

# Working with Botswana to Confront Its Devastating AIDS Crisis

President Festus Mogae told the U.N. General Assembly with brutal candor that his country was ‘threatened with extinction.’



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## Program Area

Global Health

## Our Goal

Through an innovative partnership between the government of Botswana, Merck, and the Bill & Melinda Gates Foundation, demonstrate for the first time in Africa a successful national effort to treat those living with HIV, slow the transmission of the virus, and minimize the impact of the epidemic.

## Our Progress in Brief

Despite major challenges, the African Comprehensive HIV/AIDS Partnerships (ACHAP), which the government of Botswana, Merck & Co., Inc., The Merck Company Foundation, and the Bill & Melinda Gates Foundation launched in 2000, is making tremendous progress, particularly in expanding access to HIV treatment and care.

More than 50 percent of those who can benefit from antiretroviral (ARV) therapy — and 85 percent of those with advanced HIV infection — are now receiving these lifesaving drugs. These are the highest rates in Africa.

Botswana has made less-rapid progress in preventing the spread of HIV, although there are some signs that ACHAP’s investments are starting to have an impact (for example, a 45 percent reduction in the number of HIV-positive babies born to HIV-positive mothers).

Botswana’s progress in expanding HIV testing, treatment, and care has provided valuable lessons for other developing countries hit hard by HIV/AIDS. However, the model we have helped to build in Botswana requires significant medical infrastructure, which could make it difficult to adopt in countries with fewer resources.

## The Challenge

Botswana is a Texas-sized country in southern Africa with a stable democracy, mineral wealth, and some of the most awe-inspiring game reserves in the world. It also has one of the world’s highest rates of HIV infection (33 percent among people aged 15 to 49). In 2001, when researchers estimated that half of all women in Botswana in their 20s would die of AIDS, President Festus Mogae told the U.N. General Assembly with brutal candor that his country was “threatened with extinction.”

## AIDS Threatens Decades of Success

Botswana was one of the world’s poorest countries at the time of its independence from the United Kingdom, in 1966. But a year later, geologists from the De Beers company discovered diamonds in the northern part of the country. Botswana’s diamonds dramatically changed the

development trajectory of the country, bringing broad social and economic progress—without conflict. Botswana became one of the few economic success stories in Africa, growing 13 percent a year from 1970 to 1990.

AIDS threatens to undo all this progress. The disease is hitting every segment of the economy and society—from rural farmers to teachers and civic leaders. Employers are struggling to cope with frequent absenteeism, rising health-care costs, and the loss of skilled workers. Hospitals are operating at 200 percent capacity, with an estimated 80 percent of their patients being treated for HIV-related illness. Out of a population of 1.6 million people, approximately 120,000 children are now orphans because of AIDS.

### Can ARVs Work in Africa?

Combination ARV therapy, which emerged in the mid-1990s, has brought about a dramatic decline in AIDS deaths in the industrialized world. But in 2000, when we began our work in Botswana, many believed it would be impossible to provide widespread access to ARVs in developing countries, owing to the high cost of the drugs, the lack of adequate personnel and health-care facilities, and the difficulty of ensuring adherence to complex treatment regimens.

## The Response

The person most responsible for leading Botswana's response to AIDS is President Festus Mogae. At a time when other African leaders would not utter the word "HIV" in public, President Mogae issued a battle cry of "*Ntwa e bolotse*" ("The war has started") and committed Botswana to making lifesaving ARVs available to every citizen in need. To reduce the crippling stigma around AIDS in his country, he even had himself tested for HIV on national television.

### Big Pharma Thinks Big

The seeds of the Botswana–Merck–Gates Foundation partnership were sown in the 1980s, when Merck launched a program to provide free supplies of its drug Mectizan to fight river blindness in Africa and elsewhere. The world-renowned epidemiologist Bill Foege, who at the time was the executive director of the Carter Center and later became a senior fellow at the Gates Foundation, came to know and respect Merck through his work with the firm on the anti-river blindness campaign.

In 1999, Merck executives shared with Dr. Foege and his Gates Foundation colleagues a plan they had developed with the support of Raymond Gilmartin, then Merck's CEO. The plan laid out a sophisticated blueprint for a project to demonstrate that a comprehensive, well-funded project in one African country could produce meaningful results in the fight against HIV/AIDS.

Dr. Foege was so impressed with the plan that, at the last minute, he invited two Merck executives to present it in Seattle at a previously scheduled meeting of large foundations and U.N. officials working to address HIV/AIDS. Some of the other meeting sponsors had such distrust of the pharmaceutical industry that they sought to rescind the invitations, even as the executives were in the air on their way to Seattle. In a tense, three-hour meeting, Dr. Foege convinced the dissenters to let the invitation stand.

The next day, the Merck plan was the surprise hit of the meeting. The presentation showed clearly that Merck was serious—and thinking big.

### Merck, Gates, and Mogae Join Forces

A few months later, the Gates Foundation and Merck agreed to collaborate to launch the plan, and they set out to identify an African country that would give the project a good chance to succeed. Botswana was a natural choice. Not only did it have a very heavy HIV burden; it also had a straight-talking president who was personally committed to confronting the crisis and had invited outside support. Botswana also had a stable democracy and significant resources of its own to commit.

By July 2000, Merck and the Gates Foundation created the African Comprehensive HIV/AIDS Partnerships and formally joined forces with President Mogae to support the country's already ambitious efforts to combat the epidemic. The Merck Company Foundation and the Gates

Foundation each committed \$50 million over five years to help Botswana strengthen its health infrastructure, such as training new health workers and managers, and establishing new laboratories and mobile clinics. In addition, Merck committed free supplies of its two current AIDS drugs. Soon after, others signed up to provide technical expertise, including the Harvard School of Public Health.

ACHAP's first job was to work with the government to create a national HIV/AIDS strategy—that is, to turn a serious but fragmented response into a comprehensive and coordinated national campaign. Although the resulting framework had much technical merit and was backed by strong political leadership and financing, implementing it proved to be more difficult than anyone expected.

#### A Shortage of Health Workers, an Excess of Stigma

The most significant challenge was the dire shortage of health staff. Because Botswana does not have a medical school, the government has worked hard to recruit new health professionals from neighboring countries as well as from India and Cuba. But that has been a slow process.

Another major challenge was (and is) social stigma. As has been the case in almost every part of the world, members of Botswana's tightly knit society were reluctant to be seen entering clinics associated with AIDS, which meant that few people took advantage of voluntary HIV testing and counseling. Of the approximately

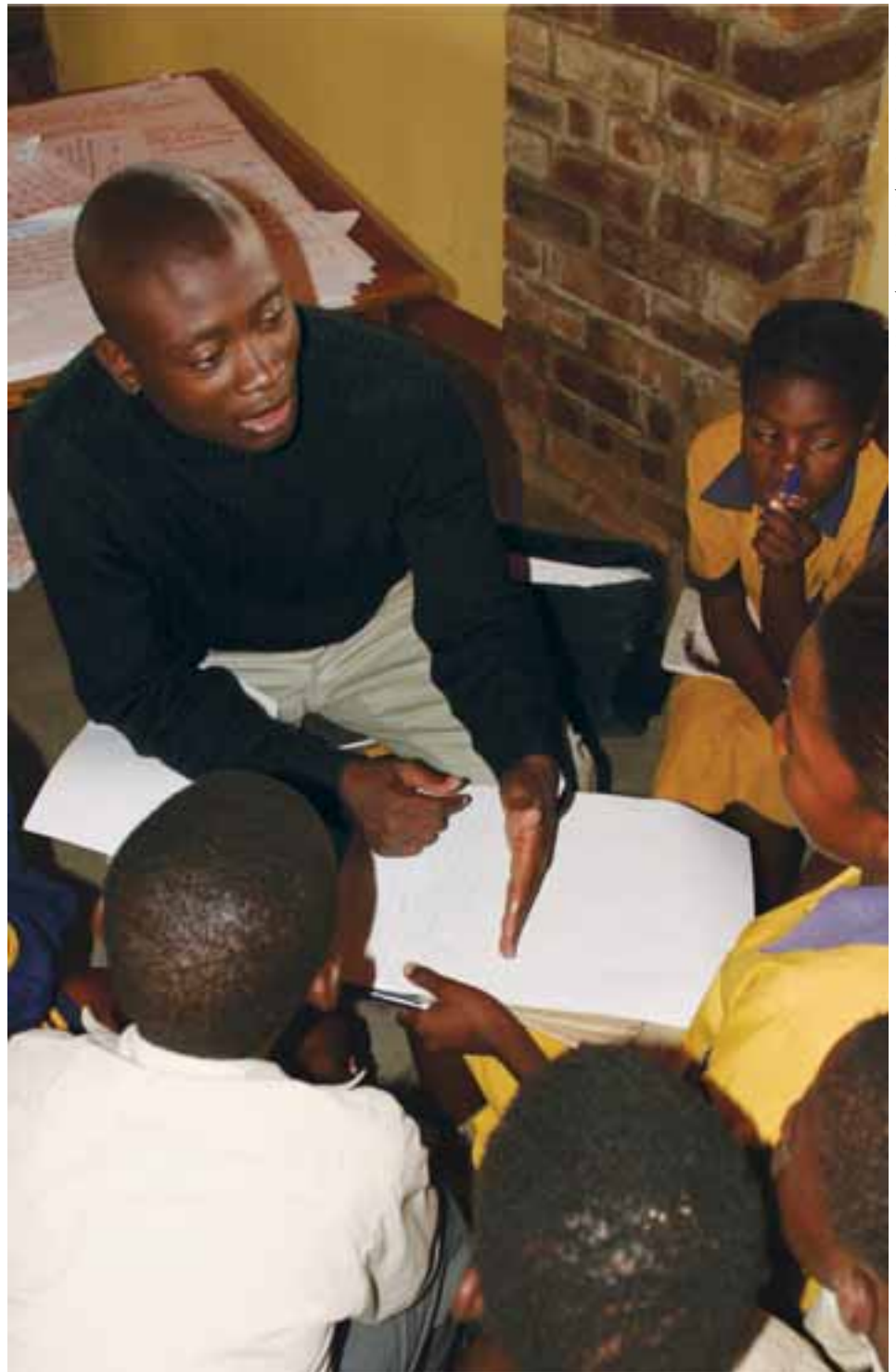


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260,000 adults in Botswana estimated to be HIV positive, only a small percentage had been tested and knew their status. Those who did show up at hospitals or clinics for testing were often very sick, and as a result, they required a great deal of doctor time and hospital resources. In the words of the treatment program's first director, "If you spend all your time and capacity on the very sick people, you can never get to those who are not sick, and unfortunately, that sets up a loop of perpetually insatiable demand."

As a result of these and other challenges, the early results were disappointing. President Mogae hoped to get 19,000 people on ARVs by the end of 2002, the program's first full year. The program managed to enroll only 3,200. Although the ARVs were undoubtedly saving lives, the small numbers stoked fears that Botswana's example would be held up for the world as proof that the hurdles to ARV treatment were just too great—that if it couldn't be done in a country with all of Botswana's advantages, it couldn't be done anywhere.

### Treatment Takes Off, Prevention Lags

By 2004, the situation had improved and perceptions had begun to turn around. By the end of that year, nearly 40,000 people, roughly 36 percent of those who were believed to need it, were receiving ARVs. The Princess Marina Hospital in Gaborone had become the largest single provider

of ARV therapy in Africa, and 31 other sites in Botswana were offering free ARV therapy. Not only had the early investments in health infrastructure begun to kick in; President Mogae had decided to adopt a policy of routine, voluntary HIV testing for all people seeking medical care for any condition ("opt out" instead of "opt in"). This led to more people with HIV learning their status, which allowed them to seek treatment and take steps to protect their partners from infection. In 2005, after the new routine-testing policy went into effect, 177,831 people were offered the test and 157,894 accepted—an 89 percent acceptance rate.

Today, the treatment program is enrolling patients at a rapid pace, averaging about 1,000 a month. AIDS mortality is falling, and those who doubted that a national ARV program could work in sub-Saharan Africa have changed their tune.

But many challenges remain. For example, roughly 50,000 people who could benefit from ARVs—especially those in remote districts—still have not been reached. Those who are already on ARVs will need a lifetime of treatment and monitoring, including access to new, more-expensive treatments if first-line drugs begin to fail. And HIV-prevention efforts are still fragmented and not highly visible, leading some visitors to comment that it is hard to realize that the country is at the epicenter of the global AIDS pandemic.

## Results

- **Treatment:** ACHAP and its partners have established the first comprehensive, nationwide HIV treatment program in sub-Saharan Africa. Today, almost 64,000 people in Botswana are receiving ARVs. This represents well over half of those who could benefit from ARVs and more than 85 percent of those with advanced HIV infection.
- **Adherence:** 85 to 90 percent of all patients are adhering to their treatment regimens. In the United States, the average adherence rate is only 70 percent.
- **HIV Infections:** Between 2003 and 2005, the percentage of 15- to 19-year-olds who are HIV positive has declined by 22 percent and the percentage of HIV-positive infants born to HIV-positive mothers has declined by 45 percent—offering epidemiologists the first rays of hope that new infections are slowing.
- **Training:** With ACHAP's funding and technical assistance, Botswana has now trained more than 3,900 health professionals, significantly expanding the country's testing, counseling, treatment, and monitoring efforts.
- **Policy:** ACHAP and its partners have had a positive effect on national policy. For example, ACHAP played a key role in advocating for policies to expand access to HIV testing and to reduce the age of consent for HIV testing from 21 to 16, policies that were adopted by the national government.

- **Infrastructure:** ACHAP has built 24 treatment centers throughout the country and equipped 11 labs, greatly increasing access to care.

### Key Lessons

- **Skeptics were wrong when they said that treatment programs would not work in Africa.** We now know that it is difficult but possible to “scale up” a national ARV program in Africa and save lives today. We also know that Botswana’s patients adhere to their drug regimens more faithfully than Americans do.
- **Bold political leadership is essential.** When we began our search for a country in which to work, we knew we were looking for countries with leaders who offered profiles in courage in fighting this disease. Our view that success rides on such top-level leadership has only increased over the past five years. We now see that it is an essential precondition for success. However, we also see that even the boldest political stance is not enough to erase the deeply rooted stigma associated with HIV/AIDS.
- **Working hand-in-hand with government was the right call in Botswana.** Working closely with a national government in any country can slow down a project—and that can be frustrating. But working directly with the government of Botswana has allowed us to help the nation build its own capacity to wage a successful war on HIV/AIDS.



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Having said this, it was unrealistic for us to expect that all the support ACHAP provided to government ministries would cascade down quickly to remote rural villages. As a result, ACHAP is now devoting more time and money to supporting work being conducted by the government and nongovernmental organizations at the grassroots level. So far, this effort seems to be succeeding at building greater community ownership and empowerment.

- **Prevention can get lost amid the effort to expand treatment.** Although all of the ACHAP partners recognized the importance of prevention, during ACHAP’s early years the immediate task of saving the lives of HIV-positive people often had higher priority than the task of helping to prevent new infections. The cost of lifelong treatment and care for all of those who are gaining access to ARVs remains very high. Sustaining that effort will depend on success in slowing dramatically the rate of new HIV infections.

- **“Absorptive capacity” is a real issue.** ACHAP and Botswana’s government have not been able to spend the funding they have available at the rate we anticipated. The original \$100 million in funding from the foundation and Merck was designed to last through 2005, but only \$55 million was actually spent over that period. Of course, spending money fast is not the objective. But the fact that the spending has been slower than we anticipated is an indicator that we underestimated just how hard it is to build up the systems necessary to confront HIV/AIDS across an entire country.
- **We believe Botswana will, over time, be able to sustain the costs of its treatment program.** Botswana has shown a tremendous willingness to direct its own resources to fighting this epidemic. For example, it already pays for more than 80 percent of all treatment costs. However, we have seen that long-term sustainability will require all the partners to reduce the costs per patient. The current model relies too heavily on frequent, expensive viral-load tests and on visits with doctors in hospitals (doctors are still in short supply, and there is as yet no medical school in the entire country).

## Next Steps

Based on the progress to date of Botswana’s national efforts, Merck & Co., Inc./The Merck Company Foundation and the Gates Foundation last year committed an additional \$6.5 million each to fund ACHAP’s operating costs for five more years. Thanks to a major strategic review last year, all of the partners are confident that prevention and treatment are now gaining equal footing. It is clear to all that Botswana will not be able to make meaningful progress toward its goal of “an AIDS-free generation by 2016” without dramatically expanding its prevention efforts, including its efforts to bring HIV/AIDS education to every classroom, make free condoms more widely available, and further expand testing.

## Web Sites

- African Comprehensive HIV/AIDS Partnerships:  
[www.achap.org](http://www.achap.org)
- Merck & Co.:  
[www.merck.com](http://www.merck.com)
- Government of Botswana:  
<http://www.naca.gov.bw/>
- Harvard School of Public Health:  
<http://www.hsph.harvard.edu/>