Adapting through Crisis

Lessons from ACHAP's Contributions to the Fight against HIV/AIDS in Botswana

FSG REIMAGINING SOCIAL CHANGE

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African Comprehensive HIV/AIDS Partnerships (ACHAP)

Description:

Public-private partnership providing comprehensive, innovative and catalytic solutions to achieve sustainable population health, with a focus on HIV/AIDS

Original Partners

- Merck & Co., Inc. and Merck Foundation
- The Bill & Melinda Gates Foundation
- Government of Botswana

Timeframe:

2000 – Present

Total Funding:

$138.9M

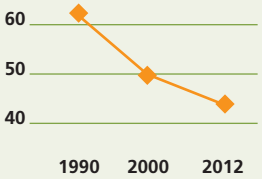
ACHAP Annual Spend ($M)

Key Contributions	Examples
ARV Treatment	Donated ARV drugs and developed lab and clinic infrastructure to support ARV treatment reach 85% coverage Provided support to PMTCT program leading to coverage rates over 95%
HIV Counseling and Testing	Supported adoption of national opt-out HIV testing policy leading to 62% testing rates Helped develop counseling infrastructure and services
Prevention Services	Implemented safe male circumcision, contributing significantly to national targets Facilitated condom distribution and funded mass media and other prevention communication campaigns
Tuberculosis Treatment and Prevention	Supported establishment of national coordinating mechanism and TB policies Developed capacity and funded community organizations to implement DOTS
Institutional Support	Funded human resource positions and built internal government capacity at national and district levels

Botswana Health Statistics

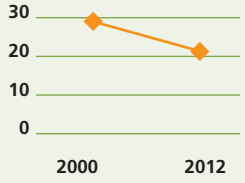
Population: 2.004 million (2012)

Life Expectancy



Deaths due to HIV per 100K population

Prevalence (% Adults)



Executive Summary

Adapting through Crisis

Lessons from ACHAP's Contributions to the Fight against HIV/AIDS in Botswana

Overview

In 2000, Botswana was a country in crisis. The HIV/AIDS epidemic was ravaging the country, with an adult prevalence rate over 28 percent. Projections from the World Health Organization (WHO) indicated that 85 percent of 15 year-olds in the country would eventually die of AIDS. At the United Nations, President Festus Mogae commented, "We are threatened with extinction. People are dying in chillingly high numbers. It is a crisis of the first magnitude."[1]

In response to this crisis, Merck & Co., Inc., the Merck Foundation, the Bill & Melinda Gates Foundation (the Gates Foundation), and the Government of Botswana created the first public-private partnership to tackle the HIV epidemic at a national scale in sub-Saharan Africa. The African Comprehensive HIV/AIDS Partnerships (ACHAP) was formed in 2000, with substantial financial resources (US$138.9M in total funding from the Merck and Gates Foundations), and large volumes of antiretroviral drugs (ARVs) donated by Merck. ACHAP was a pioneer in scaling treatment, working with the government to achieve the first widespread HIV treatment coverage on the continent, and influencing the formation of key global partnerships such as the US President's Emergency Plan for AIDS Relief (PEPFAR). ACHAP also helped strengthen the public health system in Botswana, and contributed to reducing the rate of new infections in the country.

[1] Maggie Farley, "At AIDS Disaster's Epicenter, Botswana Is a Model of Action." Los Angeles Times, June 27, 2001.

In late 2013, the Merck Foundation engaged FSG to conduct a strategic review of ACHAP, focusing on its successes, challenges, and lessons learned. This process is intended to document ACHAP's impact during the last 15 years of support while also informing future strategy and decision-making for four key audiences:

1. **ACHAP's leadership** as it contemplates its next phase of work in Botswana and beyond,
2. **The Government of Botswana** as it continues to manage the national response to HIV/AIDS in the country and also considers broader health needs,
3. **Merck and the Merck Foundation** through the company's business and corporate social engagement, and
4. **The global health community** as it manages existing and future health challenges of a national scope.

A team of FSG consultants conducted research for this review between August 2013 and June 2014, with inputs including:

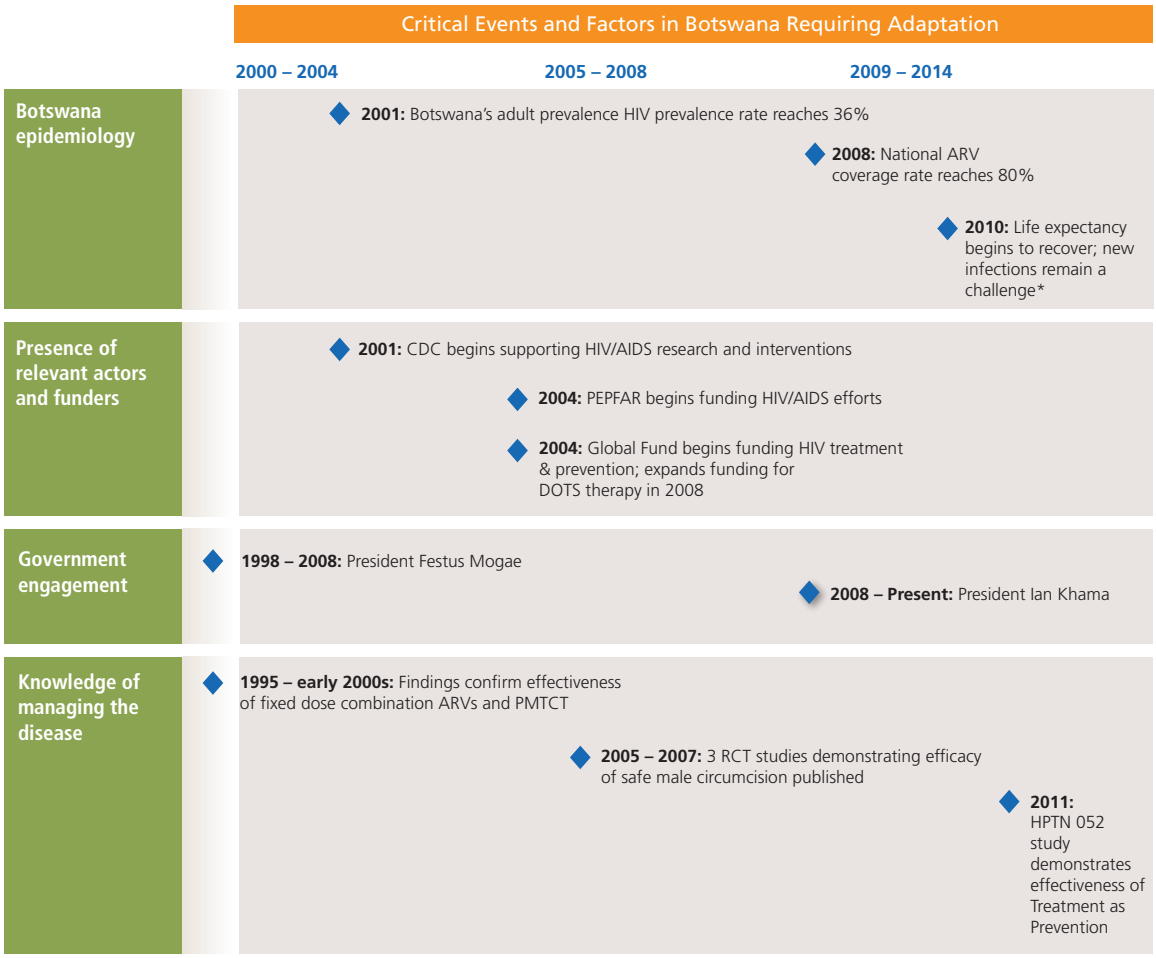
- Over 75 key informant interviews with current and former ACHAP leadership and staff, Government of Botswana officials, local non-governmental organizations (NGOs) and community based organizations (CBOs), international NGOs, donor agencies, and current and former representatives of the funders of ACHAP.
- Three trips to Botswana including meetings with key stakeholders in Gaborone and Francistown as well as field visits to other areas in the northeast of the country.
- Review of hundreds of documents pertaining to ACHAP's strategy and operations, including prior evaluations of ACHAP's first phase of work and of specific programs, board meeting materials, annual reports, published articles, and financial reports.
- Review of external literature assessing ACHAP, HIV in Botswana, key interventions, and other public-private partnerships.

How Did ACHAP Perform in the Fight Against HIV/AIDS?

ACHAP's activities occurred in a dynamic and changing environment for HIV/AIDS in Botswana, and its contributions to the response need to be assessed against this context.

As shown in Figure 1, the HIV epidemiology of the country changed substantially, from an urgent national crisis to a longer-term challenge. New funders and other actors emerged, such as PEPFAR. The Government of Botswana changed as well, with a new presidential administration taking office midway through the partnership. Finally, new science emerged over the course of the 15 years, with substantial advances in the world's knowledge of both treatment and prevention of HIV.

Figure 1: Timeline of key changes in ACHAP's context (2000 – 2014)



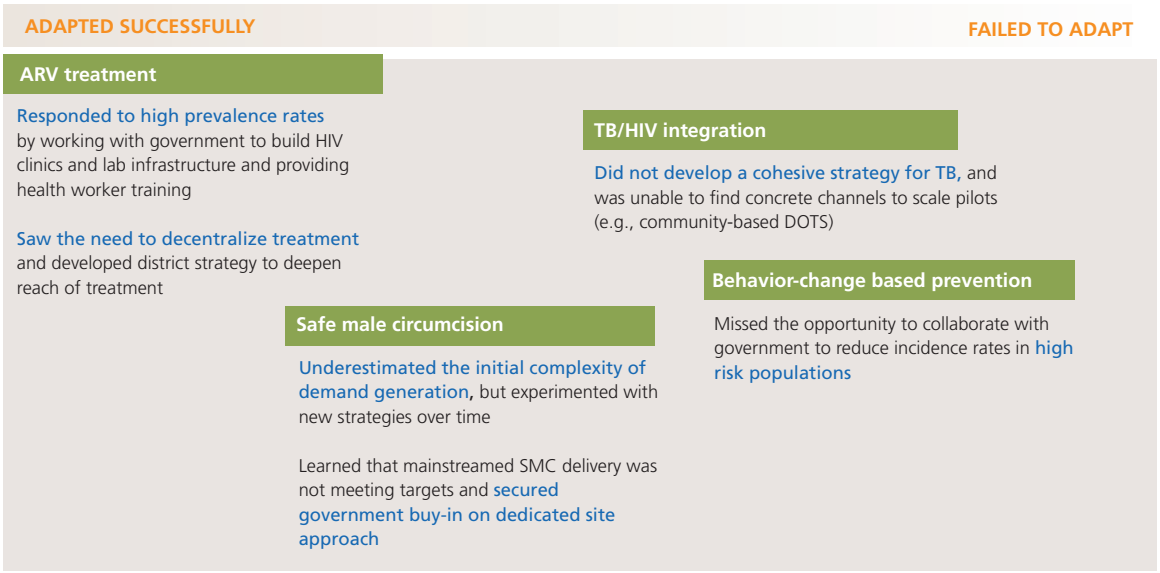
Notes: In 2010, life expectancy began to rise from a low of 46.2 years; between 2008 and 2012, HIV prevalence among 20-24 year olds rose from 26 to 34%
Sources: ACHAP Board Update (Jan 2014), Centers for Disease Control and Prevention, Global Fund, The Lancet, National Institutes of Health, New England Journal of Medicine, PEPFAR, UNAIDS, World Bank World Development Indicators

For this reason, the story of ACHAP is one of adaptation. ACHAP's contributions to the HIV response need to be assessed in the context of the changing environment; the key lessons from the public-private partnership are around how the organization successfully adapted – or failed to adapt – as the epidemiological, political, HIV/AIDS knowledge, and stakeholder contexts changed.

Examples drawn from major program areas of focus demonstrate both successes and failures in how the partnership adapted its programmatic offerings based on the changing circumstances (see Figure 2).

ACHAP also adapted key characteristics as an organization – again, in some cases successfully, but in others failing to adapt. For example, the board was small and comprised primarily of representatives from its funders until 2011, when it expanded and incorporated representation from Botswana for the first time. The backgrounds of ACHAP's senior leadership changed as well, initially emphasizing private sector, corporate experience, and then shifting to civil service backgrounds. The staff of ACHAP expanded substantially in the later years of the partnership, as the organization's role changed from one of catalyzing government and strategic planning to direct implementation and program management.

Figure 2: Summary of ACHAP's adaptation across four program examples



Achievements

Overall, ACHAP made strong contributions to the HIV response in Botswana, and the country is a success story among Southern African countries. Examples of areas in which ACHAP contributed to impact include:

- **Dramatic scale-up of antiretroviral therapy (ART) coverage:** Botswana's ART coverage rate is estimated at 85 percent of those in need[i], which is among the highest rates in sub-Saharan Africa. ACHAP worked with the government to build capacity and develop the initial infrastructure, forming the foundation for the national ARV treatment program. ACHAP also worked with the government to enact an opt-out HIV testing policy, which resulted in substantial increases in testing rates and in ART uptake.
- **Reduction in HIV mortality:** Deaths due to HIV per 100,000 population declined from 1,082 in 2000 to 284 in 2012 as a result of the significant increase in ART coverage rates[2].
- **Strong success in the prevention of mother-to-child transmission (PMTCT):** ACHAP contributed to Botswana achieving a PMTCT coverage rate over 95 percent and a transmission rate of 3 percent – making it the only African country to have already achieved by 2013 the UNAIDS 2015 target of reducing the MTCT rate below 5 percent in breastfeeding populations[3]. ACHAP partnered with CDC and contributed financial and technical support to ensure the success of the PMTCT program in Botswana.
- **Recent progress in scaling safe male circumcision (SMC), despite a slow start:** As of 2013, 24 percent of all 10 – 64 year old men were circumcised, more than double the rate in 2008[4]. ACHAP implemented SMC programs directly and became the biggest contributor to national circumcision goals.
- **Expanded impact by influencing program design of other funders:** Botswana's pioneering national ARV treatment program set an example for other programs in the region and informed the design of PEPFAR and the Global Fund[5].

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[i] The Government of Botswana is currently conducting an audit of its estimates of the number of people in need of antiretroviral therapy. Preliminary output from this analysis has indicated a coverage rate of approximately 85 percent. This process will also result in revisions to historical coverage rates based on changes in the methodology for estimating need.

[2] Calculation based on deaths data from UNAIDS 2013 Global Report and population data from World Bank DataBank.

[3] "2013 Progress Report on the Global Plan Towards the Elimination of New HIV Infections Among Children by 2015 and Keeping Their Mothers Alive." UNAIDS, June 30, 2013.

[4] Botswana AIDS Impact Survey IV (BAIS IV) Summary, Statistics Botswana, 2013.

[5] FSG interviews

Challenges

In other areas where ACHAP played a role, either directly or through support to the government, the national response fell short. While not all of these areas of limited progress can be attributed directly to ACHAP, challenges include:

- **Limited progress on averting new infections, especially in young women:** Tracing the cohort of individuals aged 15 – 19 in 2004 finds that their prevalence rate tripled from 2004 to 2013[6]. Young women and girls are disproportionately affected, with prevalence rates among 25 – 29 year old women at 27 percent compared to men at 13 percent[7].
- **Continued high rates of risk behaviors:** Rate of adults with multiple partners in the last year increased from 11 percent in 2001 to 16 percent in 2013[8].
- **Major concerns around tuberculosis co-infection:** TB cure rates declined from 2009 to 2011; ACHAP contributed to expanded treatment coverage, but limited adherence to protocols in the public health system has stymied results[9].
- **Remaining gaps in safe male circumcision:** The Government of Botswana revised its national targets to 385,000 adolescents and men aged 13 – 49 in 2011, but Botswana is still behind targets and declining donor funds for SMC may further inhibit future progress[10].
- **Challenges with impact measurement and planning:** Government estimates of the total ART need still lack reliability, and there are still concerns over the financing of the program in the future[11].

[6] Botswana AIDS Impact Survey IV (BAIS IV) Summary, Statistics Botswana, 2013.
[7] Botswana AIDS Impact Survey IV (BAIS IV) Summary, Statistics Botswana, 2013.
[8] Botswana AIDS Impact Survey IV (BAIS IV) Summary, Statistics Botswana, 2013.
[9] 2012 Botswana National TB Program Annual Report
[10] FSG interviews
[11] FSG interviews

How Successful Was ACHAP as a Public-Private Partnership?

ACHAP formed at a time when many other public-private partnerships (PPPs) on health issues were emerging. Examining this landscape of partnerships, FSG identified **five characteristics of successful PPPs** (Figure 3), drawing from external literature on PPPs as well as a landscape assessment of other partnerships on HIV and other global health issues. ACHAP's performance against these characteristics is mixed and nuanced. On characteristics such as adapting overall strategy and role, nurturing partnerships with government, and leveraging the power of the private sector, ACHAP provides both leading practices and areas for improvement. On investing in knowledge and planning for sustainability, ACHAP did not perform as strongly.

Figure 3: Five Characteristics of High-performing PPPs

Adapt overall strategy and role	Leverage the power of the private sector	Nurture partnerships with government	Invest in knowledge	Plan for sustainability
Shifted its programmatic approach from working within government system to executing independently Conducted limited strategic planning upfront, making it challenging to align resources internally and coordinate with partners as programs adapted	Leveraged entrepreneurial managers to develop new programs and approaches Did not adequately build in performance based management systems to ensure the organization's staff maintained private sector skills	Designed effective structures for engaging the government in regular planning and coordination Did not adequately adapt the government engagement mechanism as the organization shifted its programmatic approach and the government interests changed	Used data effectively to guide program-level tactical decisions Consistently under-invested in its own management information systems to support learning and evaluation Missed opportunities to invest in effective dissemination of its learnings to key global health audiences	Set up programs to be transferred to the government or other implementing partners but encountered challenges Ineffectively planned for the long-term sustainability of the organization
ACHAP IS A LEADING EXAMPLE				**AREAS FOR IMPROVEMENT**

Adapt Overall Strategy and Role

- ACHAP successfully shifted its programmatic approach to stay relevant to the epidemic as the context for its work changed. ACHAP shifted from working within government systems to a more independent approach focused on innovating and piloting new programs.
- However, even after the initial crisis, ACHAP did not have a strategic plan in place. As a result, ACHAP was not able to be fully intentional in its efforts to make this shift from catalyzing government to direct implementation, nor was it transparent to the other key partners. For example, while ACHAP's initial flexibility was crucial in supporting the development of the first ARV treatment sites, once the treatment program was more established, ACHAP could have invested in the development of a strategic plan to support future growth and align internal resources.

Leverage the Power of the Private Sector

- ACHAP leveraged a nimble, independent group of managers with private sector skills to initially set up and scale the ARV treatment program. ACHAP shifted management and brought in new expertise and staff experience in an effort to transition to a more established organization. With this shift, ACHAP lost some of its private sector skill base, and did not adequately build in a performance management systems that would allow for regular performance assessment and review.
- ACHAP's funders committed to supporting the partnership without specific expenditure restrictions during the initial five years of funding, giving ACHAP's managers the flexibility to spend resources as needed and experiment with new programs that may take time to show results.

Nurture Partnerships with Government

- ACHAP was intentional about putting systems and structures in place to support its ongoing relationship with the government, and ensure alignment and buy-in from key government stakeholders at the national and local levels. These structures included the Madikwe Forum, which brought ACHAP's board and management together with the Permanent Secretaries from key ministries to align on strategy. ACHAP also seconded staff into ministries to ensure coordination at a tactical level.
- ACHAP was not as successful at maintaining high-level relationships with key government officials as government priorities shifted to other issues. ACHAP was established to support an ARV treatment program in concert with the government, and this model required significant engagement from the government to be successful. When the government's interests shifted, ACHAP lost some of its influence with political leadership. ACHAP struggled to achieve a similar level of success in other programs (such as safe male circumcision) using an approach that required such deep engagement from government. While ACHAP did not have control over the government's priorities, in developing new programs, ACHAP should have taken into greater consideration the extent to which it relied on the prerequisite of political will to implement its work.

Invest in Knowledge

- ACHAP was effective at using data to guide program-level tactical decisions. For example, when ACHAP was building the ARV treatment program, management quickly identified that low HIV testing rates were a barrier to increasing the number of patients on treatment. ACHAP supported the government to enact a national HIV testing opt-out policy which helped to drive up testing rates and facilitate expansion of treatment services.
- However, ACHAP consistently underinvested in its own management information systems to support broader learning and evaluation that would inform its overall strategy. ACHAP lacked adequate monitoring and evaluation (M&E) staff to develop a robust process for measuring impact, limiting its ability to integrate lessons into annual planning and share information across geographies.

- ACHAP also missed opportunities to invest in effective dissemination of its learnings. While the partnership published frequently in medical journals and put out robust communications pieces, it had a unique platform to conduct implementation research that would have been more practical and relevant to the field. ACHAP could have been more intentional in translating its academic contributions into practical insights for key global health audiences that would benefit from specific lessons in PPP design and management.

Plan for Sustainability

- ACHAP did set many of its program activities on a path toward sustainability by positioning programs to be transferred to the government or by engaging other implementing partners to provide support. However, there is still a lack of clarity as to how elements of ACHAP's successful programs will be sustained in the future: for example, in how the government will fund aspects of the ARV treatment program beyond the conclusion of ARV donations that support a part of the national ARV supply, and in the pace of public sector implementation of SMC.
- ACHAP and its funders were not effective in planning for the long-term sustainability of the organization. For example, despite the decrease in available funding following the departure of the Gates Foundation in 2012, ACHAP did not lay out a plan for longer-term funding support until 2013. Regardless of the intended direction (sunsetting or continuing to catalyze new areas in the HIV response), the partnership needed more concerted planning around goals for impact, accompanying milestones, and resource implications of these goals upfront to ensure that there would be resources available.

What Can Other Public-Private Partnerships Learn from ACHAP?

Based on the successes and challenges during ACHAP's 15 years of partnership, there are six key lessons that other public-private partnerships should incorporate into their work.

1

Emphasize adaptation as a core characteristic for successful public-private partnerships:

Partnerships looking to maintain relevance and impact in a dynamic context need to adapt at strategic, organizational, and programmatic levels. Several attributes can lay a foundation for public-private partnerships to adapt successfully:

a. Emphasize nimble execution: Hire staff and management that take initiative, are results-driven, and move at a rapid pace to help the partnership to be reactive to the changing context. At the same time, be sure to identify opportunities to embed the private sector skills in government processes and culture.

b. Leverage flexible funding: In the beginning, partnerships should prioritize a flexible funding structure to allow management to establish programs and test new practices in order to

identify the appropriate path for reaching the partnership's goal. Once these visions and strategies are established, partnerships can shift to alternate funding structures that tie short-term results more closely to future funding decisions.

c. Embed learning mechanisms early: Build relationships and take time to incorporate new data into planning early and often to identify new science, emerging partnership opportunities, and changing needs.

2

Be intentional about strategic shifts and set a clear upfront strategy and milestones:

To encourage entrepreneurial activity and innovation, partnerships can allow for flexibility early on. However, all activities should be tied to clear goals and, once the initial programs are established, the partnership should create an explicit strategic plan with milestones and systems for measuring progress. The plan should assess the internal staff expertise and capabilities to evaluate if the partnership can execute on the plan, and identify any additional skills needed. The milestones can also prompt decision points for the partnership to assess whether or not to continue funding individual programs. Partnerships should also focus on building strategic relationships that will help with execution against the plan.

3

Design the appropriate governance and management structure:

Public-private partnerships should assess the expertise and guidance needed to execute the chosen strategy. For example, organizations can select a management team with private sector expertise and balance this with public sector or content expertise on the board. Alternately, partnerships can place funders on the board to maintain close relationships between the funders and the grantee. Either way, the partnership should be clear about the implications of the governance and management structures that it creates to anticipate opportunities or challenges.

4

Plan for sustainability and ensure there is ongoing communication between members of the partnership at the execution and leadership levels:

It is critical that partners begin with the end in mind: to ensure that progress will be sustained, they need to plan for the sustainability of programs upfront during the program design phase, and discuss potential exit strategies for the organization's initial funders. There is a need for partners engaged in the initiative to communicate about the partnership strategy and ensure alignment on program goals. In addition, partners should communicate at the leadership level to ensure the strategic directions of the participating organizations also align.

5

Develop capabilities in learning and evaluation as well as implementation:

Public-private partnerships need a mix of internal capacity development and external support in order to strengthen their abilities to collect and interpret data in a useful way and inform their own organizational planning as well as for the broader field. Partnerships also need to be intentional about their plans for disseminating best practices to the field by emphasizing relevant implementation research that responds to needs of other program managers, and by using diverse venues and practical formats beyond annual reports and academic publications.

6

Align the degree of government collaboration with the partnership objectives and build appropriate structures for coordination:

Partnerships need to design appropriate collaboration mechanisms that allow for alignment with government in order for partners to effectively execute and scale programs. How these collaboration mechanisms operate more specifically will depend on the partnership's objectives, resources available, government capabilities, and support needed to achieve the goals. There is a range of structures for collaboration: partners can engage with government by infusing private resources directly into government budgets, by forming hybrid collaborations such as ACHAP, or by launching private sector-led efforts that operate with light oversight from and coordination with government. Some may require less intensive relationships with a lighter coordinating forum while others may require a deeper collaboration with support across all levels of government.

Conclusion

ACHAP broke new ground in proving the feasibility of HIV treatment in sub-Saharan Africa. The successes of Botswana emboldened the global AIDS response, shifting the dialogue to emphasize aggressive targets for treatment scale-up. The partnership provides crucial lessons for other public-private initiatives, particularly in how it was able to adapt its strategy and role beyond the initial mandate, and in its early structures for engaging government. However, ACHAP also offers several cautionary tales for other public-private partnerships. It underinvested in learning and evaluation, insufficiently navigated the changing political context in Botswana, and belatedly planned for the sustainability of the partnership.

Going forward, there are tremendous opportunities for ACHAP and other partnerships to take these lessons into new arenas: for example, in the mainstreaming of HIV/AIDS services into the broader public health system, and in the response to the emerging burden of non-communicable disease in low- and middle-income countries. Hopefully, these future efforts will retain and strengthen the adaptive nature that ACHAP has displayed over its 15 years of impact on HIV/AIDS in Botswana.

Background of This Review

Merck Foundation engaged FSG, a nonprofit consulting and research firm, to conduct a strategic review of the African Comprehensive HIV/AIDS Partnerships (ACHAP), focusing on the successes, challenges, impact, and lessons learned by the partnership over its 14 year history. This evaluation is intended to document ACHAP's impact while also informing future decision making within Merck, among other key actors in global health, and for ACHAP's leadership as they plan the organization's next phase of work in Botswana and beyond.

A team of FSG consultants conducted research for this review between August 2013 and June 2014, with inputs including:

- Over 75 key informant interviews[ii] with current and former ACHAP leadership and staff, Government of Botswana officials, local non-governmental organizations (NGOs) and community based organizations (CBOs), international NGOs, donor agencies, and current and former representatives of the funders of ACHAP.
- Three trips to Botswana including meetings with key stakeholders in Gaborone and Francistown as well as field visits to other areas in the northeast of the country.
- Review of hundreds of documents pertaining to ACHAP's strategy and operations, including prior evaluations of ACHAP's first phase of work and of specific programs, board meeting materials, annual reports, published articles, and financial reports.
- Review of external literature assessing ACHAP, HIV in Botswana, key interventions, and other public-private partnerships.

Collection of primary health outcomes data was not in the scope of this evaluation, but the report leverages recent data sources such as the Botswana HIV/AIDS Impact Survey IV (2013) and international sources such as UNAIDS AIDSINFO to present a detailed analysis of overall impact. This report attempts to use the most current data available as of June 2014.

[ii] See Appendix for list of key informant interviews

Context of the Epidemic

In 2000, Botswana and its Southern African neighbors were in crisis. With one of the highest HIV prevalence rates in the region (over 28 percent among adults), AIDS deaths were skyrocketing. Based on the trajectory of the disease at the time, the WHO estimated that average life expectancy would be reduced by over 30 years, and 85 percent of 15 year olds in the country would eventually die of AIDS[12]. Such dramatic declines in life expectancy threatened to reverse Botswana's economic development gains over the previous four decades and cause major strains on health care systems and services in the region. With economic growth rates over 10 percent since the late 1960s, due in large part to the expansion of the mining industry, Botswana was in a stronger financial position to tackle the epidemic[13], but the country's low population density posed infrastructure challenges, particularly around health care delivery.

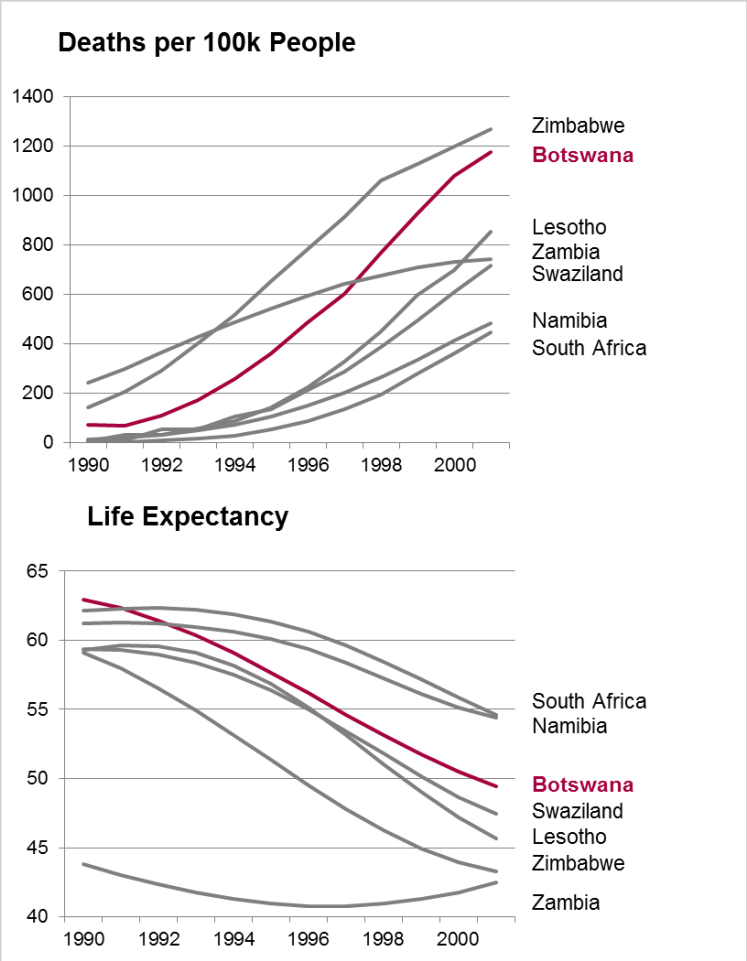


Figure 4: Life expectancy and death rates from HIV in Southern Africa

In the late 1990s, advances in AIDS science led to highly active antiretroviral therapy (HAART) and demonstrated that longer, healthier lives with HIV were possible. However, as of 2000, the cost per patient was still over US$10,000 per patient per year[14] prohibiting most governments in Southern Africa from investing in nationwide treatment programs: all countries in sub-Saharan Africa had negligible coverage rates of ARV treatment in 2000[15]. Pharmaceutical companies took important steps to reduce costs and make ARVs more affordable. The Accelerating Access Initiative[iii], launched in May 2000, was a collaboration between leading pharmaceutical companies which significantly reduced costs per patient but there was still a need to support African countries to adopt the discounted ARVs[16].

[iii] The Accelerating Access Initiative was a partnership between leading pharmaceutical companies (Merck, GSK, Bristol-Myers Squibb, Abbott and Boehringer-Ingelheim) and UNAIDS to explore opportunities for ARV price reductions. Johnson & Johnson, Pfizer, and Gilead later joined the initiative. UNICEF, the World Bank, UNFPA and the WHO also supported the initiative.

Despite these advances, pharmaceutical companies continued to attract negative attention. Many in civil society were calling for pharmaceutical companies and governments to expand access to treatment in developing countries. Oxfam, Save the Children, and VSO released a statement in 2000 challenging the pharmaceutical industry to improve efforts to address the HIV/AIDS epidemic and the UN convened a special session on HIV/AIDS with the intent to increase political and social commitment to addressing the issue[17].

Despite the increasing burden of the epidemic, some major international institutions were skeptical of the feasibility of widespread scaling of treatment. In one infamous example in 2001, Andrew Natsios, the head of USAID, commented that adherence to ARV treatment in Africa was difficult because “many people in Africa have never seen a clock or a watch their entire lives” and would not know when to take the drugs[18]. The WHO was also initially resistant to prioritizing treatment, emphasizing the need for greater prevention services instead.

ACHAP's Formation

Merck and the Gates Foundation were keen to demonstrate that a national treatment program was possible in Sub-Saharan Africa. The Government of Botswana was determined to find partners to introduce treatment at scale.

In this setting, Merck & Co., Inc., the Merck Foundation, and the Bill & Melinda Gates Foundation brought unique interests and assets to form an innovative public-private partnership to address the HIV/AIDS crisis in Botswana. Under the leadership of Raymond Gilmartin, CEO, and Per Wold-Olsen, lead for Merck's business in Africa, Merck aimed to show that the private sector could play a constructive role in the AIDS response and contribute to the development of a comprehensive approach to addressing HIV/AIDS, including treatment. Merck recognized that the donation of ARVs alone would be insufficient, and sought to partner with government to build the infrastructure and facilities needed to deliver treatment. Merck approached the Gates Foundation in an effort to bring in additional expertise and financial resources to the effort. The Gates Foundation expressed interest in joining the partnership to demonstrate that, given the right circumstances (such as government stability and economic strength), treatment at scale was possible in sub-Saharan Africa and there was the potential to reverse the course of the disease[19].

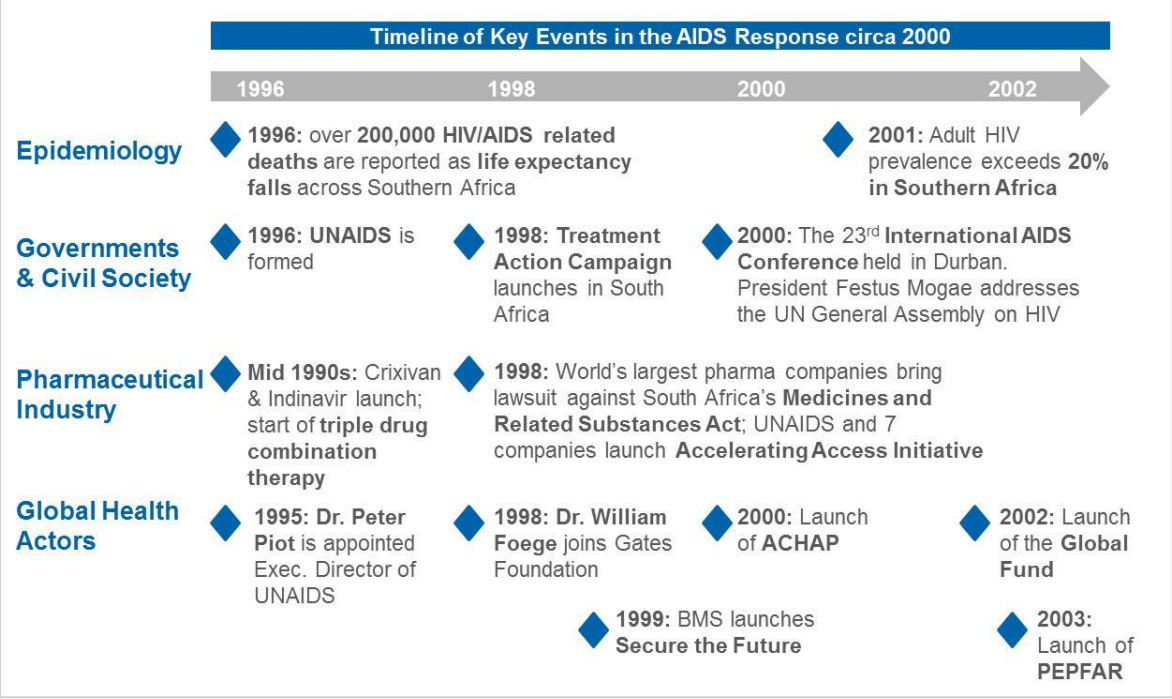


Figure 5: Timeline of key events in the AIDS response circa 2000

Merck had conducted smaller pilot treatment programs in Kenya, Cote D'Ivoire, and Cameroon, but never at a national level[20]. Likewise, the Gates Foundation had only supported smaller pilot programs and wanted to show that, despite the challenges in low resource settings, a national treatment program was feasible in sub-Saharan Africa. Other pharmaceutical companies had started HIV programs at the time, including Bristol-Myers Squibb with Secure the Future and Abbott Laboratories with efforts in Tanzania, but these focused on specific interventions or smaller geographic locations. Merck and the Gates Foundation aimed to create the first program of its kind by operating in partnership with the government and providing treatment and prevention at scale. The implicit goal was for this program to ultimately inform the approaches to HIV/AIDS in other sub-Saharan African countries.

Botswana was chosen for the launch of the partnership based on political will, economic strength, and presence of health infrastructure.

After assessing candidate country partners and the unique dynamics of the epidemic in each, Merck prioritized Botswana based on its many strong supporting factors – including level of government commitment, presence of basic health infrastructure, manageable size, and higher availability of resources compared to neighboring countries. They thought that the country offered a higher likelihood of success compared to larger options such as Uganda[21]. Furthermore, Merck had learned about the potential for impact through the Enhancing Care Initiative, a collaboration with the Harvard AIDS Institute led at Harvard by Dr. Richard Marlink and Dr. Daniel Tarantola. Some criticized the decision to focus on Botswana, stating that with a relatively high income and small population (1.7M in 2001[22]), it would not serve as a representative example for other countries in the region.

The Harvard AIDS Institute, which had been active in Botswana for years, facilitated an introduction to President Festus Mogae and Minister of Health Joy Phumaphi, and, in 2000, the partners agreed to launch the African Comprehensive HIV/AIDS Partnerships (ACHAP).

ACHAP was established with a $100M commitment over five years, with the Merck Foundation and the Gates Foundation each contributing $50M. The organization was registered as a non-profit 501(c)3 in the United States, with Merck as its secretariat. In addition to contributing funds, Merck and the Gates Foundation placed representatives on the board to oversee the management of funds and program implementation. Merck also committed to supporting the treatment program through substantial donations of ARVs – initially, its drugs Crixivan and Stocrin, and later Atripla as a new first-line single-dose combination and Isentress as a second-line option. Merck also seconded Donald de Korte, a medical doctor and executive leading Merck's South African affiliate, to lead ACHAP's day-to-day operations as the organization's first managing director.

In October 2001, President Mogae declared in his State of the Nation address that HIV/AIDS was the most serious challenge facing Botswana and threatened the future existence of its people. This statement launched the beginning of the treatment program and showed the country's commitment to fighting the epidemic. The treatment program, called *Masa* ("a new dawn" in Setswana), was initially launched in four sites. In the years that followed, treatment availability expanded to a progressively wider number of sites. In addition to providing ARV drug therapy, the government committed to strengthening the health sector to support the treatment program.

ACHAP's early years involved not only resource provision but substantial strategic and organizational adaptation.

ACHAP was launched with the expectation that the government would have a plan prepared for scaling treatment and prevention and that Merck and the Gates Foundation would simply provide the resources. However, when ACHAP began in 2000, there were significant infrastructure challenges that would need to be overcome, and a national strategic plan for the program was still under development.

In the years that followed, ACHAP worked side by side with the Government of Botswana, primarily through the National AIDS Coordinating Agency (NACA), the Ministry of Health (MOH), the Ministry of Local Government, and the Ministry of Finance & Development Planning. The partnership supported national strategic planning processes, infused resources to overcome barriers in the treatment program, and involved itself in prevention and care activities through the government and through local community-based organizations (CBOs).

"Back in 2000, it took courage to put together a program that had the intent to scale. This deserves to be applauded: ***the approach was unprecedented*** *and ACHAP had to work from scratch to find its path."*

- Ambassador Eric Goosby, Former United States Global AIDS Coordinator

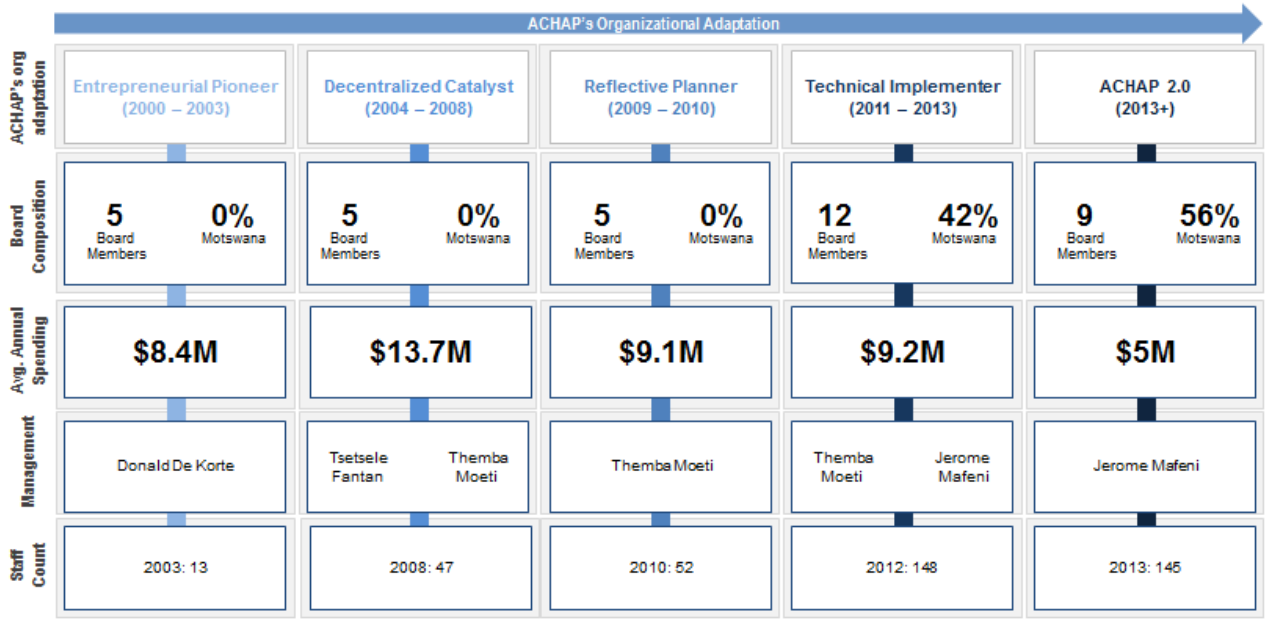


Figure 6: ACHAP's phases of organizational adaptation

"Our initial staffing allowed us to ***take advantage of government scale****, but also* ***use private sector know-how to move fast****."*

- Dr. Ernest Darkoh, Former ACHAP

There were several characteristics that were essential to ACHAP's approach. Throughout its history, it has maintained a public-private partnership structure, and brought a combination of private sector acumen and enabled the government to make durable progress at

scale. While those characteristics remained at the core of the organization's structure, ACHAP adapted in new ways over the course of the partnership, as shown in Figure 6. In the early days, a small team led by managers with private sector backgrounds launched ACHAP. The board of directors was small and consisted primarily of representatives from ACHAP's two funders[iv]. In the next phase, the organization became less centralized and saw its leadership change. The middle years (2009-2010) were focused on planning, and set the stage for more dramatic changes ahead. During 2011, the board expanded by bringing more substantive Batswana representation. As of 2014, the organization has a new CEO, has decreased annual spending, and is focused on codifying its gains and planning for the future.

Merck and the Gates Foundation decided to place representatives on ACHAP's board to guide the strategic direction of the organization and manage the flow of funds. This created a dual role for Merck and the Gates Foundation as both leaders and funders of ACHAP. In the early years, this structure allowed ACHAP to have access to flexible funds, adapt easily to shifting contextual needs, and take advantage of funder management skills. As the external context changed and ACHAP adapted its approach and programs, the dual role of the funders created some challenges and complications for the organization.

[iv] See Figure 21 in the Appendix for a full timeline of ACHAP's board of directors

The Changing Context of the HIV/AIDS Epidemic in Botswana

The story of ACHAP is one of adaptation. ACHAP's contributions to the HIV response need to be assessed in the context of the changing environment. As shown in Figure 7, the context of ACHAP's work changed substantially along several dimensions, The key lessons from the partnership are around how the organization successfully adapted – or failed to adapt – as the context changed.

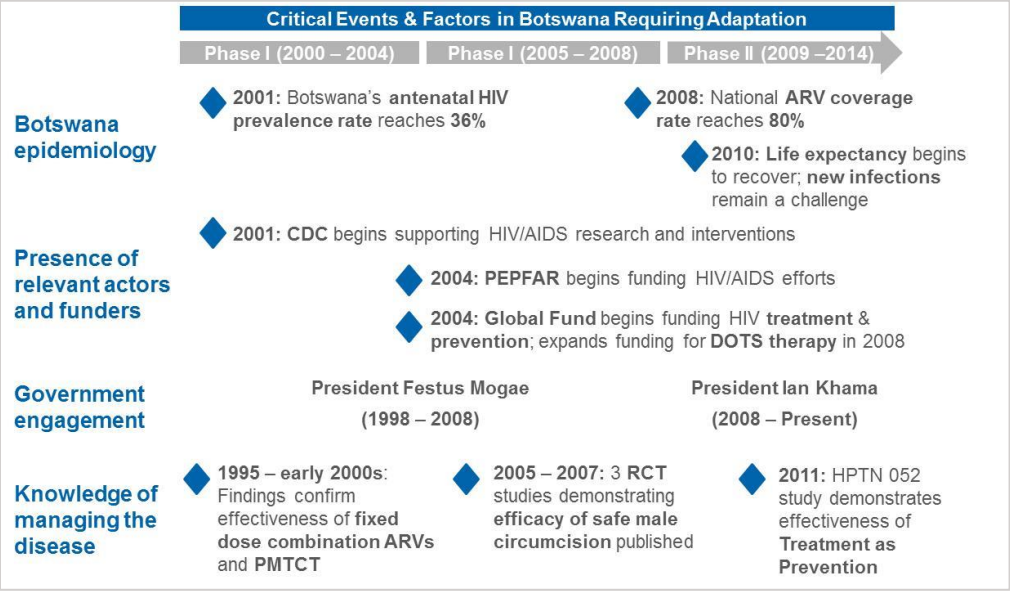
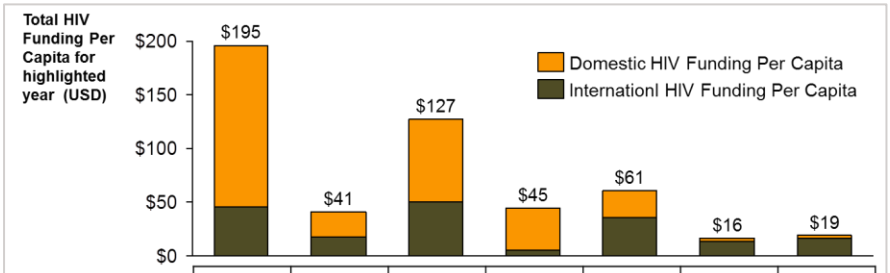


Figure 7: Timeline of key context changes

From an epidemiological standpoint, the reduction in mortality and somewhat lower rates of new infections meant that the AIDS response moved from crisis mode to planning for durable support and care – and this brought new challenges as the sense of urgency around HIV decreased. In terms of funding, few other entities were able to provide a comparable amount of resources to address the HIV/AIDS crisis in Botswana in 2000, but in the years that followed, important new players emerged. CDC and the Harvard AIDS Institute had both been conducting research and providing support in Botswana prior to ACHAP's formation, but its resources were small compared to the $100 million donated by the Merck Foundation and the Gates Foundation in the first 5 years. In later years, other funders emerged: in 2004, PEPFAR entered Botswana and provided $650M over ten years to address HIV/AIDS, significantly shifting the funding landscape[23]. As a result, ACHAP's current support is a small portion of overall AIDS funding. As shown in Figure 8, Botswana today still sees high international AIDS funding per capita, though its share of domestic funding is also substantially higher than its neighbors.

The Government of Botswana also changed leadership and expanded its focus, prioritizing broader economic development and poverty alleviation in addition to the HIV response. President Mogae played an important role in the launch and uptake of the HIV/AIDS treatment program in Botswana. His outspoken public commitment in support of the treatment program, including personally chairing the National AIDS Council and being one of the first African heads of state to take a public HIV test[24], helped to align government ministries and other actors. This commitment was especially important in addressing the significant issues of stigma in the country. As the treatment program scaled, population health improved, and a new administration took office, the government broadened its focus. The Government of Botswana continued to contribute significantly to HIV programming, with net spending at $219M in 2012, which is roughly 70% of overall financing for HIV programs in Botswana[25]. While HIV/AIDS remains a key priority, issues such as health systems strengthening and poverty alleviation have been areas of greater focus for the government.



Country	Botswana	Lesotho	Namibia	South Africa	Swaziland	Zambia	Zimbabwe
Most recent year when HIV funding info was available	2011	2008	2010	2009	2009	2006	2012
Domestic HIV Funding Per Capita (USD)	$150	$23	$77	39	$25	$2	$3
Int'l HIV Funding Per Capita (USD)	$46	$18	$50	$5	$36	$14	$16
GDP Per Capita (USD)	$7,697	$827	$5,079	$5,654	$2,694	$908	$714

Figure 8: Comparison of HIV funding across countries

The world's knowledge of how to prevent and treat HIV also evolved between 2000 and 2014. Studies confirming the effectiveness of male circumcision as an HIV prevention intervention emerged in 2005-2006,[26] and others published in 2011 showed that the use of ARV treatment to suppress viral load in HIV-positive individuals substantially reduces the risk of transmission. There were also changes in understanding the effectiveness of some behavior change interventions, with a major literature review finding few examples of success in behavior change programs related to HIV[27].

Together, these changes meant that ACHAP and its partners had to reinvent the organization's purpose, programs, and structures multiple times over the course of the partnership's 15 years. The sections that follow examine ACHAP's overall contributions to impact and its areas of failure, how ACHAP adapted its programmatic work in response to this changing context, as well as how effectively it performed as a public-private partnership.

Achievements and Challenges in the Botswanan AIDS Response

ACHAP's achievements need to be understood in the context of Botswana's overall response to the epidemic. While ACHAP played a central role in the country's fight against AIDS, its contributions came in the context of a larger ecosystem of players.

Achievements

Botswana alleviated the crisis through its rapid scale-up of antiretroviral treatment.

As of January 2014, the country had 231,163 people on HAART[28], covering over 85 percent of the projected need in the country[v]. Beyond its achievements in terms of scale, the ARV treatment program in Botswana has demonstrated impressive results in reducing mortality. A longitudinal study examining ARV treatment in Botswana from 2002 to 2010 found an overall mortality rate of 2.7 deaths per 100 person-years. The Futures Institute has also conducted an assessment of the epidemiological, economic, and social impact of ACHAP's support and investment in HIV/AIDS in Botswana and the results of that study are set to be released in the fall of 2014. Putting these rates in context, the study notes that Botswana's mortality rates are comparable to Rwanda's and substantially lower than in Zambia (16.1 deaths per 100 person-years)[29].

*"ACHAP's best decision was to take up the hardest task: treatment scale-up**. It demonstrated that treatment scale-up was possible** in Africa and provided the proof-of-concept that was needed."*

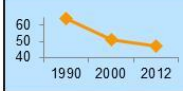
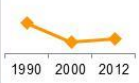
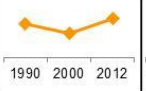
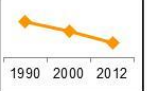
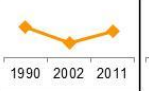
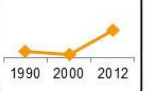
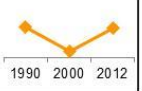
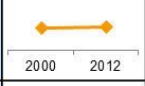
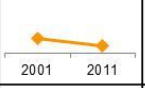
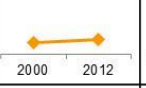
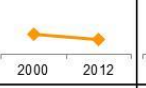
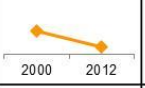
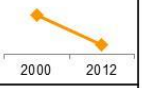
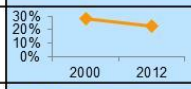
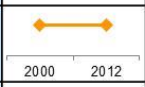
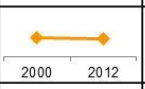
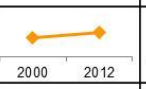
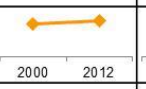
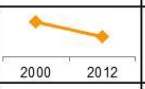
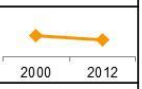
- Dr. Alex Coutinho, Executive Director, Infectious Disease Institute (IDI)

This success rippled far beyond Botswana's borders.

The country served as the first major proof of concept that scaling HIV treatment in a heavily affected African country was feasible. Delegations from other nations around Southern Africa and Latin America visited Botswana to observe the partnership to inform their own national treatment programs. As treatment was first introduced, Stephen Lewis, the Special UN Envoy on HIV/AIDS in Africa, commented, "We see before us the most dramatic experiment on the continent. If it succeeds, it will give heart to absolutely every country worldwide."[30] Several years later, his remarks proved prescient. Botswana's success is cited by a range of stakeholders as having heavily influenced the decisions by other countries and major global institutions (such as PEPFAR and the GFATM). For example, ACHAP was cited as a model which informed the development of PEPFAR, such as confirming early estimates from pilots PEPFAR conducted in Uganda to determine the full cost of providing treatment and in showing that treatment would initially roll out slowly but then achieve accelerated growth[31]. The sections that follow

[v] The Government of Botswana is currently conducting an audit of its estimates of the number of people in need of antiretroviral therapy. Preliminary output from this analysis has indicated a coverage rate of approximately 85 percent. This process will also result in revisions to historical coverage rates based on changes in the methodology for estimating need.

provide further examples of the influence of ACHAP, including on policies regarding opt-out HIV testing and on curricula for health worker training.

Country	Botswana	Lesotho	Namibia	South Africa	Swaziland	Zambia	Zimbabwe
Population	2.0 Million	2.1 Million	2.3 Million	52.3 Million	1.2 million	14.1 Million	13.7 Million
Life Expectancy							
Deaths due to HIV per 100k pop.							
Prevalence (Adults)							
ARV Coverage	**88%** of treatment eligible patients	61%	82%	75%	80%	90%	77%
PMTCT	**96%** uptake among HIV positive pregnant women	81%	85%	87%	84%	85%	93%
Condom Use	% of ages 15-49 w/ >1 sexual partner in last year reporting condom use at last intercourse **90% (2011)**	46% (2011)	66% women / 74% men (2009)	75% (2009)	72% (2011)	9%	34% (2012)
Testing	% of ages 15-49 receiving an HIV test in last year **62% (2011)**	36% (2011)	29% women / 18% men (2009)	25% (2011)	39% (2011)	15.4%	26% (2012)

Leading performance among profiled countries Moderate performance Low performance

Figure 9: Country comparison on key HIV/AIDS indicators

The country also made some progress in reducing the transmission of HIV.

The prevention of mother-to-child transmission (PMTCT) has been a strong success, with 95 percent of HIV positive pregnant women receiving treatment, and an overall transmission rate of 3 percent – making Botswana the only African country to have already achieved by 2013 the UNAIDS 2015 target of reducing the MTCT rate below 5 percent in breastfeeding populations[32].

Overall awareness of HIV, testing rates, and condom use are high for the region (Figure 9)[33]. In recent years, Botswana made scaling up safe male circumcision (SMC) a national priority and, after a slow start, rates of circumcision are increasing. In 2008, 11 percent of males ages 10-64 were circumcised; by 2012, this more than doubled to 24 percent[34].

Challenges

However, Botswana still struggles with rates of new infection.

Overall prevalence declined from 2000, but as shown in Figure 9, the decline in overall prevalence has not been as pronounced as in some other countries (such as Zimbabwe). The latest national AIDS survey (2013) found overall prevalence at 18.5 percent, up from 17.6 percent in the last survey (2008). For the first time, the national survey included incidence testing, yielding a rate of just under 3 percent (comparable to the rates identified through statistical modeling in the 2008 survey). The high rates of new infections are also evident in comparing prevalence for specific younger age groups across multiple national surveys (Figure 10), which shows substantial increases in HIV prevalence. Given the young age of these groups, this is likely the effect of high rates of new infections, rather than a survivor effect. Prevalence rates in young women and girls remain of particular concern[35].

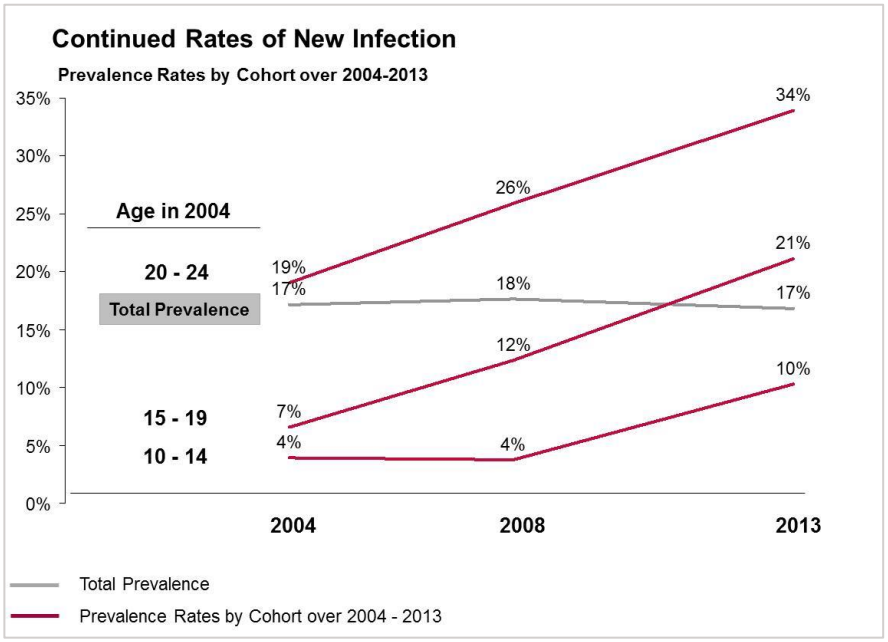


Figure 10: Prevalence rates across age cohorts in Botswana

Note on Incidence and Prevalence Rates

It is important to note that the data on prevalence and incidence in Botswana require interpretation to be meaningful. Prevalence (the portion of the population that is HIV positive) is an imperfect proxy for incidence (the rate of new infections in a given time period), but until recently, incidence has not been feasible to measure. The data on prevalence in Botswana likely shows two effects: an increase in life expectancy among people living with HIV due to the wider availability of treatment, and a continued relatively high rate of new infections. Approaches that look at younger cohorts (such as in Figure 10) attempt to focus on the effects of new infections, since these age groups are unlikely to have high rates of mortality.

It should be recognized that changing behaviors that drive the epidemic is a tremendous challenge – one that is not unique to Botswana.

The country still struggles with several risk behaviors that drive HIV incidence. ACHAP did make efforts to segment high risk populations and study the impact of factors such as alcohol abuse on HIV transmission. However, rates of multiple sexual partnerships remain high, with the percentage of adults reporting more than one partner in the last year increasing from 11 percent in 2008 to 16 percent in 2013[36]. This rate is higher than in neighboring countries such as South Africa (13 percent)[37].

Finally, there are continued health challenges related to the HIV epidemic that have been under addressed, such as the burden of tuberculosis coinfection with HIV.

Due to the increasing coverage of HIV treatment in the country, the rates of TB infection have dropped: case notification rates have declined since 2002, from 623 cases per 100,000 population to 331 as of 2012. However, there are still areas of major concern: TB cure rates have declined substantially from 2009 to 2011, as expansion of treatment coverage came at the expense of ideal adherence to protocols. Also, the rate of drug-resistant TB has increased, and infections persist among health care workers.

How ACHAP Adapted Its Programs to the Changing Context

As the context changed, ACHAP needed to adapt its work at a programmatic level.

Given the changes in the context for the partnership, this report examines four major program areas to illustrate where ACHAP was able to adapt successfully and where it fell short or could have had opportunities for greater impact. These programs represent the greatest areas of investment for ACHAP: ARV treatment scale-up, provision of safe male circumcision, behavior-change prevention efforts, and activities to address the comorbidities of tuberculosis and HIV[vi].

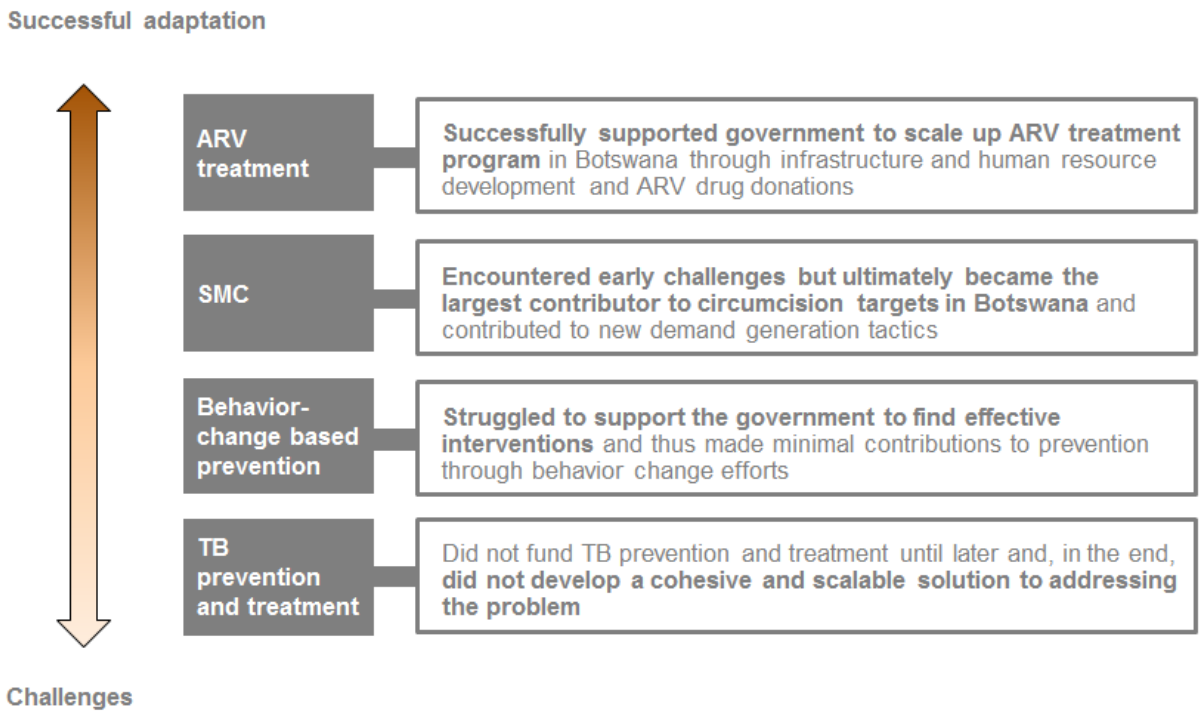


Figure 11: Summary of ACHAP's adaptation across four program examples

[vi] Throughout this report, we reference ACHAP when referring to the activities of the overall partnership, and indicate where needed the specific roles of individual partners (Merck, the Gates Foundation, and the Government of Botswana) and of ACHAP management.

ARV Treatment

Successful adaptation: Supporting the growth of ARV treatment has been ACHAP's greatest success and is perhaps the best example of how the partnership adapted and learned based on the changing context. ACHAP responded to high prevalence rates by working with government to build capacity and develop the initial HIV clinics. ACHAP also recognized early on that the lack of health workers would be a barrier to scaling treatment and played an important role in addressing the need. ACHAP upgraded laboratory facilities across the country, expanding the availability of CD4 and HIV viral load testing and dramatically reducing turnaround time for these tests.

ACHAP aptly recognized the need to decentralize treatment and developed a district strategy to deepen reach of treatment. Though there were challenges in rolling out the district strategy, ACHAP made a bold decision to pursue the district expansion to expand reach and reduce the cost of providing ARV treatment in Botswana.

Challenges: ACHAP could have explored opportunities to implement treatment as prevention further (e.g., a "test and treat" policy) but this would have required an additional commitment of resources to expand ARV coverage and substantial assistance to the government in planning and in allocation of resources.

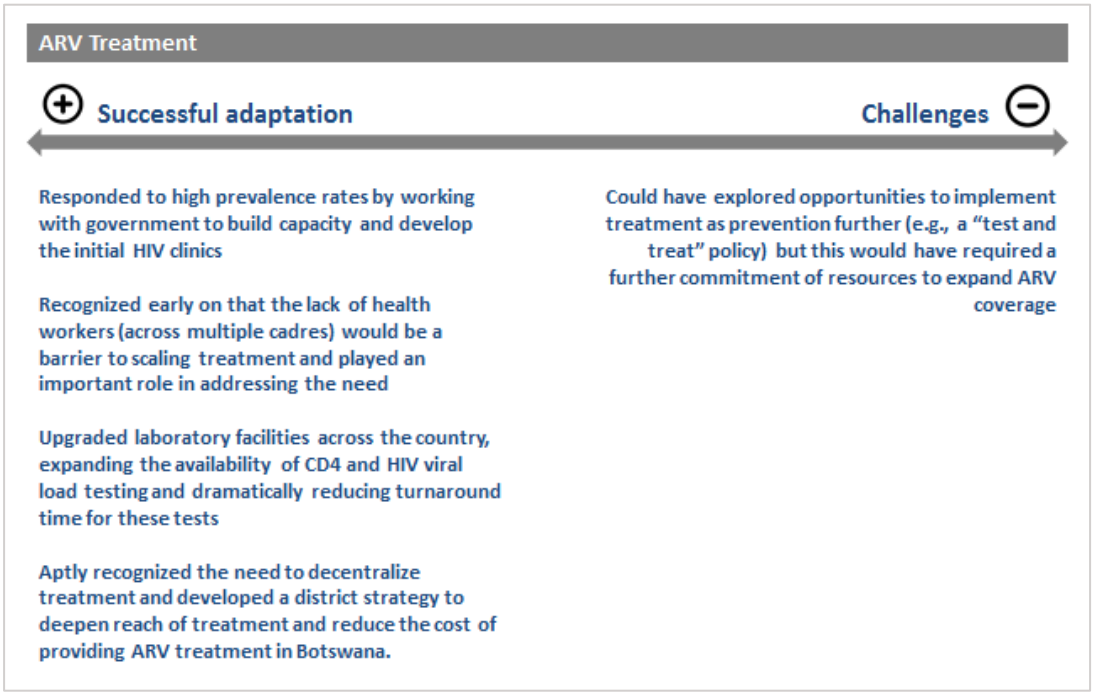


Figure 12: Adaptation examples in ARV treatment

ACHAP's greatest success was in its ability to navigate existing government systems and the changing epidemiological context and its ability to work with the government to build capacity and develop the initial HIV clinics.

When launching initial pilots, ACHAP had a limited understanding of the local environment and the requirements to scale the treatment program. Experts consulted when ACHAP was established recall being engaged on the question of overall feasibility of scaling up treatment. They called the decision to launch the partnership a "brave" one, with no clear roadmap[38] with only high-level targets provided by consultants engaged at the outset. Yet the government, the Gates Foundation, and Merck remained convinced that the world needed a demonstration at scale, not a targeted pilot.

ACHAP also played a critical role in building the capacity of the government. ACHAP's early management worked alongside the National AIDS Coordinating Agency (NACA) and the Ministry of Health to create the first treatment sites. These early efforts required a substantial amount of preparatory work – more so than ACHAP or its funders had anticipated in their initial implementation planning. While the partnership benefitted from political support at the highest levels, ACHAP needed to leverage its private sector execution and project management abilities to align various government departments. Early leaders in ACHAP recall the range of strategies needed to acquire the formal mandate to operationalize *Masa*, which ranged from structural considerations (ACHAP staff needed to receive official appointments into civil service in order to formally participate in meetings), to identifying effective communication procedures. The private sector approach also streamlined hiring of initial clinical staff, technology procurement and the construction of additional clinics which would have otherwise been subject to lengthy hiring processes and procurement delays[39].

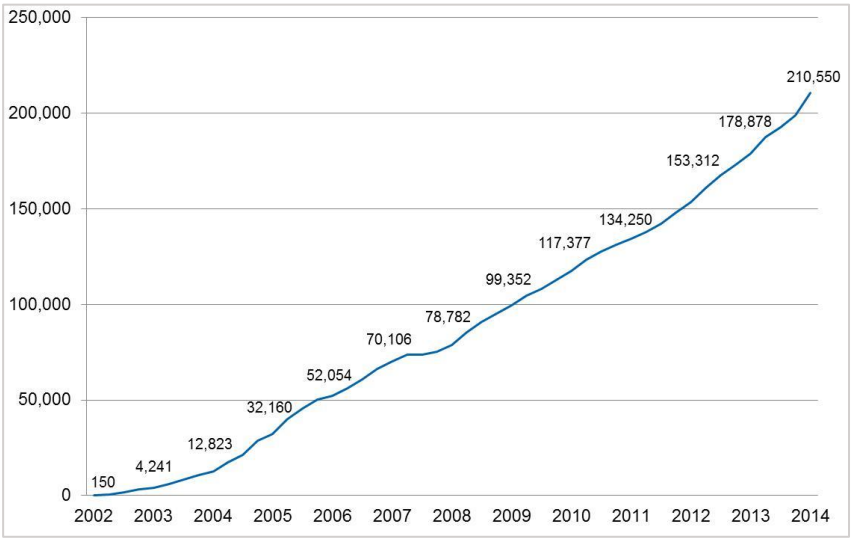


Figure 13: Growth in number of patients enrolled in HAART in the public sector

By 2002/2003, the four initial sites enrolled 3,500 patients on antiretroviral therapy[40]. While this early progress was impressive, program managers within ACHAP and *Masa* saw that the growth rate of the number of eligible patients on treatment was plateauing, largely due to limited access and uptake of HIV testing. With few Batswana knowing their HIV status, the population seeking care remained small. ACHAP leaders worked closely with the Government of Botswana to create one of the continent's first policies of opt-out HIV testing, in which health care providers routinely test for HIV unless requested

otherwise. The policy resulted in substantial increases in testing rates (one Francistown site reported a 20% increase in testing after policy implementation)[41].

*"ACHAP had a step-wise approach to learning about and rolling out treatment. It **diagnosed why specific roadblocks occurred and tweaked its work accordingly**."*

- Dr. Ernest Darkoh, Former ACHAP leader

The success of Botswana's efforts in provider-initiated testing helped influence other countries to adopt the policy, including Zambia (2004), and Uganda (2005). In 2006, the CDC recommended that routine provider-initiated testing and counseling should be standard for all adults[42]; UNAIDS and the WHO recommended the policy in 2007[43]. While effective, this policy shift was somewhat controversial, with areas for further improvement in testing including the logistics of returning test results where rapid tests were not available, eliminating test kit stock outs, and ensuring counseling approaches did not reinforce stigma or otherwise violate human rights considerations[44].

Operations within treatment sites also evolved as the caring for end-stage AIDS patients created substantial backlog in the system. To increase the number of patients seen per day, program managers introduced triage procedures that designated days when only asymptomatic HIV patients would be received[45].

Between 2003 and 2004, ACHAP supported the launch of another seven sites, allowing it to expand its reach to 11,500 patients on ARV treatment. But to achieve the treatment coverage objectives that ACHAP set together with the Government of Botswana, ACHAP needed to build a truly national program. Therefore, ACHAP and the Government of Botswana agreed to scale HAART initiation to 128 clinics across the country, and ACHAP established standalone Infection Disease Control Clinics (IDCCs) using prefabricated structures. This approach accelerated scale-up by an estimated 18-24 months[46], but also isolated HIV and other infectious disease services from the broader health system.

By September 2008, 113,167 patients were on HAART, reflecting a 78% coverage rate of those in need. However, the backlogs remained, with a substantial number of patients still on waiting lists[47]. ACHAP spent $5.2M between 2001-2009 on facility construction as well as central supply chain infrastructure upgrades[48].

ACHAP recognized early on that the lack of health workers (across multiple cadres) would be a barrier to scaling treatment and played an important role in addressing the need.

In addition to funding positions within the Botswana health system, ACHAP supported training of health workers. In partnership with Harvard University (via the Botswana-Harvard Partnership), ACHAP funded the KITSO ("Knowledge, Innovation, and Training Shall Overcome AIDS") training program, as well as preceptorship models for further training. These efforts resulted in over 8,100 health care workers trained in HIV care[49]. Stakeholders cited this uniform training and the resulting standardization of clinical treatment protocols nationally as a key factor in keeping ARV resistance rates low in the country[50].

However, there were challenges with the continuation of KITSO following ACHAP's commitment to fund the program. Transfer of KITSO to the government was pushed back several times. In 2012, ACHAP

provided a grant to build the necessary technical capacity at MOH to take over KITSO. PEPFAR also had to provide additional financial support to ensure KITSO's sustainability.

ACHAP upgraded laboratory facilities across the country, expanding the availability of CD4 count and HIV viral load testing and dramatically reducing turnaround time for these tests.

Early in the scale-up of treatment, CD4 tests took an average of 1-2 weeks, but as volumes increased, transportation delays became more frequent and backlogs ensued, leaving patients waiting on average seven weeks for test results. By providing funds for equipment as well as staff training, Botswana decentralized its CD4 testing capacity from the country's two referral hospitals to 22 facilities by 2008. Turnaround time was consequently reduced to 1-3 days[51], though periodic issues with unreliable transportation for blood samples and machine breakdowns would create delays in later years.

In 2013, ACHAP made further efforts to reduce the turnaround time for CD4 tests by piloting the use of new, lower-cost point of care CD4 testing machines at health centers and major sites of employment, with trained lay counselors conducting the tests. The effort is showing promising early results: as of March 2014, the pilot had conducted 4,252 point of care CD4 tests, and a preliminary comparison of the time from positive HIV test to ARV treatment initiation found a reduction from 23 days of waiting time to 12 days[52]. The hope is that by reducing the turnaround time, ACHAP will reduce the lag time between a positive HIV test result and the initiation of ARV treatment, and thereby encourage more people to get tested.

In another effort to reduce delays and increase access to treatment, ACHAP provided technical support to Central Medical Stores (CMS) on ARV procurement and forecasting to ensure a more consistent supply of ARVs. CMS leaders credit ACHAP audits of ARV supply chains with helping to identify shortfalls in other areas as well, such as record-keeping procedures[53].

ACHAP aptly recognized the need to decentralize treatment and developed a district strategy to deepen reach of treatment. ACHAP made a bold decision to pursue the district expansion to extend its reach and reduce the cost of providing ARV treatment in Botswana.

While the first four IDCCs established in Gaborone, Francistown, Maun, and Serowe saw success, to reach a more rural and dispersed population required rethinking the overall model of treatment. ACHAP shifted to more intensive engagement in 7 focus districts, with program officers posted in each of them, allowing for closer involvement in the needs of individual facilities. Through this strategy of deeper, more localized engagement, ACHAP was able to adapt to the emergence of new funders of HIV programs in Botswana, as PEPFAR began supporting many of the national-level treatment activities previously supported by ACHAP.

ACHAP also continued to adapt by finding opportunities to reduce the cost of providing ARV treatment. When rollout began, Botswana's treatment model was highly resource intensive, drawing many clinical practices from Western models of HIV care: doctor-led, with little use of community health workers and

"ACHAP led the effort to decentralize Botswana's HIV treatment infrastructure. There is no doubt that Botswana's government would have struggled on this front if not for ACHAP. They deserve a huge amount of credit for that."

- Dr. Joseph Makhema, CEO of the Botswana-Harvard Partnership

intensive lab testing including multiple CD4 count and viral load tests per year. A longtime ACHAP board member recalled the early cost of treatment as $8,000 per patient per year, and remembered President Mogae as saying, "Don't leave us with a Cadillac, but something we can maintain[54]." Given early skepticism around feasibility of treatment, a conservative approach made sense, but it was clear that the model would need to adapt over time. As drug costs decreased and services became increasingly decentralized, the total cost of treatment was reduced, finally reaching just 10% of the original cost ($800 per patient per year)[55]. By 2010, a major ACHAP-supported cohort study by Harvard researchers (the Models of Care study) found the annual cost to be as low as $357[56]. Unsurprisingly, given wage differences and higher standards of care, this cost is still higher than in many low- and lower-middle income African countries[vii,57].

The scale-up of treatment and refining of the model represent a strong success for ACHAP, providing a clear example to other donors and countries that treatment was feasible at scale. Countries such as Uganda conducted early visits to Botswana and left ready to tackle the ambitious task recognizing that it was important to learn at scale rather than wait years for the results of small pilot projects[58].

⊖ **While it would have required a further commitment of resources to expand ARV coverage, ACHAP and its funders could have made a more concerted effort to implement treatment as prevention. ACHAP also could have achieved greater results in strengthening national health information systems.**

ACHAP could have played a more substantial role in advocating and helping the government to plan for expanded treatment eligibility. While other work (such as the Models of Care study) helped influence the eventual decisions to move treatment eligibility from CD4 counts below 200 to 250 and later 350, ACHAP could have been a more vocal proponent for a "test and treat" policy, or for moving to the current WHO recommendations of CD4 count <500. An expansion of treatment would require significantly more resources. ACHAP's board did request that ACHAP funders consider putting resources towards expanding ARV coverage to include treatment as prevention services, but the strategy was ultimately not pursued. With the appropriate resources, ACHAP was well positioned to advocate to the government and help the government plan for the resources needed to adopt the policy change, and consider potential challenges with managing the increased patient load. ACHAP was also well positioned to support the government with developing the national data system for monitoring effectiveness of treatment, but the system remained weak. While the development of the national data system is not solely ACHAP's responsibility, the lack of reliable data has been seen as a roadblock for ACHAP throughout the past 15 years. ACHAP recognized that a national data system was directly linked to its own ability to track

[vii] A 2012 study by the Clinton Health Access Initiative (CHAI) found costs in Malawi, Ethiopia, Rwanda, and Zambia to be lower than in Botswana (ranging from $136 to $278), but costs are higher in South Africa ($682)

progress and measure impact. Though launched in 2001, the national data system consistently had inaccuracies in modeling the total number of patients in need of treatment, and lacked information about ARV resistance. The government lacked adequately trained staff to develop and maintain a robust system at this scale, and there was weak coordination on updating national indicators. By playing a more active role in systems capacity development and coordinating national reporting on key indicators, ACHAP could have facilitated its own operations and further supported the overall growth of the ARV treatment program.

Safe Male Circumcision

⊕ **Successful adaptation:** ACHAP's investment in Safe Male Circumcision (SMC) started with slow progress, but grew to become a major contributor to national targets. ACHAP demonstrated its ability to incorporate emerging science by being an early adopter of SMC as an HIV prevention tactic. ACHAP effectively pivoted approaches when faced with early barriers and limited uptake, and experimented with a range of demand generation strategies. These shifts have led to a dramatically improved uptake of SMC, and to a more cost-effective approach than other implementers in Botswana.

⊖ **Challenges:** ACHAP initially used the same strategies to scale SMC as it used to scale the ARV treatment program, but quickly found that the approach of working through the government system was less applicable to SMC and struggled to meet its SMC targets. While ACHAP later adjusted its approach to work more independently and did improve results, costs today still remain high relative to other programs in the Southern African region. Furthermore, the transfer of ACHAP's lessons learned to the government has been limited to date.

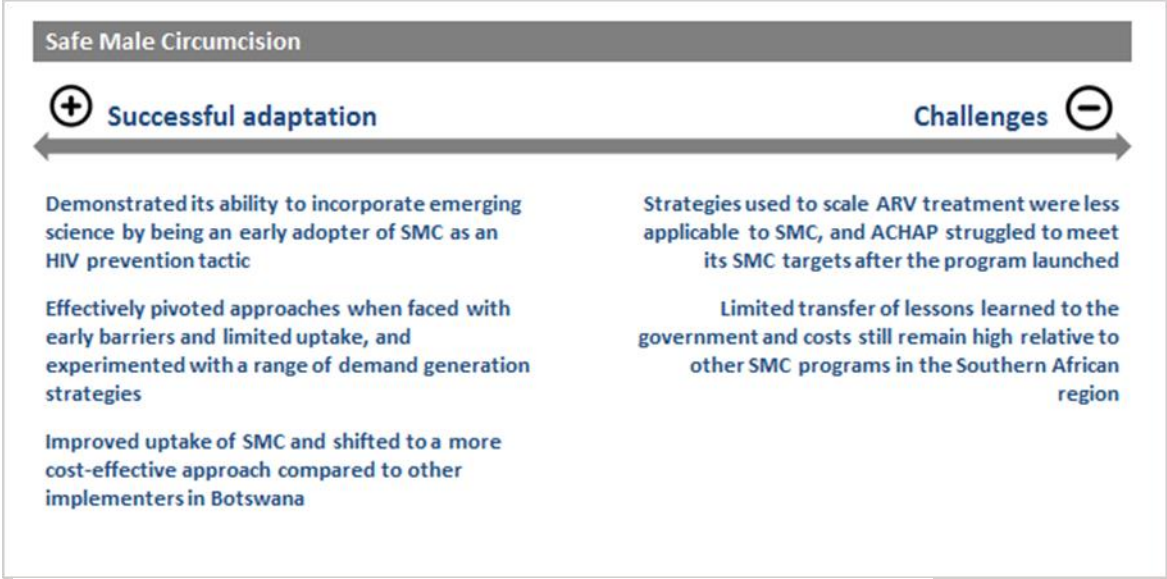


Figure 14: Adaptation examples in SMC

ACHAP demonstrated its ability to incorporate emerging science by being an early adopter of SMC as an HIV prevention tactic.

Clinical trials conducted in Kenya, Uganda, and South Africa have demonstrated that male circumcision has the potential to reduce the risk of HIV infection in men by roughly 60%. In 2007, UNAIDS and the WHO recommended that SMC should be a priority in 14 countries in East and Southern Africa, including Botswana, based on models suggesting that if these countries reached 80% coverage of male circumcision among men aged 15-49, 3.4 million HIV infections would be prevented by 2025 with a cost savings of $16.5 billion[59]. In 2009, the Government of Botswana responded to this recommendation by creating an additional prevention strategy specifically focused on SMC, setting its own target of an 80% circumcision rate among HIV negative males aged 0-49[60].

ACHAP recognized that other prevention efforts such as behavior change were not reducing incidence in the country and explored biomedical prevention interventions. At the time, ACHAP was making an intentional shift to prevention and exploring a range of different intervention opportunities. Existing studies[61] suggested that a very high rate of acceptance for SMC could be expected among men in Botswana. Consequently, ACHAP felt that if it could obtain government buy-in, SMC would be a strong strategic option, particularly when compared to other prevention strategies for which the results would be more difficult to quantify (for example, behavior change-based prevention among young women and girls)[62]. ACHAP committed to a major involvement in SMC, with the goal of contributing to 60% of the Government of Botswana's national target by April 2012.

Strategies used to scale ARV treatment were less applicable to SMC, and ACHAP struggled to meet its SMC targets after the program launched.

Initially, ACHAP tried a similar strategy for SMC as it had in supporting the government to scale up ARV treatment: assisting the government with national strategy development, identifying the gaps in training, facilities, and supplies, and infusing resources to enhance the public sector response. ACHAP also supported a national communications campaign to generate demand for SMC.

"Circumcision was a challenge for Botswana. When we first started, SMC surgeries were done in hospitals and emergency wards, and the program didn't take off. ***SMC is essentially a behavioral intervention, and for men the decision takes time. It wasn't easy at all.***"

- Government of Botswana official

By the end of 2011, ACHAP had made little progress. The approach of working within the government system had limited impact, in part because the same level of urgency for a solution did not exist in Botswana as it had at the start of the ARV treatment program. Also, doctors trained to perform the procedure were frequently pulled into other duties, so service delivery was slow. Additionally, ACHAP and other implementing partners underestimated the need for demand generation: early mass communication efforts were largely ineffective in creating demand for SMC.

Faced with this slow pace of achieving results, in 2011 the ACHAP board (representatives from the Gates Foundation in particular) became deeply involved in operational decision-making to try to reinvigorate the

effort[63]. The Gates Foundation had played a proactive role in advocating for Botswana to pursue SMC programs as a major HIV prevention focus, and the slow progress of ACHAP's SMC program did contribute to the Foundation's ultimate decision to leave the partnership.

Faced with early barriers and limited uptake, ACHAP shifted approaches and experimented with a range of demand generation strategies. These shifts have led to a dramatically improved uptake of SMC, and to a more cost-effective approach compared to other implementers in Botswana.

ACHAP pivoted from the initial approach of working through the government to a more direct approach to implementation. ACHAP hired its own clinical teams in focal districts that were dedicated to SMC service delivery. Doctors were seconded from government clinics[64], and ACHAP hired 12 medical officers, 19 nurses, 10 health care auxiliaries, and 9 counselors[65]. While the new structure allowed ACHAP to achieve greater results at scale, it caused some tension with the Ministry of Health (MOH) and other partners as doctors were hired at notably higher salaries than the public sector[66].

Recognizing that behavior change remained a consistent barrier to SMC uptake, ACHAP began to experiment with demand generation activities. In a culture with little recent history of circumcision, ACHAP's initial strategy of mass media marketing was ineffective at driving demand. Realizing that a more hands-on approach was needed, ACHAP engaged a number of community-based organizations (CBOs) to manage teams of community mobilizers to directly reach potential clients. This strategy increased client volumes but proved to be an expensive model, as ACHAP increasingly shifted to direct oversight of a mobilizer workforce, with incentives paid based on the number of clients who visited facilities.

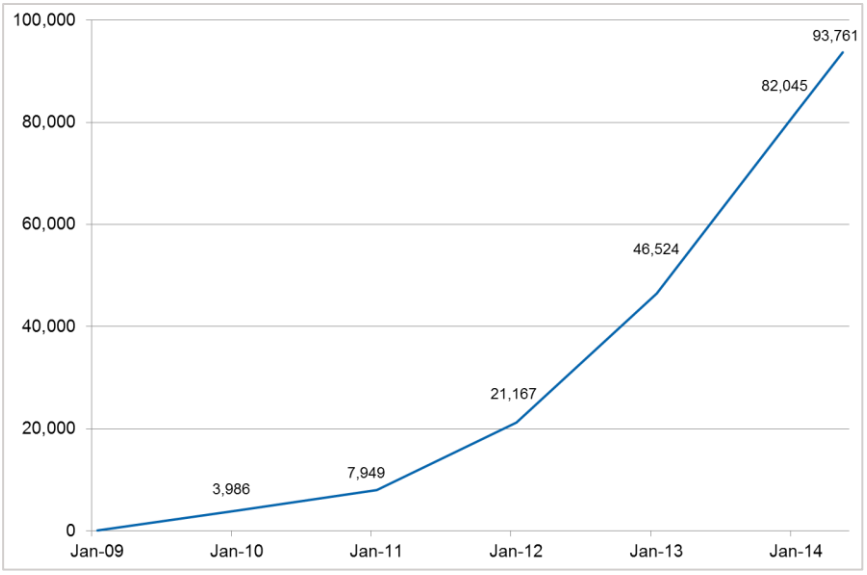


Figure 15: Cumulative number of SMC surgeries performed by ACHAP

ACHAP's new demand generation strategies became a key driver in improving its overall SMC results. In 2012, ACHAP engaged 270 independent mobilizers to conduct outreach at the household level through door-to-door visits and group interaction, as well as school-based campaigns. Mobilizers were paid 80 pula (US$9) for each candidate, with additional bonuses for exceeding targets[67]. Further, while the model has been successful at increasing the number of surgeries performed, it also created competition between ACHAP's programs and other SMC implementers for qualified mobilizers and access to more accessible

male populations. ACHAP's decision to provide financial incentives to mobilizers was initially controversial among other implementers, but proved to be effective and there have not been reports of unethical practices[68].

ACHAP is on track with its targeted contributions to the national SMC strategy. ACHAP contributes more to national targets than all other implementing partners combined, yet other implementers of SMC programs lag behind targets meaning that overall progress in Botswana is behind. In 2011, the Government of Botswana revised its national targets to 385,000 adolescents and men aged 13 – 49. ACHAP committed to directly contribute 127,000 procedures and its progress has been concentrated primarily among school-going boys. While surgeries in younger populations will contribute to prevention efforts in the longer term, it is important to note that the overall effect will be delayed[69].

The transfer of ACHAP's lessons learned to the government has been limited to date, and costs still remain high relative to other SMC programs in the Southern African region.

While ACHAP has experienced success with its SMC activities, the public sector still struggles with many of ACHAP's initial challenges (for example, competing priorities when integrating SMC with general health services). ACHAP has been less successful at embedding and transferring lessons from its own SMC program to government. Though ACHAP has spent considerable time sharing results from its SMC programs and best practices from its demand generation strategies, the government and other implementing partners have been slow to adopt the practices due to internal restrictions and processes. This is in part because ACHAP was operating independently as more of an implementer than a funder, and transferring lessons would require deeper engagement of ACHAP staff to train government staff directly[70]. Stakeholders also cite Botswana's centralization of primary health services during the later years of the partnership as creating challenges for disseminating new practices[71].

Botswana is seen as a leader in policy and early adoption of SMC, but the country is also viewed as lagging in implementation and cost effectiveness. Even though ACHAP's demand generation approach

has created substantial efficiencies with a lower cost per circumcision than the public sector or NGO providers, overall costs remain high in comparison to other countries[72]. ACHAP's average cost per SMC procedure started relatively high, at $179 in 2011, and was reduced to $98 per procedure by 2013[73]. A 2012 study found that the average cost per procedure across 6 sub-Saharan African countries was $49, ranging from $22 in South Africa to $70 in Tanzania[74] – both lower than the $98 cost in Botswana.

Behavior Change-based Prevention

Successful adaptation: ACHAP did provide support to the government to help lay the groundwork for national prevention programs in Botswana; in particular, ACHAP's transition to a district level focus helped provide more customized care.

Challenges: Behavior change-based prevention continues to be a challenge for the global response to HIV. ACHAP was well positioned to pressure the government to take a leading role in addressing this challenge. However, on the whole, ACHAP struggled to support the government to find effective behavior change-based prevention interventions, and made minimal contributions to prevention through behavior change efforts. The lack of experienced NGOs and implementing partners limited ACHAP's ability to have further impact. Furthermore, ACHAP lacked sufficient expertise to support direct program implementation in this area.

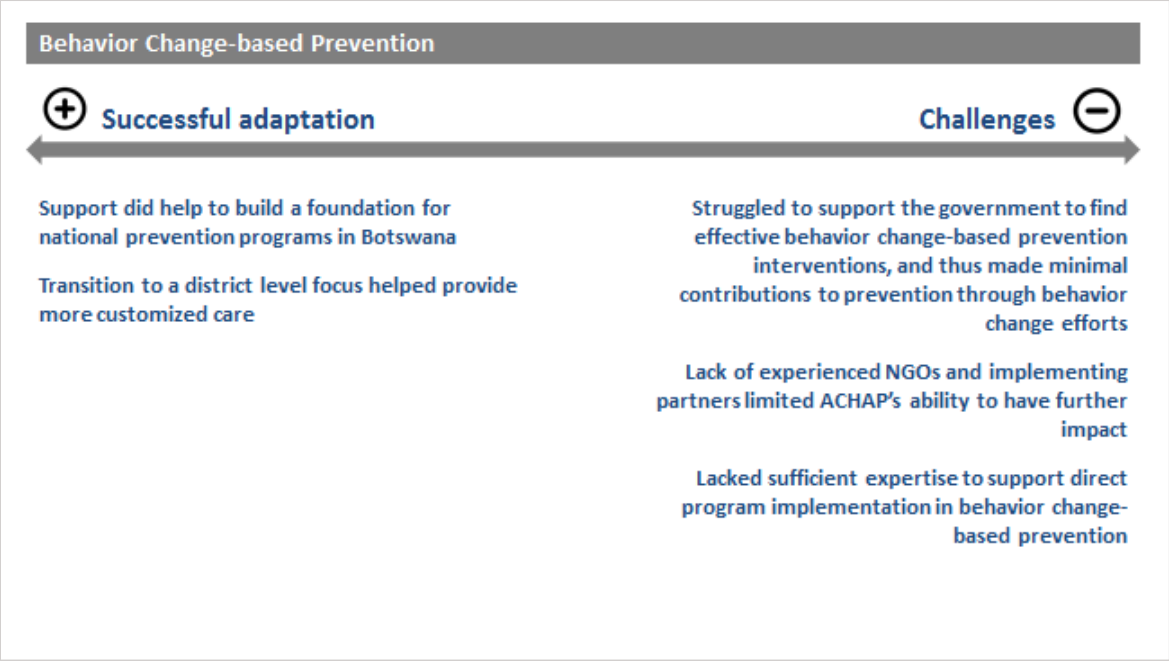


Figure 16: Adaptation examples in behavior change-based prevention

ACHAP struggled to support the government to find effective behavior change-based prevention interventions, and thus made minimal contributions to prevention through behavior change efforts.

ACHAP's original mandate included a prevention component, and the partnership attempted a range of national strategies over its early years, including targeting youth with HIV prevention messages or awareness campaigns, launching condom social marketing campaigns, and communicating about the risks associated with multiple and concurrent partners; a planned strategy around prevention in young women and girls was abandoned due to a lack of proven intervention models.

*"I think we've gotten complacent in recent years: prevention, and not mortality, is now the main issue. But **it's hard to present prevention as an urgent need**, and so the response to the HIV epidemic has slowed."*

- Government of Botswana official

Although the lack of impact through prevention efforts is disappointing, stakeholders were not entirely surprised as behavior change-based prevention programming is challenging globally. Few proven models exist, and a comprehensive 2010 literature review of HIV prevention interventions, evaluated through randomized trials found that none of the behavior change-focused interventions included in the review demonstrated a statistically significant impact on incidence[75].

ACHAP's support did help to build a foundation for national prevention programs in Botswana.

ACHAP played an important role in building a foundation for prevention programs nationally, through its role in developing national strategic plans and supporting condom procurement. ACHAP was a major direct purchaser of condoms (funding 40% of condoms in the country in 2008)[76], and, worked to strengthen Central Medical Stores when supply chains and procurement became a challenge (as previously discussed). ACHAP also seconded staff with behavior change communications skills into several ministries to promote better coordination.

*"**ACHAP's 7 districts outperformed the government supported districts**, and NACA was very impressed with their work. But minimal skills were transferred to other districts."*

- Government of Botswana official

ACHAP should be commended for rejecting approaches that proved to be ineffective. For several years, ACHAP provided funding for Talk Back, a TV program aimed at equipping teachers with communication tools to relay HIV prevention messages to students. The program did create awareness with ~10% of students in the country watching the program live, but evaluations found substantial operational challenges and a lack of clear targeting of messages. Consequently, ACHAP withdrew its support for the program[77].

The capacity constraints among local implementers and limited targeting of condom social marketing efforts have been cited in previous evaluations. ACHAP did adjust its approach to these partnerships; for

example, when a program of small grants to community-based organizations and local NGOs was consistently unable to show measurable results, ACHAP ended the program.

ACHAP's transition to a district level focus helped provide more customized support.

ACHAP also adapted some aspects of its broader strategy to reflect a more customized prevention approach. Specifically, ACHAP began to focus intensively in seven districts in the country, working with local district multi-sectoral AIDS committees (DMSACs) to help them develop customized community plans around HIV prevention and care in addition to the treatment activities previously described. This process resulted in deeper focus and tailoring of activities; however, local leaders reflected that in practice, ACHAP tended to drive the strategic focus of these plans, rather than allowing for true local ownership[78]. ACHAP's commitment to create local ownership created expectations that local leadership would drive the strategic direction of the efforts. Therefore, ACHAP's active involvement in the strategic planning process created complications. Some stakeholders noted that ACHAP's working style at the district level was also viewed as undermining existing public sector structures by local and regional government: the ACHAP staff in districts were viewed as a parallel structure undermining the authority of the local District AIDS Coordinators[79].

Note on ACHAP's Role at the District Level

By 2005, ACHAP realized that increasing ARV uptake and deepening the reach of prevention services would require more locally-tailored strategies. In conjunction with the Government of Botswana, ACHAP selected 7 of Botswana's 26 districts for deeper engagement. The focus districts were chosen to reflect a diverse sample across key demographic criteria such as prevalence, population density, and population mobility. In later years, ACHAP also took a focused approach in other sets of select districts for its work on programs such as SMC and TB.

While ACHAP-supported districts have shown greater reduction in HIV prevalence than in other locations, there has been minimal sharing of lessons and best practices with other districts.

Overall, this strategy had impact on the epidemic, as ACHAP-supported districts had higher than average reductions in prevalence over the time period of the partnership. Between 2004 and 2013, HIV prevalence in the seven ACHAP-supported districts fell on average from 18.2% to 15.8%, where prevalence in districts which were not supported by ACHAP rose from 16.4% to 16.9%. Yet a persistent challenge with the district strategy has been the practical uptake of lessons learned between different districts, despite ACHAP's support of multiple convenings and data platforms.

Stakeholders have also helped put the outcomes of ACHAP's prevention work in context, suggesting that early on, ACHAP did not collaborate sufficiently with organizations already funding or implementing prevention activities in the country, and should have funded or partnered with organizations that had expertise in behavior change and demand generation rather than trying to build that capacity internally[80].

Others noted that when ACHAP shifted its primary emphasis from treatment to prevention, the organization did not adapt its internal expertise, and that staff and management with public sector backgrounds were not optimally equipped for the more sociological challenges of prevention work[81].

⊖ Furthermore, ACHAP lacked sufficient expertise to support direct program implementation in this area.

In 2009, ACHAP developed a behavior change-based strategy for addressing the high prevalence rates among young women and girls. After going through an extensive strategic planning process, ACHAP's leadership decided not to implement the strategy itself after failing to identify a feasible plan that they would be able to execute. Though this is a topic on which many in the field struggle, leadership at ACHAP viewed the decision to abandon the strategy as a failure to address an area of major need in Botswana[82].

> *"ACHAP faced two difficulties in developing its Phase 2 Prevention strategy. First,* ***its senior leadership lacked sufficient experience in prevention****. Second, the strategy was a risky one without a solid evidence base, and so donors struggled to agree on it."*
>
> - Dr. David Harrison, Former ACHAP board member

Tuberculosis Prevention and Treatment

Successful adaptation: ACHAP recognized the continued high burden of TB in the country, and elevated TB/HIV as a major component of its strategy in 2009. ACHAP supported the government to design policies and practices that created a platform for collaborative treatment of TB and HIV, and facilitated integration of some best practices for treating TB across the public sector.

Challenges: ACHAP saw a consistent need in the country to address TB prevention and treatment earlier on, but adopted explicit strategies fairly late in its history and without a broader plan for uptake of its supported pilots. Though ACHAP has made some progress, its overall strategy and plan for government uptake in TB programming remains unclear.

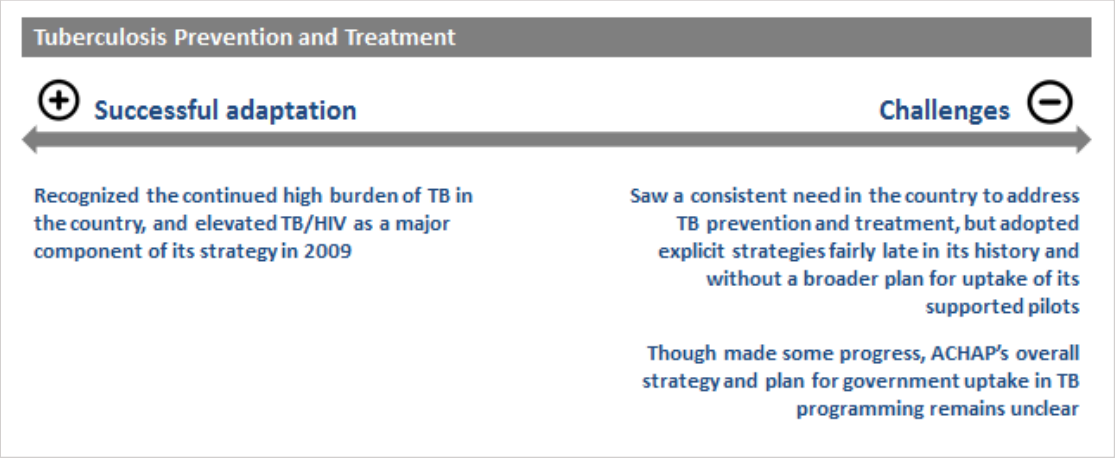


Figure 17: Adaptation examples in TB

ACHAP saw a consistent need in the country to address TB prevention and treatment, but adopted explicit strategies fairly late in its history and without a broader plan for uptake of its supported pilots.

While the first MOU between ACHAP and the Government of Botswana included language about prevention and treatment of opportunistic infections, ACHAP did not actively focus on TB in its early years. An ACHAP board member commented that until ACHAP began considering TB efforts in 2007, the HIV and TB control programs in the country operated in silos, despite the close ties between the two epidemics[83]. ACHAP rightly recognized the need to bridge this treatment gap and address the opportunity to reduce deaths among the TB/HIV co-infected population in Botswana.

ACHAP's early areas of support centered on catalyzing national activities on TB, though these efforts had limited impact: for example, technical support to the national TB strategy team, staffing coordinators at

the district level, and strengthening diagnostic capabilities in laboratories. A 2008 evaluation of ACHAP found that these early objectives have for the most part been achieved, though rates of TB case notification and TB/HIV co-infection are still high. In 2007, TB still accounted for an estimated 44% of deaths in HIV/AIDS cases.[84]

ACHAP recognized the continued high burden of TB in the country, elevated TB/HIV as a major component of its strategy in 2009, and supported the government to develop policies and a coordination platform at the national level to address TB needs across the country.

ACHAP specifically engaged in two approaches to effectively tackle TB: (1) an effort to enhance the government's response through facilities improvements related to infection prevention and hiring of TB monitoring and evaluation (M&E) officers, and (2) a pilot effort around DOTS (directly observed treatment, short-course) for TB treatment via community supporters, a model widely used elsewhere but not in Botswana. Employed alongside universal access to ARV therapy, these measures contributed to an estimated reduction in TB incidence across Botswana, as the annual TB notification rate per 100,000 people fell from 536 in 2008 to 331 in 2012[85].

In addition, ACHAP supported the government to develop a set of policies and coordination mechanisms at the national level to treat TB through the public system. This platform included committees that meet regularly to discuss resource allocation and share progress across districts. Despite these coordination mechanisms, TB programming still competes with HIV for funding and efforts around capacity building and community mobilization are showing mixed results.

Despite these efforts, tackling TB remains a major challenge for Botswana and ACHAP.

Within the 14 districts ACHAP supports with its TB work, over 80% of reported TB cases since January of 2013 are new. Even though almost 100% of registered TB patients are now tested for HIV, the percentage of TB patients who are coinfected with HIV has stayed relatively constant (55%) since 2013. In addition, there are continued high rates of new infections in health care workers, and the percentage of TB patients suffering from multi-drug resistant tuberculosis (MDR-TB) has risen slightly from 0.8% in 2013, to 1% in early 2014.

District capacity building is a critical component of ACHAP's efforts around TB. While ACHAP has supported efforts to train health care workers on TB and TB/HIV case management in all 14 districts and TB Infection Control Guidelines are available in all health facilities, there are still reports of failures within the public sector to follow established protocols[86].

While the TB treatment and prevention activities ACHAP supported since 2009 have resulted in a number of tangible changes at the facility level in key districts, the plan for scaling these more broadly is unclear. While the DOTS model has shown results at a local level, the plan for broader scale is not known and would require closer partnership with the government to develop a national plan and secure additional resources[87].

Evaluating ACHAP's Performance as a Public-Private Partnership

FSG identified five characteristics of high-performing public-private partnerships, based on a review of literature[88]and examples of leading partnerships in global health broadly[viii] and in Botswana[89]. This analysis is intended to build on previous efforts to generate lessons from the partnership dynamics of ACHAP[90,91], evaluate ACHAP's organizational effectiveness, and frame lessons learned that are relevant for other global health partnerships.

Figure 18: Five characteristics of high-performing PPPs

ACHAP serves as a strong example among public-private partnerships for its ability to adapt its overall strategy and role, leverage the power of the private sector, and nurture partnerships with government. However, ACHAP struggled in other areas, such as investing in knowledge and planning for long-term sustainability of the organization and supported programs.

[viii] See Figure 20 in the Appendix for a comparison of relevant PPPs

Figure 19: ACHAP's performance based on each of the five characteristics

While the comparison to other public-private partnerships is informative, it is important to note how ACHAP differed from these other partnerships. The situation in Botswana imparted a sense of urgency and risk tolerance that is not present in many other examples. ACHAP's support had an outsized importance to the national response when compared with other public-private partnerships due to its comprehensive scope. Relative to the size of its task, ACHAP was better funded than many comparable initiatives, with high-intensity investment in a small, middle-income country, rather than funding spread across multiple geographies with more diffuse focus.

Adapt Overall Strategy and Role

Summary of ACHAP's performance: ACHAP made a successful shift in its programmatic approach from one that was focused on working within government systems as a way to catalyze change to a more independent approach focused on innovating and piloting new programs. This shift allowed ACHAP to stay relevant to the epidemic as the context for its work changed. ACHAP was originally set up to deliver on a five year commitment in an emergency context, and thus did not need a long-term strategic plan. However, as it became clear that ACHAP would exist beyond the initial mandate, ACHAP's leadership should have been more intentional about setting a strategic plan to help the partnership execute and align resources as it adapted. Without the guidance of a high-level strategy, ACHAP did not sufficiently shift internal staff capabilities and expertise, align efforts with external partners, and integrate lessons from program successes and failures to maximize potential impact.

ACHAP's partnership model set an example as an innovative approach for building capacity within an existing system and scaling a national program.

Merck and the Gates Foundation designed ACHAP as a public-private partnership to work closely with the government and help catalyze change at the national level. ACHAP provided valuable skills and strategic planning support (both directly, and via staff secondment) in addition to funding and donated ARV drugs. This partnership model allowed ACHAP to be reactive to the government and population needs and provide a range of flexible resources and assets to address a complex issue. At the time, other funders typically supported programs that operated independently from the government and maintained more distant relationships. ACHAP's approach was innovative for the time and set an example for others to follow. Early leaders in HIV did see ACHAP as an example, with some claiming that ACHAP created a pathway for PEPFAR's entry to Botswana in 2004.

Working within existing systems to catalyze change was an effective model to achieve scale and leverage government resources and ensure support and buy-in. The decision to build capacity and fund portions of programs across the government's broader ART program, however, made it challenging for ACHAP to receive credit for all its contributions to the treatment scale up. For example, to initiate the implementation of the National Strategic Framework, ACHAP funded 74 staff within the government who provided strategic and technical support.[92] While this support was critical for the government to implement its HIV/AIDS efforts, the behind the scenes nature of ACHAP's support made it difficult to tie successes and failures to its contributions.

ACHAP successfully adapted to the changing context in Botswana and shifted its programmatic approach from working within government systems to piloting programs independently.

By 2008, ACHAP and the Government of Botswana had accomplished a substantial part of their implicit original goal, with over 113,000 people on treatment; this allowed both entities to expand focus to other areas.[93] ACHAP decided to shift to a more independent approach where it could pilot and experiment with new interventions and then work with the government or other funders to adopt or scale specific programs and practices. This shift was also partly driven by ACHAP's funders, who put increased pressure on management to show tangible and measureable results.

ACHAP lacked an overarching strategic plan causing it at times to fail to align staff skills, coordinate with external players, and integrate lessons from successful programs on an annual basis.

ACHAP did manage to successfully shift between the two approaches to more independent programmatic execution – a significant accomplishment. The shift was made in large part as a reaction to the changing context rather than with strategic intention, and as a result ACHAP did not adequately capitalize on areas to align with partners and ensure it had the internal skills and expertise to deliver. It is understandable that ACHAP was not formed with a long-term strategic plan in place, given it was originally created with a five

year mandate and operated in an emergency context. But, as ACHAP moved out of its initial entrepreneurial stage of work and explored expanding to the districts, ACHAP's leadership should have put in place a more formal plan with milestones to assess results and ensure the partnership had the resources necessary to execute on the plan.

*"We were successful at the beginning during the treatment scale up, but **we should have structurally made that transformation internally** when we shifted from treatment to prevention."*

- Dr. Luke Nkinsi, Former ACHAP board chair

For example, the shift to a more independent approach required more entrepreneurial managers willing to experiment with new programs and tactics. ACHAP staff involved in the transition process argued that the organization was missing critical management roles to oversee the new program areas, making it difficult to complete tasks. They also expressed a need for more marketing and sales staff with entrepreneurial experience.[94]

Later, as ACHAP became increasingly independent as a technical implementer, the need for strategic planning became even more apparent. As ACHAP moved to direct implementation, its leadership did make an effort to coordinate the transition with government, but could have been more intentional about assigning individual roles and responsibilities as well as sharing best practices. For example, although ACHAP initially worked with the government to align targets for SMC and utilized the public health system to implement the program, after early results exposed implementation challenges, ACHAP shifted approaches to pilot its own SMC program in its seven partner districts. Meanwhile, the government and CDC, funded by PEPFAR, agreed to continue implementing SMC in other districts. The lack of long-term strategic planning initially has implications today as ACHAP explores new funding sources and contemplates various strategic directions.

ACHAP could also have been more explicit about when and how the government could learn from its innovative strategies to increase SMC numbers, such as using performance-based mobilizer incentives to bring in new potential clients for SMC. ACHAP did meet with the government and CDC regularly to discuss SMC progress[95], but while ACHAP's results improved, other implementing partners struggled to meet targets and slowed Botswana's overall progress in achieving its male circumcision goal. Without more intentional knowledge transfer, there was no assurance that the government or other implementing partners would adopt and benefit from implementing the new and innovative program practices at scale. This became especially important in late 2013, as CDC decided to stop funding SMC implementation in the country, leaving ACHAP to take over a portion of its assigned territories[96].

Leverage the Power of the Private Sector

Summary of ACHAP's performance: ACHAP hired entrepreneurial managers to navigate the unknown environment and support the rapid scale up of Botswana's ARV treatment program. ACHAP also engaged board members in project planning and implementation, leveraging their private sector expertise. As ACHAP decentralized treatment efforts and transitioned to a new strategic approach, it relied more heavily on the board to provide the private sector orientation and pace of execution, rather than embedding these skills throughout the organization.

ACHAP started with a nimble, independent group of managers with private sector skills which allowed it to effectively support the rapid scaling of the ARV treatment program.

While many expect the private sector to largely contribute financial resources, Merck was unique in its interest in contributing management and private sector expertise to ACHAP. At the outset, ACHAP brought in entrepreneurial managers which helped to scale the treatment program and overcome barriers to scale: Dr. Donald de Korte, an executive with Merck's affiliate in South Africa[97], led the organization, and Dr. Ernest Darkoh, a physician and former management consultant who had worked on the initial treatment feasibility assessment and treatment plan in Botswana, served as ARV Program Manager for *Masa*. The flexibility allowed the managers to make quick decisions, spend resources as needed, and respond to information in real time. Though this was largely an effective approach and allowed ACHAP to move quickly to get the program up and running, ACHAP's results-oriented style did at times alienate some managers and staff at government ministries and other implementing partners.

As ACHAP moved past initial scale-up and looked toward transferring the ARV treatment program fully over to the government, the board felt that it was important to transition to local leadership with existing government relationships. While this transition made sense for the stage and maturity of the organization and the need to sustain results through the public sector in the long term, it had implications for ACHAP's ability to continue to deliver results at the same pace.

ACHAP's funders made a strategic decision to provide flexible funding which gave management the flexibility to experiment with new approaches and remain reactive to their environment.

The initial commitment by the Merck Foundation and the Gates Foundation to contribute $100M over five years to the partnership had few restrictions on expenditures, which further enhanced ACHAP's ability to adapt. Though ACHAP and the Government of Botswana set targets for the treatment program upfront, once the partners began to implement the program, both soon realized the significant barriers to scale. The flexibility of the funders allowed ACHAP to experiment with new approaches to treatment and fill gaps identified by the government as needing resources. The flexible funding structure evolved over time to become more rigid and tied to specific outcomes, but it provided significant value in the early years by encouraging innovation and experimentation.

ACHAP leveraged the private sector expertise of its board at times to strengthen its implementation practices.

The Merck representatives on ACHAP's board varied in their specific areas of expertise, with backgrounds in corporate responsibility, HIV medicine, and global health policy; however, all brought deep private sector experience and a focus on results. The Gates Foundation representatives were also able to contribute valuable experience from other public-private partnership investments and HIV/AIDS programs. Particularly as ACHAP achieved initial ARV treatment scale up, the board's private sector skills became more relevant for ACHAP's implementation activities. For example, as ACHAP moved to support treatment roll-out at the district level, it had limited experience or understanding about how to execute at this level. The board's engagement helped ACHAP's management and staff to identify opportunities to support district level structures and efforts such as condom distribution[98].

At this time, ACHAP also transitioned to a management team that had experience with the Government of Botswana, in part to build stronger connections with the government; this allowed the board to focus on the strategy and implementation of ACHAP's program activities. In 2005, Dr. Themba Moeti, a former Deputy Permanent Secretary in the Ministry of Health, was appointed Managing Director of ACHAP. According to stakeholders, there were benefits to the new management's style, including enhanced collaboration with implementing partners such as CDC[99]. ACHAP was not intentional about embedding the private sector skills from the early management into the staff and internal systems developed within the organization. Instead, some ACHAP board members attempted to address the change by becoming increasingly hands on and monitoring implementation more closely, especially as ACHAP expanded to the district level[100]. The board did continue to encourage ACHAP's management to measure progress at the district level more rigorously to allow for better tracking of progress.

The board remained engaged in implementation and placed increasing pressure on management and staff to deliver results. This was particularly the case with the SMC program which experienced slow progress early on. The exit of the Gates Foundation from the partnership in particular heavily affected the organization's morale, leading to concerns about the future of the organization both internally and among partners. When the Gates Foundation exited the partnership in 2012, many staff attributed the withdrawal to their own failure to hit the SMC targets and achieve better results with the SMC program, an outcome that could have been avoided by better communication about strategic intentions and staff performance[101].

As ACHAP expanded, decentralized programs, and transitioned to new strategic approaches, it struggled to maintain the same level of private sector expertise throughout the organization and coordinate with crucial partners.

Between 2004 and 2006, ACHAP went through multiple management transitions. As ACHAP explored new programs and approaches, staff expressed concern about the future of the partnership. There were a few staff departures and in general staff turnover remained relatively low between 2006 and 2011[102]. There was also little addition of new employees with different skill sets, especially between 2006 and

2008. ACHAP's board and management underestimated the importance of having formal performance management systems to help grow staff internally and replace underperforming staff as needed.

Then, to address inadequacies in staff skills, ACHAP added a number of new staff. Between 2010 and 2012, ACHAP's staff size increased from 52 to 145[103]. According to former leaders in the organization, these additions (without commensurate restructuring of positions) meant that by 2011, ACHAP was overstaffed and the organization was consequently burdened with high costs. ACHAP did hire an external consultant to conduct a reorganizational study, which recommended defining structures and processes to improve internal coordination, improving culture and staff collaboration, and acquiring the right technical skills to implement new programs. However, the implementation of these recommendations was delayed, limiting their impact on ACHAP's performance[104]. Since 2012, ACHAP has made substantial changes to its staffing structure to address these professional development and human resource challenges and to foster some of the initial management's agile and entrepreneurial approach.

Furthermore, ACHAP's limited long-term strategic planning efforts affected its ability to coordinate with other implementing partners. After the initial ARV treatment program was established, ACHAP improved coordination with CDC and worked with international NGOs such as PSI to implement prevention programs including mass marketing campaigns and condom distribution efforts. Coordination efforts continued as ACHAP began implementing programs directly. While there were regular meetings between ACHAP, the government, and other implementing partners, there was limited long-term planning and rather a focus on short-term coordination.

Nurture Partnerships with Government

Summary of ACHAP's performance: ACHAP chose to work closely with the Government of Botswana, and positioned itself to provide strategic guidance and human resource support in addition to funding. ACHAP designed systems and structures to support the ongoing close relationship with the government, and ensured alignment and buy-in from key government stakeholders at the national and local levels at the outset. ACHAP engaged top political leadership through the Madikwe Forum and seconded staff into ministries to ensure coordination at a tactical level. As national priorities shifted, ACHAP's model for engagement lost some effectiveness: the partnership structures were viewed as less relevant to national priorities and participation in venues such as the Madikwe Forum declined.

ACHAP created an innovative partnership with the government, providing strategic guidance in addition to funding and human resource support. ACHAP was intentional about putting systems and structures in place to support the ongoing relationship it built with government, and ensure alignment and buy-in from key government stakeholders at the national and local levels.

ACHAP secured support at the presidential level from the outset, giving it significant control over how it allocated its resources. The high level political engagement also gave ACHAP's management access to government systems and the flexibility to scale programs quickly. ACHAP was able to selectively leverage this support to remove specific road blocks and begin to scale the ARV treatment program. ACHAP's close relationship with the government also allowed it to build programs that could be transitioned to the government and would not remain as parallel systems.

To deepen its early relationships with government, ACHAP first created the Application Review Committee, which included Government of Botswana civil servants, and was meant as a mechanism for the government to review and approve applications for ACHAP funding.[105] Soon after starting the committee, ACHAP found that this committee did not have the influence to coordinate activities at the national level[106]. Consequently, in 2004, ACHAP created the Madikwe Forum, a joint governance structure between ACHAP and senior Government of Botswana officials. This Forum met three times a year to align implementation activities, share information on relevant HIV/AIDS policies, and address barriers to ACHAP's program execution[107]. The Forum included Permanent Secretaries from all of the key ministries involved in the AIDS response as well as NACA, members of the ACHAP board, and the ACHAP managing director. The Madikwe Forum helped the ACHAP board members and government officials to build a useful foundation of trust and coordination, especially as ACHAP supported the scaling of the ARV treatment program. This allowed ACHAP's leadership to bring up challenging issues regularly and address roadblocks to the treatment scale up.

Note on Implications of ACHAP's Governance Structure

ACHAP's board served both as a mechanism for leading the organization (including for collaborating with government through the Madikwe Forum), and as one for engaging the funders. By taking seats on the board, Merck and the Gates Foundation committed to a hands-on role in driving the strategic direction of the organization. This structure worked well especially while ACHAP had access to flexible funding and the funder, management and partner interests were aligned. As government priorities shifted and ACHAP adapted its approach and programs, the dual role of the funders created some complications for the organization. This was especially an issue as ACHAP management planned for the long-term sustainability of the organization. Board members that also served as funder representatives were responsible for representing the strategic interests of the funders and ensuring ACHAP delivered on its programs and showed results. At the same time, ACHAP leadership was planning for the long-term financial sustainability of the organization. As a result, it was not always clear what was the real intent of the funders and what was in the interest of ACHAP specifically.

The Madikwe Forum allowed for the participation of government, but did not give the government direct control. ACHAP created a model that served as a middle ground between the type of relationship that PEPFAR has with governments (which allows for close coordination but necessitates a slow pace of change), and the one that country programs led by outside NGOs might have (where the relationship is more about license to operate than actual alignment of strategies). Both models have merit but need the right coordination mechanisms to be able to facilitate effective communication and trust between partners. The Madikwe Forum represented a balance between coordination with government and alignment of priorities on the one hand, and independence and flexibility of execution on the other.

However, this model hinges on all partners having clarity on timeframes and objectives. Now, as the end date of ACHAP's currently committed funding draws near, there have been challenges in continuing open dialogue and accountability between ACHAP and the Government of Botswana.

⊖ **ACHAP's model required crucial engagement from government to be effective, so as new players entered the field and national priorities shifted, ACHAP struggled to maintain its relationships and the effectiveness of its collaboration model.**

For ACHAP, the Madikwe Forum was an effective structure for engaging high-level political leadership in the early years, but as ACHAP transitioned its approach and the external environment shifted, the Forum became less influential. As time went on, ACHAP's board and management had difficulties aligning with government interests, and the Madikwe Forum became a less effective mechanism for communicating the organization's priorities to government at senior levels[108]. For example, some stakeholders expressed that ACHAP leadership did not sufficiently build government buy-in when planning for SMC implementation[109]. Studies of the Forum also observe that it did not have enough focus on action items at meetings and did not report on progress measures.[110] Also, after 2009, Permanent Secretary participation in the Madikwe Forum began to wane, and lower-level delegates would attend in their stead[111]. High turnover among Permanent Secretaries also made it challenging for ACHAP to align and maintain consistency in execution[112].

ACHAP adapted its approach to implementation to account for this change, but did not adequately revise its mechanisms for engaging top level leadership. The Madikwe Forum was initially useful to remove specific barriers to scaling services, but over time, there was a need for more forward-looking planning mechanisms. ACHAP needed to adapt its approach to communication with the government to match its new, more independent programmatic approach to implementation. For example, ACHAP could have taken members of the Madikwe Forum to other countries to observe programs that ACHAP could help scale in Botswana. ACHAP could have also explored bringing in new experts and partners into the Forum to make it a more collaborative platform.

Finally, while high-level leadership was consistently important for strategic alignment purposes, maintaining connections at functional levels gave ACHAP access to critical information and insight into detailed program planning. ACHAP built these connections by seconding employees with expertise in strategy and evaluation to provide additional support to NACA and the Ministries of Health, Education, Labor, and Local Government. Secondment served an additional purpose of ensuring information flowed

back to ACHAP, allowing the partnership to stay attuned to government needs and priorities. This helped ACHAP leverage government scale while still contributing its private sector expertise. Some stakeholders mentioned that prevention programming, which did not use the secondment model as extensively, suffered from limited government engagement at the ministry and local government levels[113].

Invest in Knowledge

Summary of ACHAP's performance: While ACHAP was effective at using data to guide program-level tactical decisions; it consistently underinvested in its learning and evaluation staff, systems, and expertise. For example, while it collected a wide range of data from its seven focus districts, ACHAP did not effectively promote sharing information across them, or with non-ACHAP districts. The Government of Botswana also struggled to develop a robust system, even though ACHAP contributed financial and human resource support. More broadly, ACHAP also did not adequately invest in effective dissemination of its learnings. While the partnership published frequently in medical journals and put out communications pieces, it could have invested more proactively in implementation of research and lessons that would have been most useable by and relevant to the field. Others in the sector also struggled with development of effective learning and evaluation systems. Especially in later years as more examples of effective systems emerged, ACHAP could have invested more resources and staff in developing a robust monitoring, evaluation and learning system.

During its first few years of operation, ACHAP was effective at assessing needs and barriers in real time; this use of agile, data-driven decision making helped scale the treatment program at a rapid pace.

The original *Masa* team developed an initial operational plan that was very open. There was a substantial amount of negotiation with local government, NACA, the MOH, and national leadership to navigate legal and budget hurdles in the years before the first sites were established. While the team wanted to set up a decentralized system at the outset, they decided instead to build on the existing infrastructure in Gaborone and Francistown. The team negotiated budgeting, legal and other hurdles in those years to get the first sites established. While the permitting processes could typically take up to 18 months, ACHAP's management began to begin construction on the clinics in advance of receiving the correct permits, speeding up the development process[114].

At a national level, the Government of Botswana consistently struggled with implementing a shared data platform that would align programs and identify gaps, despite support from ACHAP.

When ACHAP began to support the treatment scale up process, there was no national data system. There were also few computers in use, and front-line workers required substantial training on basic IT skills before such a system could be used. Though not entirely ACHAP's responsibility, ACHAP was well positioned to support the government to develop a rigorous M&E system. ACHAP supported the initial design and continued maintenance of government IT and monitoring systems, such as the Botswana HIV and AIDS Response Information System (BHRIMS)[115]. BHRIMS focused on seven critical elements such as demographic data and basic patient tracking including CD4 count information. *Masa* program managers experimented with assigning specific days for treating higher CD4 counts patients to manage demand for services, but this had limited impact on the staff's ability to handle patient flow.

While ACHAP's management provided needed support to launch the system, the paper-based system created was fragmented and included multiple reporting systems leading to poor data quality. As a result, the government struggled to aggregate the data at the national level[116]. The government still struggles to collect reliable data, and experienced recent challenges with its estimates of that total national ARV need. Of particular concern is the future of public sector M&E staff positions: stakeholders report that presently all M&E officers in key ministries are funded by donor programs, many of which will soon decrease support[117].

ACHAP did not adequately use data beyond the context of individual programs to drive learning; it did not invest in cross-site sharing of lessons, or set up programs with clear evaluation plans in place. While it is important to acknowledge challenges, such as the sense of urgency during the early crisis and the lack of local expertise in health program monitoring and evaluation, the ACHAP board could have more actively elevated this area as a need, particularly in later years.

ACHAP did not establish clear metrics or targets at the outset. Furthermore, ACHAP did not hire staff with the necessary experience and expertise to develop a comprehensive system for measuring and evaluating progress against these targets. This shortcoming was in part a result of the sense of urgency and newness of the program. But by not tracking its impact closely, ACHAP did not adequately use data to inform or adjust its strategic course based on early successes and failures. M&E activities almost always came after the program design process, and ACHAP's annual planning and decision making process was not rooted in performance data, which limited its ability to build on program successes and/or abandon processes or programs that were ineffective[118].

Capturing impact data requires careful site selection, clear evaluation approaches to connect investments to impact, and prioritization of these data to share program successes and innovations with other countries or partners. After new management joined in 2006, ACHAP hired more M&E staff to address the need for better tracking and impact data of its own programs[119]. The ACHAP Support Plan 2005-2009 outlined specific research priorities and program objectives for ACHAP[120]; however, an evaluation of

ACHAP in late 2008 found that the research had limited impact because most studies were standalone and not integrated into program activities[121]. In general, most research funded by ACHAP was done by external consultants or academic partners, so ACHAP did not develop these skills internally[122].

The fact that ACHAP lacked baseline data also remained a consistent challenge. As ACHAP expanded to focus on seven partner districts, the lack of a systematic process for capturing best practices made it particularly difficult to transfer lessons from its districts to other non-ACHAP supported areas[123]. The board did urge ACHAP management to integrate M&E and research into programs, but the board ultimately did not hold management accountable for follow-through on these recommendations[124].

*"**We've had M&E people**, but there hasn't been the technical or scientific knowledge of M&E. **It was just about collection of basic data** and doing basic analysis. **It was not informing the programs in an effective way**"*

- ACHAP staff

While ACHAP has recently strengthened its M&E staff and capabilities, even recent programs have not been designed to measure impact from the outset. In its treatment optimization pilot, ACHAP conducted a comparative study of time to ARV treatment initiation before and after introduction of point-of-care CD4 testing machines[125] but did not set up a comparable data set to compare and track impact that would allow them to transfer lessons to other districts[126]. As of April 2014, ACHAP still exhibited gaps in recording and reporting tools for its TB and TB/HIV programs[127], though ACHAP's management expressed that they will integrate more comprehensive impact measurement practices once the programs are up and running.

⊖ **While ACHAP served as an important example to the broader global health community, it could have been more intentional and proactive about how it shared lessons.**

ACHAP built capacity to monitor program activities, but did not build the systems needed to capture the health outcomes of its efforts. This is not unique to ACHAP: many comparable initiatives globally, especially those operating at the country level, could more actively capture and share implementation learnings with other programs. As previously discussed, the scale-up of HIV treatment in Botswana was a key example in demonstrating feasibility to other donors and countries. Despite this early external influence, stakeholders identified fewer subsequent examples of lessons being shared globally. ACHAP did generate an impressive volume of academic articles and presentations at major HIV conferences: for example, ACHAP recently compiled abstracts from 46 presentations at major conferences between 2002 and 2012[128]. However, there was limited investment in translating these lessons into practical tools for other practitioners.

*"Platforms like ACHAP were, and still are, the **best laboratories for bringing clarity to the field of health**. As a field, we **simply haven't done as much implementation research as we should have**. This weakness has limited our ability to understand and learn from our experiences."*

- Ambassador Eric Goosby, Former United States Global AIDS

ACHAP did help inform some other programs in the field. Some stakeholders do point to the less formal connections that ACHAP-affiliated experts were able to develop with others designing or implementing HIV programs, and saw these informal exchanges as valuable in sharing lessons. When the Gates Foundation set up Avahan in India in 2003, it reviewed early lessons from ACHAP and ultimately decided to use a different organizational structure. First, Avahan was established as a private entity to provide proof-of-concept, and only once the program had achieved a level of scale was the government engaged to set up a public-private partnership[129].

While the board emphasized advocacy and communication more in recent years and encouraged ACHAP to hire staff with these skill sets, they did not play a very active role in holding ACHAP accountable for proactive outreach[130]. In an encouraging shift, ACHAP is now investing in research to share some of its recent innovations with the field, including an evaluation of its demand generation approaches that compares the effectiveness of engagement with CBOs to ACHAP's direct management of the performance-based mobilizer program. ACHAP has also commissioned modeling work on the economic benefits of the partnership over its 15 years, and is investing in qualitative and quantitative research on community TB care approaches in nine districts[131].

Plan for Sustainability

Summary of ACHAP's performance: In some aspects, ACHAP set its program activities on a clear path toward sustainability: for example, the scaling of the treatment program was designed with government uptake in mind. There are, however, recent areas of concern in terms of how elements of ACHAP's successful programs will be sustained in the future. More broadly, ACHAP and its funders did not sufficiently plan for the long-term sustainability of the partnership. Regardless of the intended direction (for example, sunsetting, or continuing to catalyze new areas in the HIV response or other health issues), the partnership needed more concerted planning around goals for impact, accompanying milestones, and resource implications of these goals.

ACHAP incorporated from the outset a focus on building public sector capacity and promoting government ownership of the ARV treatment program, though, recent changes have left some areas of concern.

ACHAP supported the government in developing the National Strategic Framework 2003-2009 and aligned its programs to support these goals[132]. The process for developing the National Strategic Framework was highly collaborative, engaging both community and national level leadership over an 18 month period to develop the plan. The approach of working closely with the government to design strategies and support implementation required a commitment on both the side of ACHAP and the Government of Botswana to deliver results and support the long-term sustainability of HIV/AIDS programs.

Though funding flexibility and ACHAP's contribution of resources were critical to the initial, successful scale up of the ARV treatment program, ACHAP was slow to shift to a longer term plan for cost effective program execution and long-term financial sustainability for the programs it established. As the model required government engagement and ultimately government support for uptake of the treatment program, it was critical for ACHAP to be conscious of cost-effectiveness for long-term sustainability. As mentioned previously, the program's cost effectiveness was a concern for the Government of Botswana in its early days, but given the immediacy of the need and entrepreneurial nature of the effort, cost remained a secondary priority.

While ACHAP's program was staffed by government health workers and interfaced with government systems, its operations were in a silo with respect to broader health service delivery, making integration more challenging and expensive. Consequently, the full transition of the ARV treatment program did not take place until September 2012. After ACHAP fully transferred responsibilities to the government, 170,860 (85 percent) out of 201,822 patients were receiving treatment from the public sector[133]. ACHAP continued to provide support through the treatment optimization pilot and the ARV drug donations from Merck, who donated $25M worth of ARV drugs in 2012[134].

The KITSO health worker training initiative was one of the most challenging treatment-related programs to transfer. The Ministry of Health was delayed in developing a sustainability plan, and in the end did not commit to providing the same level of the human and financial resources as ACHAP, so PEPFAR provided funds to the MOH to revive and coordinate the program. The Botswana-Harvard Partnership continues to support content development for KITSO.

"Their funding of KITSO was great, and its legacy is very strong, but it wasn't integrated into the health system in terms of delivering other forms of care. ***KITSO would have been a great initial way of strengthening Botswana's greater health system*** *– you could have latched on other forms of health training to it."*

- Government of Botswana official

There are concerns about the government's ability to continue funding the ARV treatment program in perpetuity given recent budgetary issues in the public sector and the relatively high costs of the program. This is especially a concern in an environment where other international donors, such as PEPFAR, are also transitioning out of Botswana and looking to the government to take over its current programming work. PEPFAR is planning to decrease annual funding in Botswana from $75M to $35M by 2016 and then a continued $10M reduction per year after that[135]. A report by the Center for Strategic and International Studies (CSIS) found that stakeholders in Botswana are concerned that a "hasty or inflexible scale-down of PEPFAR funding in Botswana will… put at risk many of the gains made during the last decade in HIV treatment and PMTCT[136]."

Broadly speaking, ACHAP's board struggled to hold the partnership to milestones for transferring financial and non-financial responsibilities to the government and other implementing partners, making it challenging for the board to hold ACHAP management accountable for successful transfer and wind down of programs.

Planning for the sustainability of ACHAP as an entity was brought up by ACHAP's management and discussed by the board as early as 2003, but the funders and board put minimal emphasis on the issue at

the time. According to the key stakeholders involved, ACHAP was originally established with a five year time horizon. It was intended to catalyze the national response, and then be fully transferred to government or other stakeholders inside the country[137].

In late 2004, the board began reviewing plans and budgets for ACHAP's continued programs for 2005-2009. The board supported continued funding for ongoing projects through 2005, with the understanding that ACHAP would simultaneously develop a refocused strategy for new programs. During this period, ACHAP's board became more involved in overseeing daily management of the organization to ensure the continued success of existing programs as well as to support the design and launch of new strategies such as district-level engagement. As a consequence, the board spent less time focused on planning for the future of the organization.

*"**Sustainability was never tackled early on** because it was **never an urgent issue**."*

- Linda Distlerath, Former ACHAP board member

Board representatives from the respective funders did not always communicate and coordinate effectively with one another (at a board level, or with their respective headquarters), which further complicated the future planning for ACHAP's sustainability. Thus, as funders reached the end of the first funding commitment in 2009, they still felt that there was a need to ensure the sustainability of the programs they had invested in to date, and to leverage the platform that had been built for further impact. The board also felt that more needed to be done in HIV prevention in Botswana and ACHAP should focus more on efforts in this area[138].

ACHAP's management also had responsibility to drive strategic planning for the organization and lead planning efforts for future sustainability. However, these functions were deprioritized, and initially the management did not follow through on its role to engage the board in planning needed to wind down funding or transition to new sources. The departure of the Gates Foundation greatly affected the organization. Before that point, stakeholders involved mentioned an implicit belief that ACHAP would continue to receive funding from its two original funders. With the departure of the Gates Foundation, ACHAP's management and staff were under a new pressure to deliver results and think more strategically about the future of the organization. However, as the 2014 conclusion of the Merck Foundation's funding neared, ACHAP management was somewhat slow to begin planning for the organization's future identity and business model. ACHAP's initial 2013 budget did not include a business development function; however, with input from the board, this was adjusted to become a major area of emphasis for the organization. The Government of Botswana faced a similar slow start in planning for the transition: while Merck had communicated that the ARV donations would conclude at the end of 2014 and provided guidance to the Government on a phase-down approach, by late 2013 the government had not developed detailed forecasting of the ARV need and any potential gaps in support[139].

Lessons for Other Public-Private Partnerships

Based on the successes and challenges during ACHAP's 15 years of partnership, there are six key lessons that other public-private partnerships should incorporate into their work.

1. **Emphasize adaptation as a core characteristic for successful public-private partnerships:** Partnerships looking to maintain relevance and impact in a dynamic context need to adapt at strategic, organizational, and programmatic levels. Several attributes can lay a foundation for public-private partnerships to adapt successfully:
    a. **Emphasize nimble execution**: Hire staff and management that take initiative, are results-driven, and move at a rapid pace to help the partnership to be reactive to the changing context. At the same time, be sure to identify opportunities to embed the private sector skills in government processes and culture.
    b. **Leverage flexible funding**: In the beginning, partnerships should prioritize a flexible funding structure to allow for management to establish programs and test new practices to identify the appropriate path for reaching the partnership's goal. Once these visions and strategies are established, partnerships can shift to alternate funding structures that tie short-term results more closely to future funding decisions.
    c. **Embed learning mechanisms early**: Build relationships and take time to incorporate new data into planning early and often to identify new science, emerging partnership opportunities, and changing needs.

2. **Be intentional about strategic shifts and set a clear upfront strategy and milestones:** Partnerships can allow for flexibility early in the process to encourage entrepreneurial activity and innovation. However, all activities should be tied to clear goals and once the initial programs are established, the partnership should create a clear strategic plan with milestones and systems for measuring progress. The plan should assess the internal staff expertise and capabilities to evaluate if the partnership can execute on the plan and identify any additional skills needed. The partnership should focus on hiring the right staff and building strategic partnerships that will help with execution against the plan. The milestones can also provide decision points for the partnership to assess whether or not to continue funding individual programs.

3. **Design the appropriate governance and management structure:** Public-private partnerships should assess the expertise and guidance needed to execute the chosen strategy. For example, organizations can select a management team with private sector expertise and balance this with public sector or content expertise on the board. Alternately, partnerships place funders on the board to maintain close relationships between the funders and the grantee. Either way, the partnership should be clear about the implications of the governance and management structures that it creates to anticipate opportunities or challenges.

4. **Plan for sustainability and ensure there is ongoing communication between members of the partnership at the execution and leadership levels:** It is critical that partners begin with the end in mind to ensure that progress will be sustained. Partners need to plan for the sustainability of programs upfront during the program design phase, and discuss potential exit strategies for the organization's initial funders. Partners engaged in the initiative need to communicate about the partnership strategy and ensure alignment on program goals. In addition, partners should communicate at the leadership level to ensure the strategic directions of the participating organizations also align.

5. **Develop capabilities in learning and evaluation as well as implementation research:** Public-private partnerships need a mix of internal capacity development and external support in order to strengthen their abilities to collect and interpret data in a useful way and inform their own organizational planning as well as for the broader field. Partnerships also need to be intentional about their plans for disseminating best practices to the field by emphasizing relevant implementation research that responds to needs of other program managers, and by using diverse venues and practical formats beyond annual reports and academic publications.

6. **Align the degree of government collaboration with the partnership objectives and build appropriate structures for coordination:** Partnerships need to design appropriate collaboration mechanisms that allow for alignment with government in order for partners to effectively execute and scale programs. How these collaboration mechanisms operate more specifically will depend on the partnership's objectives, resources available, government capabilities, and support needed to achieve the goals. There is a range of structures for collaboration: partners can engage with government by infusing private resources directly into government budgets, by forming hybrid collaborations such as ACHAP, or by launching private sector-led efforts that operate with light oversight from and coordination with government. Some may require less intensive relationships with a lighter coordinating forum, while others may require a deeper collaboration with support across all levels of government.

The Future of ACHAP

ACHAP is now at a turning point. After 15 years, it is seeking to expand beyond its original legacy funders, with the conclusion of the Gates Foundation and Merck Foundation support in 2012 and 2014, respectively. During 2013, the organization has refreshed its strategy and business plan, and is actively engaged in discussions around future funding for the organization, transition of supported programs, and planning for new opportunities for impact.

The context for this new vision of ACHAP is at once both exciting and challenging. Several trends in global health create opportunities for ACHAP: for example, a broader recognition of the role of the private sector in catalyzing government responses and an increased emphasis on solidifying gains made through vertical HIV-specific programming while also shifting to broader health systems strengthening. Donors, such as USAID through its USAID Forward initiative[ix], are also looking to shift implementation of projects to create more country ownership and local integration.

More challenging trends include the decreased funding for HIV-specific programming, lower availability of donor resources for middle-income countries such as Botswana, and a highly competitive landscape of global health implementing organizations, most of whom have well-established relationships with key donors as well as with country governments. As shown previously in Figure 8, Botswana has the highest domestic HIV funding per capita in the region and the government is already contributing significant resources towards HIV programming costs and thus is likely in a better position than its neighboring countries to take on additional funding needs in the future. There are still reasons for concern about the future of the AIDS response in Botswana, such as the ability of the country to contain costs, retain health professionals, and maintain gains in health planning and management[140]. Furthermore, younger populations with high incidence rates were not witness to the initial HIV/AIDS crisis of the 1990s and could continue to engage in risky behavior, also contributing to a reversal in progress.

*"**Integration and health systems strengthening are where they should be focusing – they did well with HIV 1.0, but this is HIV 2.0.** Now, the key issues are around supply chain, infrastructure, and quality of care. HIV has the biggest national infrastructure, and **ACHAP needs to facilitate the transition of this infrastructure into broader health system improvements**."*

- Government of Botswana official

In this context, the ACHAP strategic plan beyond 2014 brings both a longer-term vision and more immediate practicality. Ultimately, ACHAP wants to expand throughout Southern Africa, using a franchise model of partnership with local NGOs, as well as continuing to operate in Botswana. Its service offerings will include existing work (HIV-focused, with an emphasis on scaling treatment and SMC), and also

[ix] USAID Forward is a reform agenda focused on supporting local institutions to deliver measurable results, investing in innovative solutions with potential to scale, and making current investments more effective (USAID.gov).

building new areas of expertise such as non-communicable diseases. In the near term, ACHAP's leadership is pursuing several more immediate opportunities; in mid-2014 it was selected as the private sector principal recipient for Botswana's Global Fund TB/HIV Concept Note.

As ACHAP considers its future positioning, it should reflect on its history of adaptation and how those shifts apply to future strategy. The skills and role of ACHAP today are different from previous incarnations of the partnership, and the ACHAP management and board will need to clearly articulate a unique value proposition that is both grounded in the current expertise of the organization, and appealing to potential funders and partners in new markets.

ACHAP also needs to determine how to preserve its adaptive nature when broadening across multiple markets and engaging with donors who may view service implementation in a more transactional manner. To preserve the adaptive spirit that is an essential element of the ACHAP model, the organization should prioritize strategic learning and evaluation, and build governance mechanisms that allow for more proactive planning around shifts in overall strategy and role.

From reflecting on ACHAP's past and future, stakeholders have raised several high-potential areas for ACHAP or an ACHAP-like model to play a role. These include: acting as a national proof of concept for a test-and-treat policy in a high-burden country, focusing on the process of mainstreaming HIV care into broader health systems, and catalyzing non-communicable disease treatment.

Conclusion

ACHAP broke new ground in proving the feasibility of HIV treatment in sub-Saharan Africa. The successes of Botswana emboldened the global AIDS response, shifting the dialogue to emphasize aggressive targets for treatment scale-up. Despite working in a rapidly changing context, ACHAP had substantial impact, expanding access to treatment, achieving scale in safe male circumcision, and strengthening the health system of Botswana. In these major programs, the partnership was able to adjust its approaches to implementation and play a flexible role alongside the government. In others areas, though, it was unable to achieve the same level of impact:

ACHAP's partnership model served as an example for other funders to follow. The partnership provides crucial lessons for other public-private initiatives, particularly in how it was able to adapt its strategy and role beyond the initial mandate, and in its early structures for engaging government. However, ACHAP also offers several cautionary tales for other public-private partnerships. It underinvested in evaluation, insufficiently navigated the changing political context in Botswana, and belatedly planned for the sustainability of the partnership.

In the future, there are tremendous opportunities for ACHAP and other partnerships to take these lessons into new arenas: for example, in the mainstreaming of HIV/AIDS services into the broader public health system, and in the response to the emerging burden of non-communicable disease in low- and middle-income countries. Hopefully, these future efforts will retain and strengthen the adaptive nature that ACHAP has displayed over its 15 years of impact on HIV/AIDS in Botswana.

Appendix A

List of Key Informant Interviews

Current ACHAP Staff	
Name	Affiliation
1. Benjamin Binagwa	Lead Technical Advisor, SMC Program
2. Nick Brealy	Director, Business Development
3. Lesego Busang	Monitoring & Evaluation Specialist
4. Juliana Cuervo-Rojas	Director, Monitoring, Evaluation and Research
5. Rachel Jackson	Grants Manager
6. Christopher Lekobane	Senior Finance Officer
7. Dr. Jerome Mafeni	Chief Executive Officer
8. Mmama Mhlanga-Fichani	Human Resources Manager
9. Kabo Monare	Senior Communication and Advocacy Officer
10. Blessed Monyatsi	Regional Manager, North
11. Elizabeth Moshi	Regional Manager, South
12. Dr. Kenneth Mugisha	Project Coordinator, Treatment Optimization
13. Dr. Frank Mwangemi	Executive Officer, Programs

Former ACHAP Staff	
Name	Affiliation
14. Dr. Ernest Darkoh-Ampem	Former Manager, MASA Program Founding Partner, BroadReach Healthcare
15. Dr. Donald De Korte	Former Managing Director Head, Southern Africa Country Group, Novartis
16. Leonard Manthe	Former Manager, ARV & Infrastructure Deputy Director, Tebelopele
17. Dr. Themba Moeti	Former Chief Executive Officer Chief Executive Officer, Health Systems Trust
18. Art Mooney	Former Chief Operations Officer

Current ACHAP Board and Funders	
Name	Affiliation
19. Brenda Colatrella	Executive Director, Office of Corporate Responsibility, Merck Current ACHAP board member
20. Chirfi Guindo	General Manager & Global Commercial Lead, HIV, Merck
21. Dr. Mark Feinberg	Vice President, Medical Affairs and Policy, Merck Current ACHAP board member
22. Leslie Hardy	Vice President, Merck Foundation
23. Dr. Richard Marlink	Executive Director, Harvard School of Public Health Current ACHAP board member
24. Joy Phumaphi	Executive Secretary, African Leaders Malaria Alliance Current ACHAP board chair
25. Alinah Segobye	Deputy Executive Director, Human Sciences Research Council Current ACHAP board member

Former ACHAP Board and Funders	
Name	Affiliation
26. Dr. Stefano Bertozzi	Former Director, HIV Program, Bill & Melinda Gates Foundation Dean, School of Public Health, University of California, Berkeley
27. Carmine Bozzi	Former Deputy Director, HIV Program, Bill & Melinda Gates Foundation Senior Partner, Akeso Associates Former ACHAP board member
28. Linda Distlerath	Former Vice President, Global Health Policy, Merck Deputy Vice President, International Alliance Development, PhRMA Former ACHAP board member
29. Dr. Helene Gayle	Former Director, HIV, TB, and Reproductive Health Program, Bill & Melinda Gates Foundation President and Chief Executive Officer, CARE Former ACHAP board member
30. David Harrison	Chief Executive Officer, DG Murray Trust Former ACHAP board member
31. Dr. Luke Nkinsi	Former Senior Program Officer, Bill & Melinda Gates Foundation Project Director, Centers for Disease Control and Prevention Foundation Former ACHAP board chair
32. Guy Macdonald	Former Vice President, Hospital and Anti-Infective Products, Merck Chief Executive Officer, Tetraphase Pharma Former ACHAP board member
33. Owen Ryan	Former Program Officer, Bill & Melinda Gates Foundation Vice President, The Corkery Group
34. Jeffrey Sturchio	Former Vice President, Corporate Responsibility, Merck President and CEO, Rabin Martin Former ACHAP board member

Global Health Experts	
Name	Affiliation
35. Christoph Benn	External Relations Director, The Global Fund to Fight AIDS, Tuberculosis, and Malaria
36. Doug Call	Vice President & Senior Regional Director, Population Services International
37. Dr. Alex Coutinho	Executive Director, Infectious Disease Institute
38. John Damonti	President, Bristol-Myers Squibb Foundation
39. Dr. Eric Goosby	Former US Global AIDS Coordinator
40. Robert Hecht	Managing Director, Results for Development
41. Dr. Krishna Jafa	Vice President, Sexual and Reproductive Health and TB, Population Services International
42. Dr. Michael Johnson	Global Fund Attaché to the Permanent Mission of the USA
43. Dr. Peter Kilmarx	Country Director (Zimbabwe), Centers for Disease Control and Prevention
44. Dr. Michael Merson	Founding Director, Duke Global Health Institute
45. Phangisile Mtshali	Director, Bristol-Myers Squibb Foundation
46. Mbulawa Mugabe	Director, Country Impact and Sustainability, UNAIDS
47. Dr. Eugene Nyarko	Former Country Representative for Botswana, World Health Organization
48. Kanchan Reed	Country Coordinator (Botswana), The President's Emergency Plan for AIDS Relief (PEPFAR)
49. Jeff Richardson	Vice President, AbbVie Foundation
50. Beth Skorochod	Senior Technical Advisor, Population Services International
51. Noah Taruberekera	Regional Researcher, Southern Africa, Population Services International

52. Dr. Kathleen Toomey	Country Director (Botswana), Centers for Disease Control and Prevention
53. Mitchell Warren	Executive Director, AVAC

Government of Botswana

Name	Affiliation
54. Ikwatlhaeng Bagopi	Permanent Secretary, Ministry of Labour
55. Muhammad Farooq Chohan	Manager, Central Medical Stores
56. Wililani Goitsemang	District AIDS Coordinator, Serowe District
57. Dr. Banu Khan	Former Director, National AIDS Coordinating Agency (NACA)
58. Dr. Refeletswe Lebelonyane	Director, Combination Therapy, Ministry of Health
59. Steven Ludick	Director, Ministry of Local Government
60. Nkotula Majingo	Principal Health Officer, Ministry of Health
61. Dr. Kolaatamo Malefo	Permanent Secretary, Ministry of Health
62. Mokgadi Mantswe	District AIDS Coordinator, Serowe District
63. Dr. Kereng Masupu	Former Epidemiologist, National AIDS Coordinating Agency (NACA) Secretariat, The Champions for an HIV-Free Generation
64. Richard Matlhare	Permanent Secretary, Ministry of Education
65. Halakangwa Mbulai	Deputy Permanent Secretary, Ministry of Local Government & Rural Development
66. Grace Muzila	Coordinator, National AIDS Coordinating Agency (NACA)
67. Dr. Ndwapi Ndwapi	Director, Ministerial Strategy Office, Ministry of Health
68. Dinah Ramaabya	Principal Health Officer, Ministry of Health

69. Solomon Sekwakwa	Permanent Secretary, Ministry of Finance & Development Planning
70. Segakweng Tsiane	Permanent Secretary, Ministry of Defense, Justice and Security

Other Botswana Key Informants

Name	Affiliation
71. Bashi Gaetsaloe	Country Manager, Accenture Botswana
72. Irene Kwape	National Coordinator, Botswana Christian AIDS Intervention Programme (BOCAIP)
73. Dr. Joseph Makhema	Chief Executive Officer, Botswana-Harvard Partnership
74. Batho Christopher Molomo	Executive Secretary, The Champions for an HIV-Free Generation
75. Oratile Morongwane	Managing Director, ExceQ Services
76. Daniel Motsatsing	Former Director, Botswana Network of AIDS Service Organizations (BONASO)
77. Dr. Oatlhokwa Nkomazanao	Associate Dean, School of Medicine, Univ. of Botswana
78. Vuyi Otukile	Director, Youth Health Organization (YOHO)

Appendix B

Additional Figures

	ACHAP	Avahan	BMS Secure the Future	Abbott Fund	AMPATH	IDI
Key Contrasts to ACHAP	NA	Focused exclusively on prevention-	Focused on models, less on specific countries	Primarily focused on infrastructure improvement	Treatment focused in Western Kenya	Responsible for portion of country treatment
Geographic Focus	Botswana	6 most affected states in India	13 African countries	Tanzania	Western Kenya	Uganda; also works in 27 other African countries
Initial HIV Context & Prevalence	Hyperepidemic; ~40%	Concentrated epidemic ~1%	Response across SSA; not country specific	Generalized epidemic ~9%	Generalized epidemic ~9%	Generalized epidemic ~5% (Uganda)
Original Mandate	Avert Botswana's HIV crisis by rolling out treatment	Slow HIV transmission by raising prevention coverage to saturation levels	Broad based grant-making to build the capacity of Africa's HIV response	Strengthen Tanzania's health system through infrastructure improvements	Provide medical care, training and research through academic health centers	Strengthen health systems in Africa, strong emphasis on infectious diseases
Intensity and Nature of Intervention	Catalyze Botswana's response to the HIV epidemic	Design, build & transition India's biggest prevention program to govt	Grant-making across Africa to support research, care, and education	Upgrading nation's main hospital & labs, HCW training	Partnered with local univs, scale ART and health care in Western Kenya	Train, strengthen health systems, cover 13% of ART in Uganda
Funding Details	Merck & Gates; $152M (2000-Present)	Gates; $340M (2003-2013)	Bristol Myers Squibb; $160M (1999-present)	Abbott; $100M (2001-present)	Indiana Univ., pharma; $140M (2001-present)	Pfizer & others; $20M/year turnover (2001-present)

Figure 20: Comparison of ACHAP to other major health public-private partnerships

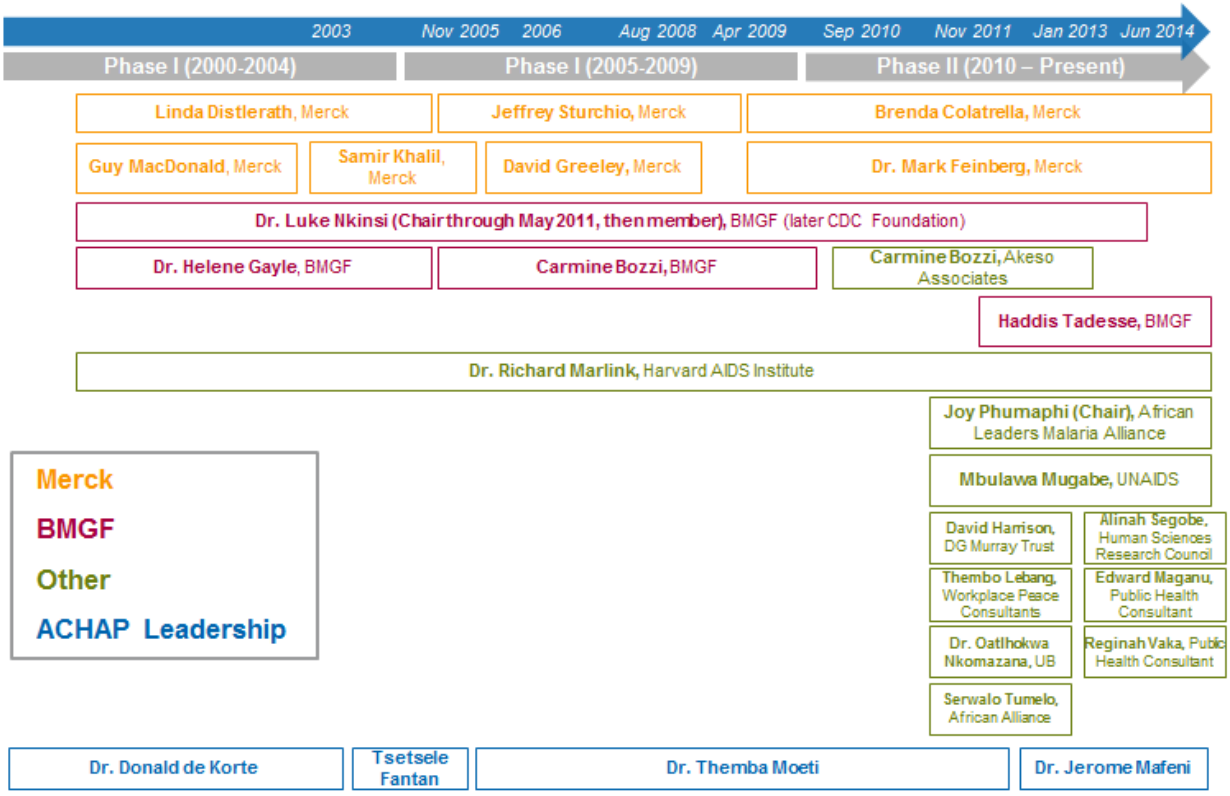


Figure 21: Evolution of ACHAP's board of directors

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Cover Image Credit: Harvard School of Public Health AIDS Initiative

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References

[1] Maggie Farley, "At AIDS Disaster's Epicenter, Botswana Is a Model of Action." Los Angeles Times, June 27, 2001.

[2] Calculation based on deaths data from UNAIDS 2013 Global Report and population data from World Bank DataBank.

[3] "2013 Progress Report on the Global Plan Towards the Elimination of New HIV Infections Among Children by 2015 and Keeping Their Mothers Alive." UNAIDS, June 30, 2013.

[4] Botswana AIDS Impact Survey IV (BAIS IV) Summary, Statistics Botswana, 2013.

[5] FSG interviews

[6] Botswana AIDS Impact Survey IV (BAIS IV) Summary, Statistics Botswana, 2013.

[7] Ibid

[8] Ibid

[9] Unpublished document, "Botswana National TB Program Annual Report 2012."

[10] FSG interviews

[11] FSG interviews

[12] Pinsky and Douglas, "The Columbia University Handbook on HIV and AIDS." September 2009.

[13] Ramiah and Reich, "Public-Private Partnerships and Antiretroviral Drugs for HIV/AIDS: Lessons from Botswana." Health Affairs, 24, no. 2 (2005):545-551.

[14] "HIV treatment now reaching more than 6 million people in sub-Saharan Africa." UNAIDS, Geneva, July 6, 2012.

[15] "Antiretroviral therapy coverage in sub-Saharan Africa." WHO, Data and Statistics, 2003.

[16] "Accelerating access initiative: widening access to care and support for people living with HIV/AIDS." WHO and UNAIDS, June 2002.

[17] "Beyond Philanthropy: the pharmaceutical industry, corporate social responsibility and the developing world." Oxfam, Save the Children and VSO, 2002; UNAIDS.

[18] Herbert, Bob. "In America; Refusing to Save Africans." The New York Times, June 11, 2001.

[19] FSG interviews

[20] FSG interviews

[21] FSG interviews

[22] Ramiah and Reich, op. cit.

[23] Stash et al., "Competing pressures for U.S. PEPFAR in Botswana: Rising Ambitions, Declining Resources." CSIS, November 2012.

[24] "Leaders go public with the test." IRIN/PlusNews, May 3, 2010.

[25] Jefferies, Keith, "Innovative Health Financing." Health Systems 20/20 project, Abt Associates Inc., ACHAP, October 2012.

[26] Auvert et al, "Randomized, Controlled Intervention Trial of Male Circumcision for Reduction of HIV Infection Risk: The AnRS 1265 Trial." PLOS Medicine, November 2005 Vol 2, Issue 11 e298.

[27] Padian et al, "Weighing the gold in the gold standard: challenges in HIV prevention research." AIDS: 13 March 2010 - Volume 24 - Issue 5.

[28] Internal Government of Botswana document, "HAART Update." January 2014.

[29] Farahani et al, "Outcomes of the Botswana national HIV/AIDS treatment programme from 2002 to 2010: a longitudinal analysis." Lancet Global Health, December 13, 2013.

[30] Cited in "A Public-Private Partnership ARV Treatment Model: The case of ACHAP's support to Botswana's National ARV Treatment programme." ACHAP, June 2011.

[31] Donnelly, John, "The President's Emergency Plan for AIDS Relief: How George W. Bush and Aides Came to 'Think Big' on Battling HIV." Health Affairs 31, No. 7, July 2012.

[32] "2013 Progress Report on the Global Plan Towards the Elimination of New HIV Infections Among Children by 2015 and Keeping Their Mothers Alive." UNAIDS, June 30, 2013.

[33] Population: World Bank DataBank
Life Expectancy: World Bank DataBank
Deaths per 100,000 Population: Calculation based on deaths data from UNAIDS 2013 Global Report and population data from World Bank DataBank
Prevalence (Adults): UNAIDS 2013 Global Report
ARV Coverage: UNAIDS Country Progress Reports: 2014 (Botswana, Namibia, Swaziland, Zimbabwe), 2012 (Lesotho, South Africa, Zambia)
PMTCT: UNAIDS Country Progress Reports: 2014 (Botswana, Namibia, Swaziland, Zimbabwe), 2012 (Lesotho, South Africa, Zambia)
Condom Use: UNAIDS AIDS Info Database
Testing: UNAIDS AIDS Info Database

[34] Botswana AIDS Impact Survey IV (BAIS IV) Summary, Statistics Botswana, 2013.

[35] Ibid

[36] Ibid

[37] Shisana, O, Rehle, T, Simbayi LC, Zuma, K, Jooste, S, Zungu N, Labadarios, D, Onoya, D et al., "South African National HIV Prevalence, Incidence and Behaviour Survey, 2012." Cape Town, HSRC Press, 2014.

[38] FSG interviews

[39] FSG interviews

[40] Unpublished Masa document, "Masa rollout MOH 2006."

[41] CDC Morbidity and Mortality Report, November 26, 2004.

[42] Baggaley et al, "From caution to urgency: the evolution of HIV testing and counselling in Africa." Bulletin of the World Health Organization, 2012.

[43] "Guidance on Provider-initiated HIV Testing and Counselling in Health Facilities." WHO and UNAIDS, 2007.

[44] FSG interviews

[45] FSG interviews

[46] Mazhani et al, "ACHAP Phase 1 End Evaluation." December 2008.

[47] Ibid.

[48] "A Public-Private Partnership ARV Treatment Model: The case of ACHAP's support to Botswana's National ARV Treatment programme." ACHAP, June 2011.

[49] "A Summary of KITSO Training Conducted by the Botswana-Harvard AIDS Institute Partnership for HIV Research and Education, 2001-2011." Botswana Harvard AIDS Institute, 2011.

[50] FSG interviews

[51] Mazhani et al, op. cit.

[52] ACHAP board of Directors meeting materials, April 2014.

[53] FSG interviews

[54] FSG interviews

[55] FSG interviews

[56] "The 'Models of Care' Project: An Analysis of the National Antiretroviral Treatment Programme, Masa, 2007-2011." Government of Botswana, September 2012.

[57] CHAI, "Multi-Country Analysis of Treatment Costs for HIV (MATCH), preliminary findings for discussion at the International AIDS Economics Network Pre-Conference Meeting," July 2012.

[58] FSG interviews

[59] WHO Guidelines on the Use of Effective Devices for Adult Male Circumcision for HIV Prevention, October 2013.

[60] Government of Botswana, SMC Update Meeting, June 2009.

[61] Kebaabetswe et al, "Male circumcision: an acceptable strategy for HIV prevention in Botswana." *Sex Transm Infect* 2003; 79:214-219.

[62] FSG interviews

[63] FSG interviews

[64] ACHAP board of Directors meeting materials, November 2011.

[65] ACHAP Board of Directors meeting materials, November 2011.

[66] FSG interviews

[67] FSG interviews

[68] FSG interviews

[69] ACHAP Annual Report, 2011.

[70] FSG interviews

[71] FSG interviews

[72] FSG interviews

[73] ACHAP Board of Directors meeting materials, April 2014.

[74] Bollinger et al., "Cost Drivers for Voluntary Medical Male Circumcision Using Primary Source Data from Sub-Saharan Africa." PLoS ONE 9(5): e84701. 2014.

[75] Padian et al, "Weighing the gold in the gold standard: challenges in HIV prevention research." AIDS: 13 24 (5) March 2010.

[76] Mazhani et al, op. cit.

[77] Mazhani et al, op. cit.

[78] FSG interviews

[79] FSG interviews

[80] FSG interviews

[81] FSG interviews

[82] FSG interviews

[83] FSG interviews

[84] ACHAP Annual Report, 2007.

[85] Unpublished document "Botswana National TB Program Annual Report 2012."

[86] ACHAP Board of Directors materials, April 2013.

[87] FSG interviews

[88] Key literature sources include Michael R. Reich, ed., "Public-Private Partnerships for Public Health." Harvard Series on Population and International Health, April 2002; McKinsey & Company, "Public-Private Partnerships: Harnessing the private sector's unique ability to enhance social impact." Working document, December 2009.

[89] Sturchio, Jeffrey. "Business and Global Health in an Era of Globalization: Reflections on Public/Private Partnerships as a Cultural Innovation." Cultural Politics in a Global Age: Uncertainty, Solidarity, and Innovation,

edited by David Held and Henrietta L. Moore, Oneworld Publications, April 2008.

[90] Ramiah and Reich, op. cit.

[91] Distlerath, Linda M.; Macdonald, Guy; and & Co.,, Merck Inc., "The African Comprehensive HIV/AIDS Partnerships - A New Role for Multinational Corporations in Global Health Policy." Yale Journal of Health Policy, Law, and Ethics: Vol. 4: Issue 1, Article 9, 2004.

[92] "Mid-term Evaluation of ACHAP Supported Programs." John Snow International, June 2004.

[93] Mazhani et al, op. cit.

[94] McKinsey & Company, "Improving ACHAP's Organizational Effectiveness for Phase II: Final Report." October 14, 2009.

[95] FSG interviews

[96] FSG interviews

[97] Merck operates as MSD in countries outside the United States and Canada

[98] FSG interviews

[99] FSG interviews

[100] FSG interviews

[101] FSG interviews

[102] ACHAP Phase I Evaluation 2009; ACHAP M&E Department Data

[103] ACHAP internal records

[104] McKinsey & Company, op. cit.

[105] George et al," The Madikwe Forum: a comprehensive partnership for supporting governance of Botswana's HIV and AIDS response." African Journal of AIDS Research, 2012.

[106] FSG interviews

[107] George et al, op. cit.

[108] FSG interviews

[109] FSG interviews

[110] George et al, op. cit.

[111] FSG interviews

[112] George et al, op. cit.

[113] FSG interviews

[114] FSG interviews

[115] National M&E Plan for the National Operation Plan for HIV 2012-2016.

[116] Mazhani et al., op. cit.

[117] FSG interviews

[118] FSG interviews

[119] Mazhani et al., op. cit.

[120] ACHAP Board of Directors meeting materials, April 2006.

[121] Mazhani et al., op. cit.

[122] FSG interviews

[123] FSG interviews

[124] ACHAP Board of Directors meeting materials, November 2005.

[125] ACHAP Board of Directors meeting materials, April 2014.

[126] FSG interviews

[127] ACHAP Board of Directors meeting materials, April 2014.

[128] "ACHAP Abstract Book: A compilation of abstracts documented on ACHAP supported programmes, 2002-2012." October, 2012.

[129] FSG interviews

[130] FSG interviews

[131] ACHAP board of Directors meeting materials, April 2014.

[132] "Mid-term Evaluation of ACHAP Supported Programs." John Snow International, June 2004.

[133] ACHAP Board of Directors meeting materials, November 2013.

[134] ACHAP Annual Report, 2012.

[135] Stash et al., op. cit.

[136] Stash et al., op. cit.

[137] FSG interviews

[138] FSG interviews

[139] FSG interviews

[140] Stash et al., op. cit.

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FSG is a nonprofit consulting firm specializing in strategy, evaluation, and research, founded in 2000 as Foundation Strategy Group. Today, FSG works across sectors in every region of the world—partnering with foundations, corporations, nonprofits, and governments—to develop more effective solutions to the world's most challenging issues.