]
- In Brazil, ART has led to a 40–70% decrease in mortality, a 60–80% decrease in morbidity, an 85% decrease in hospitalization[19] of people living with HIV/AIDS, and savings of $1.2 billion in healthcare costs.[20]
- Through the implementation of HIV/AIDS programs, in Botswana infant mortality rates have dropped and life expectancy has increased for the first time in many years[21] (see Figures 1 and 2).

The AIDS response directly benefits the treatment and prevention of other diseases

- ART was associated with a 75% decline in the incidence of malaria in a study conducted among HIV-positive patients in Uganda.[22]

HIV/AIDS remains a devastating global crisis

- 7,000 people are newly infected with HIV every day, five every minute.[9,10]
- 33.4 million people are living with HIV worldwide.[58]
- HIV/AIDS is the leading cause of death among women of reproductive age.[11] In South Africa, HIV/AIDS is responsible for more than 43% of all maternal deaths.[12]
- AIDS is the sixth leading cause of mortality in the world and continues to be the most common cause of death in Africa.[13]
- Nearly six in ten children and adults in urgent need of lifesaving HIV/AIDS treatment do not have access to it.[14]
- In some countries with severe epidemics, one-third of deaths of children under five were due to HIV/AIDS.[9]
- In 2008, less than half—about 45%—of HIV-positive pregnant women received antiretroviral (ARV) drugs to prevent perinatal HIV transmission.[7] A significant percentage of those women did not receive the most effective and least harmful ART regimen.[15]

- Distribution of insecticide-treated nets has been incorporated into comprehensive care strategies for HIV-positive people in many malaria-endemic areas. A qualitative study conducted in HIV-affected households in Rakai, Uganda, reports excellent retention and appropriate use of nets distributed as a part of a PEPFAR-supported community-based outpatient HIV care program.[23]

- HIV program implementers have begun to integrate TB diagnosis into HIV treatment and care. In one Rwanda program, for example, HIV-positive patients are now routinely screened for TB.[24] In Uganda, integrated HIV and TB care at nearly 90 clinics helped achieve a doubling of the TB assessment rate for ART patients over two years.

- In a study of a South African community with high prevalence of HIV and an established TB program, there was a significant correlation between the rollout of ART and a decline (more than 75%) in annual TB notifications among people receiving ART.[25]

The AIDS response is strengthening health services and primary care in many settings

The global response to HIV/AIDS has helped develop health infrastructure and general health systems in many settings.[1, 33, 38] Nearly one-third (32%) of PEPFAR investments are directed towards strengthening health systems through programs to build human capacity, provide technical assistance, create laboratory infrastructure, enhance supply chain management, and strengthen monitoring and evaluation systems.[2]

The Global Fund is also a major contributor to health system strengthening. Approximately 35% of Global Fund resources are used to that end, providing invaluable support for human resources, training, and infrastructure and equipment.[59]

In addition to providing many health systems benefits, scale-up of AIDS services has also revealed fragilities in health systems that existed before the AIDS epidemic.[33] In some cases, expanded financing for HIV/AIDS services has placed additional burdens on healthcare workers and health systems struggling to deliver HIV-related and other services.

Still, AIDS programming offers a blueprint for advancing primary care in resource-limited countries. A chronic disease characterized by periods of illness and periods of health, HIV/AIDS impacts patients and their families throughout their lives. The response to AIDS has led to a patient-centered, holistic model of care, with high levels of patient engagement and a range of supportive services to promote retention in care and adherence to medications.[34]

Cost effectiveness, health systems, and the response to AIDS

Though some commentators advocate a reallocation of global health resources away from HIV/AIDS to less expensive or more "cost-effective" interventions, a simple ranking of interventions by cost-effectiveness is not an appropriate approach to planning the development of sustainable health systems. Cost-effectiveness comparisons are most appropriately used in selecting strategies among mutually exclusive options, rather than across the spectrum of health services.[26]

Moreover, interventions and their costs cannot be viewed in isolation, without accounting for the care infrastructure required to implement them. The global AIDS response has in many cases helped to build the infrastructure necessary for the creation and delivery of primary healthcare services.

It is also important to understand the impact of AIDS programming on broader health outcomes. Some have argued, for example, that treating childhood diarrhea is a more cost-effective use of funding than treating HIV/AIDS.[27] But this argument does not take into account that HIV programs promote increased access to other disease prevention methods, including clean water treatments[28] and safe breastfeeding, both of which reduce the incidence of diarrhea in children.

The enormity of the HIV/AIDS epidemic in many countries means that addressing AIDS is central to advancing other health and development goals—for example, maternal and child health. In Zimbabwe, HIV is the cause of one in every four maternal deaths;[29] in South Africa, one in every two maternal deaths.[12] According to the 2008 UNAIDS Report on the Global AIDS Epidemic, in some of the hardest-hit countries, one-third of deaths of children under five were due to HIV/AIDS.[9]

The true impact of AIDS lies far beyond the number of lives lost to the disease. HIV attacks young adults—working-age men and women, often with dependent young children—destabilizing families and tearing at a country's social fabric.[30] In sub-Saharan Africa, AIDS has created more than 14 million orphans,[58] weakened productivity and economic activity,[31] and taken a devastating toll on healthcare workers.[32]

Delivery of HIV/AIDS treatment has also led to the strengthening of systems to ensure continuity of care that can be replicated to help treat other chronic diseases such as diabetes, cardiovascular disease, and mental illness,[35] and to help tackle problems such as malnutrition and gender and social inequality.[36, 37, 38]

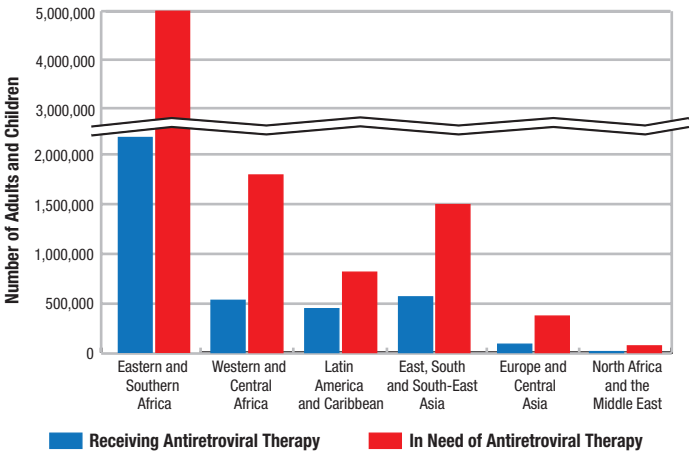
- A study in rural Haiti found that delivery of integrated HIV/AIDS treatment and prevention helped achieve a number of primary health goals, including expanded vaccination, family planning, TB case finding and treatment, and health promotion. The study also showed improved staff morale and enhanced confidence in public health and medicine.[39]
- A study of PEPFAR-supported sites in Rwanda found that offering comprehensive HIV services led to fundamental improvements at public health centers, including training laboratory technicians and nurses, providing medical supplies and equipment, and renovating laboratories and clinics.[40]
- Since the start of PEPFAR, improvements in the safety and adequacy of blood supplies have been made in 14 countries with high prevalence of HIV infection.[41] By 2007, national policies on blood supply safety had been established in 12 PEPFAR countries and were in development in the two remaining countries.
- In Zambia, Namibia, Malawi, Uganda, and Guyana, PEPFAR-funded programs have used financial and other incentives such as special allowances for housing, transportation, hardship, and education to promote improved distribution of health workers in rural and remote areas.[3, 42, 43]

HIV/AIDS treatment is also HIV prevention

Although further studies are needed to better define the risk of HIV transmission, a growing body of evidence demonstrates that provision of ART to people living with HIV/AIDS typically reduces their viral load and the likelihood that HIV infection will be passed to others.

- A meta-analysis of studies of sexual transmission of HIV among heterosexual discordant couples receiving ART observed no transmission in patients whose viral load was below 400 copies/ml.[46]
- A study conducted in Malawi demonstrated that postpartum ART in women was associated with an 82% reduction in postnatal HIV transmission.[47]

Figure 3: Estimated Number of Adults and Children Receiving Antiretroviral Therapy Versus Those in Need, December 2008



Source: UNAIDS Progress Report, 2009

- As HIV treatment programs have been implemented, hospital admissions have declined dramatically and hospital beds have been freed up in many communities hit hard by the epidemic.[44] For example, after ART was introduced in Botswana, the percentage of hospital beds occupied by people living with HIV/AIDS fell from 93% to 52% in one location.[1, 45]

The AIDS response can help address the global health workforce crisis

The AIDS epidemic has ravaged the healthcare workforce in the developing world. For example, in Lesotho and Malawi, the single greatest cause of health worker attrition is death from HIV/AIDS.[32] ART roll-out has saved the lives of thousands of healthcare workers, allowing them to continue providing care.

The World Health Organization estimates that more than four million healthcare workers are needed to fill the deficit of doctors, nurses, and other professionals who form the backbone of the healthcare system. The situation is most dire in sub-Saharan Africa, which has 11% of the world's population but 24% of the global burden of disease and only 3% of the world's health workers.[32]

The AIDS response has had a mixed impact on the health worker crisis. For example, global AIDS initiatives have been associated with some migration of healthcare workers away from the public sector. But in many instances, HIV programs have helped to strengthen healthcare workforce retention by providing new training opportunities, better working conditions, and other support for many healthcare workers.[1]

- In fiscal year 2008, PEPFAR spent approximately $310 million to support training activities; from 2004 to 2008, the program supported an estimated 3.7 million training and retraining encounters for healthcare workers.[3]

- The AIDS response has inspired "task-shifting" and other innovative solutions to the workforce crisis, freeing up doctors and nurses to attend to critical patient needs while cultivating a cadre of engaged community health workers.[1] One study in Rwanda demonstrated that task-shifting the administration of ART reduced demands on doctors' time by 76% over a two-year period.[24]

- PEPFAR has highlighted the dearth of health professionals in Africa and mounted a strong response, from training and task-shifting initiatives to a new mandate, included in the 2008 reauthorization of PEPFAR, that calls for the training of 140,000 new healthcare workers in 15 target countries by 2014.[48] This and other efforts to address the workforce crisis will only be realized with adequate funding.

The AIDS response is strengthening government and program accountability

PEPFAR, the Global Fund, and other HIV/AIDS programs are focused on demonstrating tangible results based on clear objectives and accountability measures. This outcomes-driven orientation has been key to the programs' success and has helped cultivate similar performance-based models in other health initiatives. Indeed the Commission on Smart Global Health Policy at the Center for Strategic and International Studies has recommended that PEPFAR-created platforms be the basis for extending more effective measurement frameworks into other priority health areas.[49]

- From its inception, PEPFAR has set specific targets for delivering AIDS treatment, reducing rates of HIV infection, and meeting the care needs of millions of adults, orphans, and vulnerable children. PEPFAR's ambitious targets have helped drive planners and providers to focus on results and have led to the development of new monitoring and evaluation systems.[50]

- Performance-based financing, a founding principle of the Global Fund, has created a variety of mechanisms to ensure accountability, including key performance indicators on all grants.[51] Grant recipients are held accountable for specific targets throughout the life of the grant.[52, 53]

Calls for new investments in global health

An expert committee convened by the National Academy of Science's Institute of Medicine recommended in December 2008 that by the end of the Obama administration's first term, U.S. commitments to global health should be doubled—from $7.5 billion in 2008 to $15 billion in 2012. The IOM report also called for full funding of the commitments Congress made when it reauthorized PEPFAR through the United States Global Leadership Against HIV/AIDS, Tuberculosis, and Malaria Reauthorization Act of 2008.[55]

The Global AIDS Roundtable under the auspices of the Global Health Council has presented a total figure of $9.25 billion for fiscal year 2011 as a request for PEPFAR and the Global Fund, consistent with this legislation.

A coalition of 24 global health organizations issued a report in October 2009 calling for a broader approach to U.S. global health programming that maintains U.S. commitments to scaling up HIV/AIDS prevention and treatment. The report calls for the doubling of U.S. global health resource commitments by 2011.[56]

PRINCIPLES FOR MOVING FORWARD

- **Identify opportunities for new areas of investment while building on achievements to date, including HIV/AIDS programs.**

The intensive response to HIV/AIDS through PEPFAR has demonstrated the profound impact that can be achieved when programs have sufficient resources and are focused on achieving specific outcomes. The most deadly diseases, such as AIDS, malaria, and TB, will continue to need dedicated programming even as more funds are invested in general health systems and other health needs. Disease-specific programs, including those for HIV/AIDS, will continue to play a critical role in strengthening overall health systems and advancing the response to other diseases.

- **While increasing efforts to strengthen overall healthcare systems, ensure that these systems meet the health needs of vulnerable populations.**

Women and girls, gay men and other men who have sex with men, transgender people, injection drug users, migrant workers, sex workers, and other socially marginalized groups are often at elevated risk for HIV and other health concerns. These groups are also often marginalized in their societies, have limited or no access to health services, and are in some cases not even counted in health statistics.[54] Strengthened health systems can only be effective at addressing a community's health needs if they are able to serve those who are most vulnerable.

RECOMMENDATIONS

Use PEPFAR programming as a foundation for broader health service scale up

PEPFAR is evolving from an emergency relief effort to a comprehensive system for implementing health interventions in partnership with countries. It has worked with countries to develop five-year strategies, partner implementation plans, and effective approaches to fund management, metrics, and evaluation. These core processes, already well established in many countries, can be used as a foundation for addressing a range of health needs. For example:

- Expand PEPFAR's new health system strengthening framework to address the other priorities in the President's Global Health Initiative, including child and maternal health.
- Expand the PEPFAR New Partners Initiative[57] that seeks to enhance the capacity of NGO, faith-based, and other community efforts to improve civil society engagement in addressing health needs.
- Create incentives for different health service delivery networks, including PEPFAR, TB control programs, and Neglected Tropical Disease service sites to work collaboratively to maximize cost-effective, high-quality delivery of multiple health services.
- Ensure vulnerable populations at highest risk (including MSM, sex workers, and injection drug users) receive services that meet their needs as PEPFAR moves to build country capacity.
- Ensure that healthcare professionals trained under PEPFAR also receive clinical training and mentorship on other relevant infectious diseases and primary healthcare delivery, including training that addresses stigma, discrimination, and mistreatment of marginalized and vulnerable populations.
- Strengthen and expand laboratory capacity in countries to respond to diagnostic and clinical monitoring needs in TB, malaria, maternal and child health, and family planning.
- Ensure the provision of healthcare for women living with or at risk for HIV infection by integrating family planning services with HIV care delivery and scaling up the provision of HIV counseling and testing at family planning sites.
- Prioritize the development of integrated systems of screening and care for HIV and TB to reduce morbidity and mortality in co-infected persons.

Bring HIV/AIDS and other global health services to scale

- Fund PEPFAR at the levels authorized by Congress through the Lantos-Hyde U.S. Global Leadership Against HIV/AIDS, Tuberculosis and Malaria Reauthorization Act of 2008.
- Provide significantly increased resources through the Global Fund and other programs to ensure the Administration's Global Health Initiative broadens the U.S. approach to global health while maintaining the commitment to scale up the response to HIV/AIDS, TB, and malaria.
- Launch a coordinated operations research agenda across federal agencies to identify the best models for integrating HIV/AIDS programs and other health services.
- Coordinate efforts across federal agencies to ensure research findings relevant to the Global Health Initiative are implemented in developing country settings as quickly as possible.
- Support the development of local generic ARV production capacity in Africa and craft strategies to drive down the cost of second- and third-line ARVs.

As the Obama administration and Congress develop and implement a new Global Health Initiative, it will be essential to determine the most strategic approaches and best opportunities for achieving broad global health goals across a range of diseases and conditions. Evidence to date indicates that resources committed to addressing HIV/AIDS can in many cases be leveraged to strengthen comprehensive healthcare in low- and middle-income countries.

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