Public-Private Partnerships And Antiretroviral Drugs For HIV/AIDS: Lessons From Botswana

The achievements and challenges, thus far, for ACHAP, a partnership of Merck and its foundation, the Bill and Melinda Gates Foundation, and Botswana’s government.

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ABSTRACT: The African Comprehensive HIV/AIDS Partnerships (ACHAP) played a major role in initiating Botswana’s antiretroviral (ARV) program in 2001. ACHAP is a prominent public-private partnership involving Merck and its foundation, the Bill and Melinda Gates Foundation, and the government of Botswana. This paper analyzes ACHAP’s efforts to assist Botswana with its ARV program, the first and most advanced in sub-Saharan Africa. It identifies five features of the model and shows how they contributed to the ARV program. It also raises questions about ACHAP’s role in scaling up and sustaining the program, as Botswana faces the challenges of treating growing numbers of HIV-infected people.
The ACHAP Model

Merck and Company, through its foundation, has long been involved in global health philanthropy, including the Enhancing Care Initiative (ECI) for HIV/AIDS in developing countries (since 1998). Merck’s approach to ACHAP emerged from these experiences.

The ACHAP model has five key elements. (1) Both Merck and the Gates Foundation decided to focus substantial resources in one country and on HIV/AIDS. The objective was to make a meaningful difference in a single country. (2) ACHAP aimed to provide comprehensive support—including HIV/AIDS prevention, treatment, and care—in recognition of the many links among these areas. (3) ACHAP was designed to include the government of Botswana as both partner and grantee. The government became involved in approving proposals and then received a large part of the funds. (4) ACHAP sponsors are extensively involved in designing and implementing the projects that they support. Both Gates and Merck believed that the private sector had much to contribute in ensuring that the funds were used effectively. This reflected some of the new trends in corporate philanthropy that emphasize the active engagement of private-sector partners. The private sector’s influence has been apparent from ACHAP’s inception. Its first leader (2000–2003), Donald de Korte, a physician, was former managing director of Merck’s subsidiary in South Africa. The current leader is Tsetsele Fantan, former head of the AIDS response team at Debswana, the DeBeers–Botswana government partnership for diamond mining. The ACHAP team has evolved to include twenty professional staff, including some from the private sector. (5) ACHAP is committed to building institutional capacity within the government of Botswana. It has sought to respond to government requests to recruit and pay trained foreign professionals and then place them in positions within government institutions. The government has been responsible for identifying a local counterpart who is expected to learn from the foreign consultants. ACHAP has also funded and organized leadership training for government staff. These programs have helped strengthen the capacity of health facilities in Botswana to deliver clinical care for people living with HIV/AIDS.

ACHAP's Contributions To The National ARV Program

Governmental and intergovernmental agencies worldwide are scrambling to establish ARV programs in developing countries. With 21,431 people on government-sponsored ARV treatment as of September 2004, Botswana represents the frontier in national treatment efforts in sub-Saharan Africa. However, when Botswana decided to establish the Masa Program in 2001, there was considerable resistance to the idea of providing ARVs in the region. Although classified as a middle-income country, Botswana was still considered resource-poor for ARV treatment in terms of its health care infrastructure and providers. Although a treatment program is now widely accepted as a pillar of national HIV/AIDS strategy, both international development partners and leaders in Botswana raised questions about starting a national ARV program.

However, Botswana’s high HIV infection rates presented a strong argument for initiating such a program. Several subpopulations have prevalence rates that exceed the 37.4 percent rate found in the general adult population. In addition, of the 300,000 people infected with HIV in Botswana, approximately 110,000 are estimated to have CD4 counts below 200 and are thus considered medically eligible for ARV treatment.

The president of Botswana, Festus Mogae, is widely credited with deciding to establish the national ARV program in March 2001. At that time, many questions about costs, human resource capacity, and where to begin the program were unanswered. Reflecting on those uncertainties, an official in the health ministry stated, “One of the problems was that we could not learn from anyone. Everything had to be started from scratch.”

ACHAP was established several months before the decision to start the national ARV
program. Its first contribution in this area was to engage McKinsey and Company, a management consulting firm, to conduct a pro bono feasibility study for a national ARV program in Botswana. McKinsey provided a team of five consultants, who worked in Botswana for about two months.

The McKinsey study proposed building capacity to treat 19,000 patients in the first year. This would require major increases in staffing and testing, with physicians specially trained to prescribe and dispense ARV drugs and to use CD4 tests for follow-up. The study concluded that considerable financial resources would be needed to implement the program.

The government mulled over the feasibility study’s findings, especially the high cost. Some officials noted that ACHAP helped move them toward an ARV program, particularly through Merck’s willingness to provide two ARV drugs, Crixivan (indinavir) and Stocrin (efavirenz), free of charge. ACHAP’s resources of US$100 million, even if not originally intended for the ARV program, also inspired confidence to provide treatment. The government expected to use its own funds to pay for nondonated ARV drugs available at discounted prices from other drug companies.

The government next began negotiations with McKinsey over a new contract to prepare an implementation plan, but the talks broke down. Under much pressure from President Mogae to start a treatment program, the government began to provide ARVs in Gaborone in January 2002. Many questions remained about implementation, however, as reflected in the team selected to manage the program. The ARV program was housed within the Ministry of Health and was approached as a clinical issue, with the team including a senior physician, a nurse, and a pharmacist. The team had little national managerial experience, and this weakness soon became apparent.

To address these problems, de Korte, ACHAP’s project leader, suggested that the government create a new team and recruit a team leader with experience in both health and management. With government approval, de Korte hired one of the McKinsey consultants, Ernest Darkoh, as the national ARV program operations manager. A physician with public health and management training, he continues to direct the national ARV program (as of this writing), making a major contribution to its effective implementation.

**Strengths of the model.** ACHAP’s contributions to this ARV program derived from four key strengths of the ACHAP model. First, ACHAP’s substantial financial resources provided a firm foundation for initiating the ARV program. In several areas, resources were ACHAP’s main contribution. For example, ACHAP provided financial support for KITSO, a training initiative for health care workers in the ARV program. KITSO is designed and administered by the Harvard AIDS Institute. By June 2004 it had trained 1,192 clinicians, 249 laboratory staff, and 29 counselors. ACHAP also funded the purchase of equipment for the National HIV/AIDS Reference Laboratory, thereby allowing it to provide high-quality testing and patient management. These financial contributions have been important, particularly given Botswana’s emerging budget difficulties. The value of ACHAP’s financing resulted from its size and also from its ability to be applied quickly and flexibly.

The second strength, ACHAP’s streamlined operating procedures, was important in providing twenty prefabricated buildings at Botswana’s initial four ARV treatment sites and at sixteen supporting satellite clinics to manage patients already on treatment. ACHAP agreed to pay for these buildings, but the government required that the construction occur through standard contracting procedures. These processes were expected to delay construction of the first clinic for up to eighteen months. Mogae then intervened, assigning construction directly to ACHAP, and ACHAP built the first building in three months. In 2003 ACHAP also agreed to recruit and pay fifty-four ARV program doctors for two years (and many other health care workers involved in the program), during which time the government created official positions through its standard procedures.

The third strength was ACHAP’s access to
global managerial networks. This was critical in bringing McKinsey in for the feasibility study, which in turn played a major role in starting the ARV program. ACHAP also convinced McKinsey to conduct the study pro bono and then paid the consultants’ local costs in Botswana. This financial contribution was a substantial benefit for the government. The high cost of the proposed study on implementation, to be billed at McKinsey’s regular rates, was a major reason that the government decided not to contract for this study.

Access to networks also helped ACHAP recruit staff and consultants for the ARV program. Government officials acknowledged that it would have been hard for the government on its own to find such highly skilled professionals and attract them to Botswana.

ACHAP’s access to global networks also helped in establishing a clinical preceptorship program to train physicians and nurses at ARV clinics, among other health facilities. ACHAP funds and manages this program, which has involved international networks of medical practitioners through partnerships with various academic institutions and hospitals in developed countries.

The fourth strength, ACHAP’s commitment to comprehensive support and to responding to government requests, has been particularly helpful to government. ACHAP is a “one-stop shop” for government efforts on HIV/AIDS. This feature distinguishes it from other development partners, which tend to specialize in particular aspects of HIV/AIDS.

Of the four strengths, the second—streamlined operating procedures—especially reflects a private-sector approach. The ACHAP experience overall shows how private-sector approaches can be useful in AIDS control. However, it is also important to note that ACHAP was able to adopt streamlined operating procedures in part because it did not have the same standards of public accountability and transparency that applied to government.

Our overall assessment is that ACHAP’s experiences with the ARV program represent an important contribution to Botswana’s fight against HIV/AIDS. But it also raises major questions about the role of public-private partnerships in initiating ARV programs in developing countries—especially with regard to the challenges of scaling up and sustainability.

The Future

Once Botswana’s ARV program was operational, the government and ACHAP confronted a series of critical issues, including capacity, costs, financing, the treatment model, and ACHAP’s evolving role.

The program began to experience capacity problems six months after it started in 2002, when the number of enrolled patients began to exceed the number of treated patients. In April 2002, for example, 500 patients were enrolled in the ARV program, but only 231 patients were on ARV treatment. Although the situation has improved, the gap between enrolled and treated patients has continued; for example, in September 2004, when 26,568 patients were enrolled for treatment and 21,431 patients were receiving treatment.

Darkoh explained that the capacity limitation resulted in part from patient conditions. “We came to realize that the intensity of treatment for each patient was much higher than expected,” he said, “because they were coming in only when they were very sick.”

Demand for treatment is now expected to increase for two reasons. First, Botswana’s policy of routine testing for HIV/AIDS, begun in January 2004, provides testing during all hospital visits unless the patient specifically opts out. Routine testing identifies patients for treatment at an earlier stage of the disease, thereby lowering the intensity of treatment while increasing the number of patients seeking it. Second, awareness of the positive effects of treatment has increased. In response, the government has accelerated its scaling up of the ARV program. As of December 2004 the government had launched all of its thirty-two treatment sites. Success in implementation, however, will create its own problems concerning continuity because of rising costs and limited financing (internal and external). Questions then arise about the treatment model adopted in Botswana.
Botswana developed a relatively high-resource treatment model, which several interviewees called the “Rolls Royce model.” Key features include ARV treatment at specialized clinics that is delivered by health care workers dedicated to providing these drugs, and patient management guided by intensive lab testing (CD4 count and viral load tests). Prevention of mother-to-child transmission of HIV/AIDS is managed through a separate clinical program. Only doctors are allowed to prescribe ARVs, and only pharmacists can dispense them. Botswana’s treatment model does not include peer educators and lay health advocates for treatment management—approaches that have been useful elsewhere.

Botswana ended up with this model in part because there were no others to learn from. As one official stated, “We started as an emergency intervention. It was not as if we could wait and run a pilot.” Also, Botswana views itself as an economically successful country, with a tradition of providing high-quality public services to its citizens. Thus, many citizens expect high-quality health care to be provided at government expense. The presence of ACHAP and its vast resources bolstered confidence in selecting a model based on practices in developed countries. In partnership with ACHAP, Botswana started down this treatment path without full consideration of the long-term cost and financing implications of a full-scale program.

This model differs strikingly from the approaches now recommended for resource-constrained settings. The World Health Organization (WHO) and U.K. Department for International Development, for example, propose an integrated model of treatment based on existing infrastructure, low-level resources, and diversified health personnel. But that model has yet to be applied on a national scale in any African country.

Today there is continuing concern about future financing for Botswana’s ARV program. Botswana has had growing budget deficits since 1998–1999. Efforts to expand the ARV program will inevitably put pressure on other development priorities. HIV/AIDS spending has increased at an average annual rate of 162 percent (nominal) between 1999–2000 and 2002–2003. Currently, 23 percent of Botswana’s HIV/AIDS budget is dedicated to the ARV program. Donor financing could provide an external source of support, but that has problems as well. Initially, ACHAP funds were not expected to increase beyond the original commitment of US$100 million. In late 2004, though, Merck and Gates agreed to extend the partnership for another five years (2005–2009) to ensure the implementation of ACHAP’s revised strategy (approved in August 2004). ACHAP will probably reallocate some of the substantial unspent funds of the original $100 million commitment and will seek to coordinate with activities supported by the Global Fund to Fight AIDS, Tuberculosis, and Malaria and the U.S. President’s Emergency Plan for AIDS Relief (PEPFAR). But there are concerns about how quickly those funds can be disbursed and used, how much can be dedicated to ARVs, and how the new activities will relate to ACHAP’s focus areas in the revised strategy. There is also concern about the reliability of donors in financing Botswana’s ARV program over the long term.

Changing Botswana’s treatment model would reduce future costs but would entail considerable redesign, consultation, and reorientation of resources and attitudes. It would also require achieving consensus among a large number of stakeholders. The changes are complicated by strict role definitions in the health system and issues of professional protectionism. As Mazonde explained in an interview, “If our colleagues in the region were to ask me, I would tell them not to start the way we started. It is too hard to change.”

The new five-year commitment for ACHAP will be important in helping Botswana develop and implement its plans for AIDS control. Although the government recognizes some difficulties with the ARV program, various officials including the president acknowledged in interviews that the program’s achievements would not have been possible without ACHAP’s contributions in such areas as the...
construction of the treatment centers, the training of health personnel, and the donation of two ARV drugs.\textsuperscript{23}

In other HIV/AIDS work in Botswana, ACHAP funded government initiatives and pushed government agencies to pursue new ideas and act quickly. While such pressure was not always welcomed, it generally moved the government to address the AIDS epidemic with particular approaches, as shown by the example of the ARV program. Some analysts have argued, however, that certain aspects of Botswana’s AIDS control strategies, especially the focus on condoms, were counterproductive, in contrast with the successful control achieved in Uganda through behavior change.\textsuperscript{24}

How ACHAP confronts the current challenges of the ARV program will depend on its new leadership. The new ACHAP leader, Tsetsel Fantan, has political support, social legitimacy, and local knowledge. Her capacity to navigate ACHAP’s multilayered relationships with the government will shape how the ARV program evolves, especially in addressing the converging issues of limited capacity, rising costs, and financing constraints.

Conclusions

The example of ACHAP raises questions about how partnerships should be judged—by whom and through what processes. ACHAP’s involvement in Botswana’s ARV program shows how public-private partnerships can be useful in initiating a major HIV/AIDS intervention. Botswana now has more people on ARV treatment than any other country in sub-Saharan Africa and is the only such country to provide free treatment for all. The ACHAP partnership has played an important role in achieving these outcomes.

Botswana’s ARV program also shows how partnerships can be placed under tremendous pressure to begin a program before they have adequate data, analysis, or capacity. Lack of knowledge about the pathways of the disease, particularly the links between treatment and prevention in the cultural and social realities of Botswana, led to difficult problems for ACHAP, especially concerning how best to allocate its resources to control the epidemic. Efforts to advance the treatment program came to dominate ACHAP’s portfolio in its first four years to the detriment of prevention activities, as shown by the lack of effective efforts to change patterns of sexual behavior believed to drive HIV transmission in Botswana. The relative underemphasis on prevention is reflected in the difficulties in implementing programs for high-risk populations (such as highly mobile populations) and in the continuing high rates of HIV infection in Botswana.

The example of ACHAP also shows how difficult it is to achieve performance objectives in HIV/AIDS control in sub-Saharan Africa, even when substantial funds are available and sociopolitical conditions are supportive. The original target of placing 19,000 people on treatment within one year was not achieved (and probably was not realistic). After three years of sustained efforts, however, the program has placed 21,431 people on treatment (as of September 2004) out of a potential 110,000 estimated to have CD4 counts under 200. This represents an important achievement that will reduce AIDS mortality in Botswana.

The experiences of ACHAP demonstrate that partnerships in HIV/AIDS face considerable challenges but can spur action. This has important implications for efforts under way by the Global Fund, PEPFAR, and WHO’s “3 by 5” initiative. Even when partnerships initiate good programs, ongoing implementation is contingent on building strong relationships of trust and assuring that activities continue beyond the partnership itself. ACHAP and its efforts thus represent important first steps in a longer journey toward achieving effective control of the HIV/AIDS pandemic in Botswana.
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NOTES
1. Merck's financial commitment to ACHAP was provided through the Merck Company Foundation. The two antiretroviral (ARV) drugs, Stocrin and Crixivan, were donated through Merck and Company.
2. Adult prevalence refers to prevalence among people ages 15–49. In 2002, Botswana tied with Swaziland for the highest HIV/AIDS prevalence, with an adult HIV rate of 38.8 percent.
5. “Masa” is Setswana for “new dawn.”
6. This includes interviews with government officials; development partners (such as the U.S. Centers for Disease Control and Prevention) in Botswana; staff of nongovernmental organizations (NGOs) in Botswana; health care workers within the ARV program; patients on ARV treatment; and ACHAP staff and board members.
10. Prior to the national ARV program, ARVs were offered in Botswana by private medical practitioners and to 163 patients through the Harvard AIDS Institute.
12. Authors’ interviews, at the office of Botswana’s president and ministries of health and finance, 22 March 2004.
13. KITSO is the acronym for Knowledge, Innovation, and Training Shall Overcome.
15. ACHAP provided much of the financial support for setting up the IT system and also for information, education, and communication program.