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WOMEN'S HOSPITAL

## CASES IN GLOBAL HEALTH DELIVERY

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### Political Leadership in South Africa: HIV

*"He's a very smart politician. He realized that if you want to put runs on the board you need to deal with the big issue first. He clearly looked at our mortality and life expectancy and asked himself, 'If I'm going to do something big here, what's the big game changer?'"*

— Anban Pillay, Deputy Director-General, South African National Dept. of Health

In January 2015, South African Minister of Health Aaron Motsoaledi adopted new World Health Organization guidelines that would increase the number of HIV-infected South Africans on antiretroviral treatment from nearly 3 million to 4.6 million by 2016. South Africa had the largest population of HIV-infected people in the world, and Motsoaledi's aggressive scale-up of testing and treatment since he took office in 2009 had improved the life expectancy of South Africans dramatically and garnered international praise. At the same time, Motsoaledi had been trying to create a national health insurance system and strengthen primary care.

The National Department of Health was assuming greater responsibility for HIV/AIDS services, and patient enrollment was rising. Public clinics had become more congested and experienced occasional drug stock-outs. The national government did not have a systematic way to track patients; in 2014, it estimated that 37% of patients were lost to follow-up three years after initiating treatment. Civil society organizations that had been central to program planning and implementation were beginning to feel sidelined.

While Motsoaledi's initial success in addressing HIV/AIDS had been dramatic, reforming the public health system as a whole had proven much more difficult. He wondered if slower progress toward realizing national health insurance and primary care reform would impact South Africa's HIV/AIDS response.

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*Amy Madore, Hisham Yousif, Julie Rosenberg, Chris Desmond, and Rebecca Weintraub prepared this teaching case, with assistance from Patrick Brooks, for the purpose of classroom discussion rather than to illustrate either effective or ineffective health care delivery practice.*

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## Health in South Africa

South Africa's public health system consisted of clinics, community health centers, and hospitals. Clinics provided routine primary health care and some urgent care. Community health centers offered primary care, accident and emergency services, and 24-hour maternity care. In 2004, almost 25% of public clinics did not have running water, and 10% of public clinics lacked electricity.<sup>1</sup> Public facilities were understaffed and overcrowded.<sup>2</sup> Nurses and other health professionals staffed clinics and community health centers; doctors visited occasionally to provide more advanced care.<sup>1</sup>

Although patients could obtain free medicines from public pharmacies, some preferred to use private community pharmacies because they had shorter waiting times and were easier to access.<sup>3</sup> In 2010, two-thirds of pharmacies were private community pharmacies; the rest were a mix of public community, public and private hospital, manufacturing, and wholesale pharmacies.<sup>3</sup>

In 2009, the South African Statistical Service reported that life expectancy at birth was 57; the World Bank estimated 53.<sup>4,5</sup> According to the South African government, the leading causes of mortality in 2009 were tuberculosis (12.0%), influenza and pneumonia (7.5%), intestinal infectious diseases (5.4%), heart disease (4.6%), and cerebrovascular diseases (4.3%); human immunodeficiency virus (HIV) and acquired immune deficiency syndrome (AIDS) were the seventh leading cause of death (3.1%).<sup>6</sup> However, an estimated 44% of South African death certificates contained errors in 2007,<sup>7</sup> and physicians underreported HIV/AIDS deaths because of the stigma associated with HIV/AIDS.<sup>8-11</sup> Researchers believed HIV/AIDS was actually the leading cause of death in the country, especially among young South Africans.<sup>12</sup>

### *HIV/AIDS in South Africa*

South Africa diagnosed its first HIV cases in two white homosexual males in 1982.<sup>13</sup> In 1987, the apartheid government officially recognized HIV as a communicable disease, and by 1992, South Africa had a generalized HIV epidemic. Adult HIV prevalence grew to 14.9% in 2000 (see **Exhibit 1** for HIV prevalence data over time).<sup>14,15</sup> President Thabo Mbeki and senior ANC party leaders promoted a stance of HIV/AIDS "denialism" during the 2000s. They disputed that HIV caused AIDS, arguing instead that socioeconomic factors and lifestyle choices were the cause. Mbeki surrounded himself with scientists who supported his position and prevalence continued to climb.<sup>16</sup> Mbeki's minister of health questioned the efficacy and safety of antiretrovirals (ARVs) and blocked efforts to expand treatment access. Instead, she recommended traditional African foods such as garlic, lemon, and beetroot to prolong the lives of people with HIV.<sup>17</sup> Antiretroviral therapy (ART) was available only in the private sector. Donors, private health insurance, workplace programs, or research projects funded the ART that was available. Less than 1% of white South Africans were infected with HIV, compared with 20% of black South Africans.<sup>18</sup>

Médecins Sans Frontières (MSF), an international medical humanitarian organization, encouraged the NDoH to make ART available in public facilities and offered to help, but the NDoH declined. MSF began to support provinces to launch their own independent treatment programs. In 2001, MSF worked with the provincial health department and University of Cape Town researchers to establish the country's first public-sector HIV treatment clinic in Western Cape province (see **Exhibit 2** for a map of South Africa's provinces). It was important to MSF to work in a government facility to demonstrate that ART could be administered safely and effectively within the public health infrastructure. The Treatment Action Campaign (TAC), a South African NGO, helped educate local community members about the program and the importance of testing and treatment.

Civil society organizations such as TAC and the AIDS Law Project legally challenged the government's HIV treatment policies (see **Exhibit 3** for an overview of key domestic HIV/AIDS advocacy organizations).<sup>19</sup>

They were successful, and in 2003 South Africa's Constitutional Court ordered the NDoH to implement a national PMTCT program.<sup>20</sup>

In 2004, despite resistance from some senior ANC leaders,<sup>19</sup> the NDoH obtained funds from the National Treasury to launch an ART program at select district facilities. The goal of the program was to achieve universal ART coverage in five years.<sup>21</sup> The NDoH adopted the 2003 World Health Organization (WHO) treatment guidelines\* and introduced 23 accreditation criteria that facilities had to meet to deliver ART (see **Exhibit 4** for key global and South African HIV/AIDS events). The criteria were stringent and included extensive staff training, patient adherence counseling, and staffing requirements (e.g., facilities had to have a dietician on-site). However, facilities interpreted the guidelines inconsistently: some required patients to complete protracted adherence training programs before beginning treatment; certain hospitals required inpatient ART initiation. Provinces set their own treatment targets.<sup>19</sup>

The government initially limited rollout of its ART program to large central hospitals. Nongovernmental organizations (NGOs) such as Right to Care used funding from the US President's Emergency Plan for AIDS Relief (PEPFAR) and other international aid programs to try to fill the gaps by providing testing and treatment in their own clinics or in public clinics.<sup>23</sup> NGO-funded clinicians typically earned more than public-sector clinicians. The NDoH did not require NGOs to report testing and treatment data to the national government.

While many countries were receiving unprecedented HIV treatment funding from the Global Fund, PEPFAR, and the Bill and Melinda Gates Foundation, an estimated 300,000 adults died and 35,000 children contracted HIV in South Africa from 2000 to 2005 due to slow and inconsistent program implementation (see **Exhibit 5** for estimated AIDS deaths over time).<sup>24</sup>

In 2006, more than 80 international scientists wrote a letter to Mbeki denouncing South Africa's HIV/AIDS policies as "disastrous and pseudo-scientific" and requesting that his minister of health resign.<sup>25</sup> ANC party leaders counseled Mbeki to refrain from speaking publicly about HIV/AIDS to avoid further international censure. Two months later, the minister of health became ill, and the deputy minister of health temporarily replaced her. With input from TAC and the Congress of South Africa Trade Unions (COSATU), the deputy minister and ANC leaders developed a strategic plan for ART expansion and restructured the South African National AIDS Council (SANAC), a multisectoral organization whose members represented government, tribal, business, labor, and diverse civil society groups.

In 2008, Mbeki resigned, and the interim president appointed Barbara Hogan as minister of health.<sup>13</sup>

### ***The Department of Health, 2008–2009***

Interim Minister Hogan took office in September 2008, bringing financial management and previous government experience to the role. She had been active in anti-apartheid efforts, and her husband was an ANC party member who was jailed with Nelson Mandela, Mbeki's father, and five other activists in 1964 for anti-apartheid advocacy work.<sup>26</sup>

Within her first month in office, Hogan acknowledged that HIV caused AIDS at a national HIV conference and invited input from academics and scientists on how to address South Africa's HIV epidemic. She attended SANAC meetings and met regularly with the leaders of TAC and SECTION27 (formerly the AIDS Law Project), with whom she had worked closely during the denialism era. HIV/AIDS activists liked Hogan; many of them had known her for years.

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\* According to 2003 WHO guidelines, patients with WHO Stage III or Stage IV HIV should initiate treatment if their CD4 count is lower than 350, and patients with WHO Stage I or II should begin treatment when their CD4 count falls below 200.<sup>22</sup>

In November, the Free State province ran out of funding and ordered a moratorium on initiating new patients on ART. When Hogan heard the news, she reached out to PEPFAR to request emergency funds for ARVs. She collaborated with SECTION27 and TAC to conduct a financial audit of all provincial health departments to help identify and prevent potential future stock-outs.

From September 2008 to May 2009, the NDoH provided ART to 300,000 new patients and began scaling up the national PMTCT program.<sup>14,27</sup> When Jacob Zuma became president in May 2009, he appointed Dr. Aaron Motsoaledi as minister of health. The opposition party, the Democratic Alliance, selected a shadow cabinet consisting of “shadow ministers” who examined the policies and actions of their counterparts in the executive branch.

In 2009, 18.9% of 15- to 49-year-olds were HIV-positive;<sup>15</sup> more than 70% of HIV/AIDS patients were co-infected with tuberculosis (TB).<sup>28,29</sup> Only 900,000 patients—40% of patients meeting WHO ART eligibility criteria (CD4 count less than 200)—were on treatment.<sup>30,31</sup> Heterosexual intercourse was the most common mode of transmission in 2008, followed by mother-to-child transmission (12%).<sup>20,31</sup> Research suggested that effective PMTCT programs reduced transmission to 2% or less, compared with 25–30% transmission in the absence of PMTCT interventions.<sup>32</sup> There were 420,000 children age 14 or younger living with HIV, up from 170,000 in 2003.<sup>33</sup> In 2009, South Africa had the largest HIV/AIDS epidemic in the world, with 5.7 million people infected.<sup>31</sup>

## Aaron Motsoaledi as Minister of Health

### *First Months in Office*

President Jacob Zuma and other ANC leaders instructed Motsoaledi to focus on tackling HIV/AIDS and establishing a national health insurance system. In order to address HIV, during his first week in office Motsoaledi solicited input from in-country experts on South Africa’s major health issues. Motsoaledi asked researchers, infectious disease specialists, SANAC members, and HIV/AIDS activists to brief him on the state of HIV/AIDS in the country. “I remember the day after Motsoaledi was appointed,” the leader of an HIV/AIDS activist organization recalled. “I got a phone call from him. He said, ‘I would like to meet with you,’ and I said, ‘When?’ He asked, ‘Do you cook?’ and I said, ‘Yes.’ He said, ‘Well, I’ll come over for supper.’”

Motsoaledi also gathered information from research and policy-making bodies such as the WHO, South Africa’s Human Sciences Research Council (HSRC), and UNAIDS. He was alarmed by what he learned: while South Africa accounted for only 0.7% of the world’s population, it contributed 17% of the HIV/AIDS pandemic.<sup>28</sup> Motsoaledi remembered feeling overwhelmed: “All of that information—we huddled together, and I looked at it. I said, ‘Oh my God, we’re in big trouble—this animal is a monster. It’s not a small rat, it’s a big monster, and it’s going to devour all of us.’”

Motsoaledi organized his team. A global consulting firm had recently reviewed the NDoH and told Motsoaledi it had “weak management,” he recalled. He appointed a new team of senior managers with a broad range of health experience (see **Exhibit 6** for organizational chart of the NDoH). He selected a former WHO program director with a pharmacy background as his director-general. “I’m the political head, your politician; the director-general is the administrative head,” he said. He maintained Yogan Pillay, PhD, as one of his four deputy director-generals and charged him with managing HIV/AIDS, TB, and maternal, child, and women’s health. He tasked the chief director of health financing and planning, Anban Pillay, PhD, with overseeing procurement matters (see **Exhibit 7** for an overview of Anban Pillay’s and Yogan Pillay’s professional backgrounds). Yogan Pillay recalled an early conversation with Motsoaledi: “The first

thing he said to me was, ‘You know, when you come to me with ideas, I want big ideas, all right? I don’t want small ideas, because I want to see a big difference.’”

Motsoaledi began meeting with the shadow minister of health monthly to discuss health system challenges and potential solutions. It was an uncommon relationship; no other cabinet members met regularly with members of the opposition party.

In September 2009, a team of South African researchers published a report on the health system in the medical journal *The Lancet*.<sup>34</sup> It suggested that South Africa was experiencing a “quadruple burden of disease”—localized epidemics of HIV/AIDS and TB, maternal and child mortality, noncommunicable diseases, and injury and violence. Motsoaledi aimed to address these areas within the framework of the ANC’s 10-point plan, beginning with HIV/AIDS.

## Addressing HIV/AIDS

Motsoaledi called the president late one evening to request a brief meeting. Zuma initially granted him a 15-minute appointment. Motsoaledi communicated the burden of HIV/AIDS and its devastating impact on life expectancy. Zuma extended their meeting to 45 minutes, and on the following day asked Motsoaledi to brief the entire cabinet. Motsoaledi presented his data and described the public-sector investment needed to address HIV. The other ministers were shocked by the severity of the situation and supported Motsoaledi’s commitment to address HIV. They agreed to divert ZAR 5.4 billion (USD 642.8 million) from their budgets to finance HIV treatment scale-up.<sup>35</sup>

## Planning

Motsoaledi worked with SANAC to create treatment and testing targets. They agreed that the NDoH’s goals would be to provide ART to 80% of the population with CD4 counts below 200 by 2011, and to test 12 million South Africans in 12 months through a nationwide HIV counseling and testing (HCT) campaign (see **Exhibit 8** for table of HIV program indicators).<sup>36</sup> Motsoaledi said, “I don’t think there was any scientific figure that made us arrive there. It was just an ambition—let’s test as many people as possible.” He recommended to Zuma that they initially target the most vulnerable populations of HIV-infected people for treatment: pregnant women, people co-infected with TB and HIV, and children under the age of one.<sup>37</sup>

Motsoaledi knew that the WHO was preparing to increase the HIV treatment threshold from CD4 200 to CD4 350. When that happened, an additional 2.6 million people in South Africa would be eligible to receive free, life-prolonging treatment.<sup>38</sup> Yogan Pillay met with health economists to determine the cost of scaling up testing and treatment for the three target groups under the proposed new guidelines: an additional ZAR 3 billion (USD 357 million) over three years. He presented their projections to Motsoaledi and the members of the executive council (MECs; provincial government representatives who oversaw implementation of national policy). The minister of finance agreed to fund the endeavor.<sup>35</sup>

Motsoaledi also submitted a five-year grant (USD 302 million) to the Global Fund for ART to supplement government treatment funding. Global Fund grants to South Africa previously only covered HIV/AIDS prevention.<sup>37</sup>

Initially, several civil society leaders were skeptical of the potential to execute a massive testing program, citing that fewer than one million people tested for HIV in 2009.<sup>30</sup> They also expressed concern about the government’s capacity to obtain informed consent and provide post-test counseling. “It is no good to have lots of people know their HIV status but not understand HIV,” SANAC Deputy Chair Mark Heywood explained. The director of the Southern African HIV Clinicians Society, a large association of HIV

health care workers, criticized the idea on a radio program. Another HIV/AIDS activist recalled, “By then, the minister was in such a rush that he was not listening to civil society.”

Motsoaledi recognized the urgent need to stem the tide of the HIV epidemic in South Africa. He followed observational studies and modeling that projected how voluntary male medical circumcision (VMMC) could curb sexual transmission of HIV from women to men in South Africa by more than 60%.<sup>39</sup> Modeling predicted that if 80% of HIV-negative men in South Africa received a medical circumcision, 140,000 HIV infections could be averted by 2015, and over 1 million by 2025.<sup>40</sup> In 2009, 40.6% of South African men were circumcised.<sup>41</sup>

As the NDoH prepared to launch new HIV/AIDS programs, they received reports of ARV drug stock-outs<sup>†</sup> from nearly every province. Supply problems in the Free State province’s public clinics led them to refuse treatment to patients with CD4 counts below 50 to ration drug supplies. Motsoaledi publicly acknowledged the problem: “There is definitely acceptance on our part that there are problems regarding distribution of ARVs ... in the whole country, not only in the Free State.”<sup>42</sup> He met with public health facility managers to remind them that ARVs should never be rationed and to emphasize the importance of pharmaceutical inventory management. The Southern African HIV Clinicians Society, the TAC, and MSF created an online form to report shortages and stock-outs to the NDoH.<sup>43</sup> Motsoaledi knew he needed to address ARV procurement and supply chain issues to realize his ART expansion goals.

## ***Setting the Stage***

On World AIDS Day in December 2009, President Zuma announced ART expansion from CD4 200 to CD4 350 for people co-infected with TB/HIV and pregnant women. Children under one with HIV would initiate treatment regardless of their CD4 count. He also announced that a national HIV counseling and testing campaign would begin in April 2010.<sup>44</sup> The media and public reacted positively to the announcements. Regional media headlines heralded “improvements in HIV policy, at last.”<sup>45</sup> Internationally, UNICEF “hailed” South Africa’s new HIV strategy, and US news outlets called the approach a “break with the past”<sup>46</sup> and the “dawn of a new era.”<sup>47</sup>

Motsoaledi’s team set up training programs for provincial health departments’ chief financial officers and tasked provincial health ministers with appointing a chief director of HIV in each province.<sup>48</sup> The HIV chief directors were responsible for managing on-the-ground service delivery and reporting facility-level treatment data directly to the NDoH HIV program.

In 2010, Motsoaledi negotiated with the National Treasury to administer HIV/AIDS program funding to provincial health departments via special disbursements called “conditional grants.”<sup>48</sup> The grants supplemented provinces’ equitable share allocations and had to be spent according to NDoH objectives.<sup>49</sup>

## ***Program and Policy Implementation***

### **HIV Counseling and Testing**

SANAC crafted a communications plan for the counseling and testing campaign. Motsoaledi recalled, “All I had to do was go in and outline the plan for them. I went to SANAC and told them what we wanted to do, and they liked it and adopted it.” They arranged for Zuma and his deputy to be tested publicly before the national launch,<sup>50</sup> and Motsoaledi convened a press conference with radio, TV, and print media outlets.<sup>51</sup>

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<sup>†</sup> Stock-outs can lead to treatment interruption, which could cause treatment failure and acquired resistance, requiring patients to switch to more expensive and less tolerable second-line treatments.

Motsoaledi also organized a five-day retreat for health MECs to explain how the campaign would work and the role he hoped provinces would play. Several MECs did not have a health background, so Motsoaledi invited HIV/AIDS experts to provide information about the diseases. One of the most frequently asked questions was about the side effects of ARVs.

Upon launching the counseling and testing campaign, the NDoH asked NGOs to report where and how many people they were testing for HIV through their local district health information system. “Before that, they were in hiding,” Motsoaledi said. “They were doing a lot of hard work, but nobody knew about it, and whatever results they produced, they couldn’t take them to anybody—nobody was paying attention. But with this AIDS campaign, all of a sudden, they came from all corners, and they became central.”

Motsoaledi personally wrote to retired health care workers and counselors to request their support. Of the 9,000 he contacted, 4,000 agreed to help with counseling and testing. He also asked medical schools to allow final-year students to help during the first five days of the campaign and convinced 500 general practitioners in Gauteng province to use their practices as free testing sites. NGOs pledged 9,000 counselors (see **Exhibit 9** for NGO support partners).

Motsoaledi wanted to engage as many different government sectors as possible in the campaign. He asked South Africa’s minister of defense how his department could help, and the minister agreed to lend military medical staff to the effort.<sup>50</sup>

When Zuma and Motsoaledi announced the counseling and testing campaign kick-off in April 2010, UNAIDS Executive Director Michel Sidibé accompanied them on stage. During his public remarks, Sidibé noted that South Africa paid substantially more for ARVs than other countries with similarly sized economies, despite having the world’s largest ART program.<sup>52</sup> Motsoaledi was surprised and turned to his staff for an explanation. “The media was more interested in the president’s campaign announcement because it was a break with the past in South Africa,” he said, “but what Sidibé said touched me. I listened attentively and thought, what is this? I wanted to get to the bottom of it.”

The NDoH and SANAC initiated promotion efforts nationwide to encourage testing. Outreach teams used TV, radio, and newspapers; door-to-door campaigns; information booths in malls, buses, schools, and sporting events; and SMS broadcasting.<sup>51</sup> Youth leaders mobilized participation in academic institutions, prisons, nightclubs, and schools. Religious leaders promoted testing to congregants and helped facilitate testing at places of worship. Traditional tribal leaders promoted testing and counseled communities to decrease stigma.<sup>51</sup> Business leaders incorporated counseling and testing into workplace programs and encouraged employees to get tested. The professional sports and entertainment industries offered several role models who tested publicly. People living with HIV supported and counseled those who tested HIV-positive.<sup>51</sup> SANAC members provided Motsoaledi feedback on his ideas, including dissuading him from organizing HIV testing at voting stations and in schools.

District AIDS Councils coordinated activities with NGOs at the local level. The TAC promoted counseling and testing within its network, and CARE South Africa provided support for peer education. South African NGOs loveLife and the Soul City Institute worked on HIV prevention through youth and adolescent engagement,<sup>53</sup> and the Congress of South African Traditional Healers advised how to engage traditional communities.

Motsoaledi worked closely with the minister of finance and the chief director for health and social development to finance the counseling and testing campaign—an unfunded mandate. Within the first 12 months of the campaign, 10.2 million South Africans tested for HIV.<sup>54</sup> Leaders of HIV/AIDS civil society organizations were pleasantly surprised by the “big benefits” of the campaign. According to Anban Pillay, “There were people who said that Motsoaledi was a minister of HIV, not a minister of health, because he

kept emphasizing the HIV issue, and so he brought HIV center stage. He spoke openly and was very aggressive about what he wanted to do about it.”

### **Voluntary Male Medical Circumcision**

Motsoaledi partnered with SANAC to launch a national VMMC campaign in April 2010 offering 15- to 49-year-old males voluntary circumcision at public health clinics with a goal of 80% coverage (4.3 million) by 2016.<sup>55</sup> Motsoaledi wanted SANAC to be perceived as the lead implementer of the campaign.

Traditional healers played a large role in VMMC promotion by destigmatizing medical circumcision, especially among Zulu communities, in which the practice had been banned for 200 years.<sup>56</sup> The campaign started in the province of KwaZulu-Natal, which had the highest HIV prevalence,<sup>57</sup> and expanded to all provinces in 2011.<sup>58</sup> Only licensed medical providers could perform medical circumcisions. PEPFAR supported the program by funding surgical kits.

The number of men receiving medical circumcision increased from 9,168 in 2009 to 514,991 in 2013, with more than 1.3 million South Africans undergoing any form of circumcision during that period.<sup>59</sup> Despite initial uptake, the program was not meeting its target of 600,000 annual circumcisions. The NDoH reported 331,668 male medical circumcisions in the 2013–2014 fiscal year.<sup>60</sup> “We have circumcised the early adopters,” Yogan Pillay said, “and now we need to focus on populations that are harder to reach.” Medical doctors were still the only health professionals authorized to perform VMMC.

Motsoaledi focused on the NDoH’s longer-term goal of 4 million medical circumcisions by 2016. He began meeting with the leader of Congress of Traditional Leaders of South Africa to determine how to make male circumcisions performed by traditional healers safer to reduce the incidence of death and illness.

### **Reducing ARV Costs**

Motsoaledi tasked Anban Pillay—who had applied for and been promoted to the position of deputy director-general for health regulation and compliance—with reducing ARV costs. Pillay contacted the US-based Clinton Health Access Initiative (CHAI) country director to ask for help. He knew the NDoH had turned down the CHAI country director’s previous offers to provide ARV procurement assistance.

CHAI recommended centralizing ARV procurement to increase South Africa’s bargaining power. Anban Pillay suggested shifting ARV purchasing from the National Treasury to the NDoH. Despite reluctance and skepticism from the National Treasury, Motsoaledi convinced them to transition the function to his team. Provinces would still be responsible for placing drug orders, but the NDoH would manage the bidding and procurement processes. Head of PEPFAR Eric Goosby traveled to South Africa to understand the situation and to see if there were ways he could help strengthen South Africa’s ARV supply chain and improve the bidding process.

Pillay asked CHAI to help the NDoH determine appropriate ARV prices for the national ARV contract. They used the WHO Global Price Reporting Mechanism and CHAI data to assess prices globally and establish target prices that bidders would need to meet or beat. Bidders were required to submit detailed breakdowns of drug manufacturing costs. The NDoH also aimed to account for non-price factors in the bidding process, such as black ownership and the extent to which drugs were manufactured locally. Ten percent of decision points were based on these non-price factors. Once awarded a contract, suppliers would have to provide evidence of any unavoidable increases in cost if they wanted to negotiate higher prices during the contract period.

CHAI also arranged meetings between Pillay and pharmaceutical companies in India, the world’s largest manufacturer of generic drugs. Pillay explained:



It became clear that our local manufacturers had created the impression that South Africa was reserved for local players ... The major pharmaceutical companies didn't bother tendering because they knew they wouldn't get the tender. Why waste your time registering a drug, employing people here, and setting up shop when you know you'll lose the tender because this thing is all rigged? That's what they were thinking.

Pillay assured company leaders that the procurement process was becoming more transparent and fair.

Pharmaceutical companies and the Congress of South African Trade Unions (COSATU) argued that ARV price reductions would collapse the domestic pharmaceutical industry, resulting in a significant loss of jobs. Motsoaledi pushed back and defended the ARV contract price. He explained:

I asked COSATU, "Are you aware of the number of people on the waiting list for ARVs who are not going to lose jobs, but their lives? Can you bring those people to this meeting, too? Because you are talking about job losses, and I am talking about the loss of millions of lives. So, let those patients who are going to lose their lives come here and be part of this debate as well." When I said this, their resistance fell by the wayside.

Pillay negotiated a 53% overall reduction in ARV prices with projected savings of ZAR 4.7 billion (USD 643.8 million) over the 2010–2011 contract period (see **Exhibit 10** for graph depicting ARV contract price reductions).<sup>61</sup> The NDoH awarded 10 pharmaceutical companies a share of the ARV manufacturing contract—local suppliers won 83% of the contract, and suppliers in India and the US won 17%.<sup>61</sup>

In addition to minimizing drug costs, Motsoaledi's team implemented an inventory tracking mechanism to help them provide accurate ARV forecasts to suppliers. They also tracked spending and monitored the budget for NDoH programs using five-year strategic plans.

Still, NGOs and the Democratic Alliance worried that not enough was being done to address ARV stock-outs amid treatment scale-up. Investigations into corruption and fraud at large ARV supply depots were taking place in multiple provinces.<sup>19</sup> The Southern African HIV Clinicians Society, MSF, SECTION27, the TAC, and other NGOs teamed up to form the Stop Stock Outs Project to monitor and raise awareness about stock-outs of ARVs and other medications. Their first report (based on the results of a telephone survey conducted in September and October 2013) found that 21% of clinics experienced a shortage or stock-out of ARV and/or TB medicines in the preceding three months. Incidence of stock-outs varied considerably across provinces.<sup>62</sup> The NDoH worked with NGOs to identify and address shortages.

## Expanding ART

Motsoaledi met with NGOs to discuss how to scale up ART. PEPFAR was funding more than 120 implementation partners countrywide.<sup>63</sup> Yogan Pillay explained, "If we didn't have the PEPFAR funding, and the technical support as a consequence, I could guarantee you we wouldn't have done half the things on HIV that we've done."

In February of 2010, 490 public facilities were accredited to provide ART.<sup>64</sup> Motsoaledi tasked Yogan Pillay with integrating TB and HIV services into primary health care facilities within one year. To expand the number of ART-accredited clinics, they decided that facilities could become eligible to administer ART as long as they trained their nurses and had the capacity to provide HIV/AIDS labs and drugs. Motsoaledi launched the Nurse Initiated Management of Antiretroviral Therapy program to address delays in treatment associated with the shortage of doctors in the public health sector. The program trained nurses and other health care providers to administer ART.<sup>64</sup> There were 250 ART-certified nurses in South Africa in February 2010.<sup>23</sup> Motsoaledi aimed to train at least one nurse in 3,500 primary care facilities and asked PEPFAR to help develop the training curriculum.

Motsoaledi and Yogan Pillay worked with the National Treasury to determine how programs were performing and which programs could be expanded. Motsoaledi used the savings from the newly

negotiated ARV prices and a five-year USD 302 million grant from the Global Fund—its first treatment grant to the South African government—to expand CD4 guidelines for treatment from the limited target populations to all eligible HIV-infected people starting in August 2011, covering 800,000 new patients on treatment.<sup>65,66</sup> A total of 1.7 million patients were on treatment by December 2011,<sup>67</sup> and mother-to-child transmission was 2.7%.<sup>68</sup>

Citing the South African government's growing financial investment in the national HIV response, in August 2012, PEPFAR announced it would reduce South Africa's annual budget by nearly 50% by the 2017–2018 fiscal year.<sup>69</sup> Motsoaledi was confident that he could make up the difference over time with government funds given the National Treasury's support thus far.<sup>23</sup> When NGOs heard the news, they voiced concern about their sustainability and the health of their patients. Motsoaledi reassured them that the US government had committed to working with South Africa to ensure patients' conditions did not worsen as a result of the budget cuts.

The NDoH decided to transition patients receiving treatment from NGOs to public-sector facilities to reduce the costs of treatment. Yogan Pillay coordinated the changes between the NDoH, NGOs, MECs, and provincial HIV departments as NGOs shifted from administering ART to technical assistance and patients transferred to public facilities. As NGOs downsized their clinical staff, Pillay helped public facilities design salary and benefit packages that would attract clinicians. Right to Care and other NGOs formed small teams of clinicians to advise public clinics in a variety of technical areas, including quality improvement, data management and reporting, and fidelity to ART protocols.

By May 2013, the number of ART-accredited health centers had increased to 3,540, and more than 23,000 nurses were ART-certified.<sup>23</sup> WHO issued new treatment guidelines in June, raising the CD4 count cut-off from 350 to 500. Motsoaledi was eager to keep South Africa in line with WHO recommendations. His staff advised him to wait until at least 80% of people with CD4 counts below 350 were on treatment to increase the threshold to 500.

## ***Monitoring and Evaluation***

The NDoH used an electronic system called TIER.net to collect aggregate ART enrollment and outcome data. The system included information on patients since 2004. In addition, the NDoH used two laboratory-based systems—one for surveillance and one for monitoring individual patient testing results.

Motsoaledi called his staff frequently to receive status reports on their work. Yogan Pillay sent Motsoaledi a text at the end of every week to provide updates. "Motsoaledi remembers more details about my programs, including the numbers, than I do," Pillay said. "He always has targets in his mind, and his targets are always much more ambitious."

In April 2014, a government research agency published the results of the 2012 national HIV survey. HIV prevalence was 15% for blacks, 3.1% for colored people, 0.8% for Indians, and 0.3% for whites. The number of HIV-infected people had increased from 5.2 million in 2008 to 6.4 million. The report attributed the increase to new infections and to ART expansion making HIV a chronic disease in South Africa.<sup>70</sup>

Governmental and nongovernmental stakeholders were concerned about treatment adherence and retention. In July 2014, Motsoaledi reported to Parliament that an estimated 37% of patients had stopped treatment within the previous three years.<sup>71,72</sup> South Africa lacked a national system for tracking individual patients. As a result, it was difficult to ascertain the extent and drivers of patient loss to follow-up. Yogan Pillay commented, "We believe the biggest drop-off occurs during the first three months of treatment." Some South African HIV/AIDS experts hypothesized that patients were leaving the clinic where they initiated treatment and either discontinuing treatment or re-initiating at a different clinic.

Yogan Pillay met with NGOs to learn more about their adherence programs and find out how they measured impact. The NDoH planned to draw from his findings and the lessons of successful programs in other countries to develop a national adherence strategy. Approximately 2,000 South African facilities were using TIER.net to track and report data on 1.2 million HIV/AIDS patients.

The National Health Laboratory Service (NHLS) struggled to keep up with increased demand for viral load monitoring and CD4 count testing.<sup>19</sup> Delays in processing and communicating routine HIV tests were common. The NHLS had a budget deficit of ZAR 5 billion (USD 461 million), which it attributed to nonpayment and financial mismanagement by provinces. Skilled staff were leaving the organization.<sup>73</sup> In September 2014, Motsoaledi proposed that the National Treasury fund the NHLS directly to circumvent weaknesses in the provincial billing system.<sup>73,74</sup>

## Moving Forward

By 2015—less than one year into Motsoaledi's second term as minister of health—more than 2.7 million of the 6.4 million HIV-infected South Africans were on ART. The NDoH had transitioned more than 30,000 patients on treatment from NGOs to the public sector since 2012. Life expectancy at birth had risen from 51 in 2005 to 61 in 2014, and AIDS-related deaths had fallen from 51% to 31% of overall mortality, according to the 2012 national HIV survey (see **Exhibit 11** for life expectancy estimates from different data sources).<sup>75</sup>

The government had spent ZAR 41 billion (USD 4.6 billion) on its HIV/AIDS programs since 2009, with its share of South Africa's total HIV/AIDS budget increasing annually. The government committed ZAR 43 billion (USD 3.6 billion) for 2015–2020, but its currency was plummeting.<sup>76</sup> PEPFAR contributed 15–20% of the HIV/AIDS budget, while other donors, including the Global Fund,<sup>†</sup> provided 5–10%.<sup>78</sup>

In January 2015, Motsoaledi announced that South Africa was implementing WHO's 2013 recommendations to increase the CD4 count threshold from 350 to 500 for all HIV-infected people and to offer HIV-positive pregnant and breastfeeding women ART regardless of their CD4 count. He also adopted the 90-90-90 treatment targets that UNAIDS had announced in 2014, which included WHO's CD4 guidelines: by 2020, 90% of people living with HIV should know their status, 90% of people diagnosed with HIV should be on ART, and 90% of people on ART should demonstrate viral suppression. Modeling studies predicted that achieving these targets would end the AIDS epidemic by 2030.<sup>79</sup>

Several NGOs and SANAC were surprised by Motsoaledi's CD4 announcement, and many of them were concerned about the timing. One NGO leader explained:

I think that after the shame and the problem of constantly being behind the curve in terms of what the World Health Organization has decreed, it's nice to know that we are in step now and things are going a lot better. Having said that, the assumption here is that the World Health Organization knows what's best for the whole world. I'm not always sure that is necessarily the case. I think one could argue that with the 2013 guidelines, the National Department of Health has shifted the balance too far toward the aspirational.

Motsoaledi believed one of the most important challenges ahead was to deal with the increasing congestion in public facilities as the number of patients on treatment rose. He asked his team to explore options for addressing the increasing length of patient wait times. Mark Heywood, executive director of SECTION27 and former SANAC chair, explained, "There comes a point where the strength of your HIV response depends entirely on the strength of your health system. And if your health system is buckling, you can't maintain what you did with HIV. I think that is very much the space that we are entering."

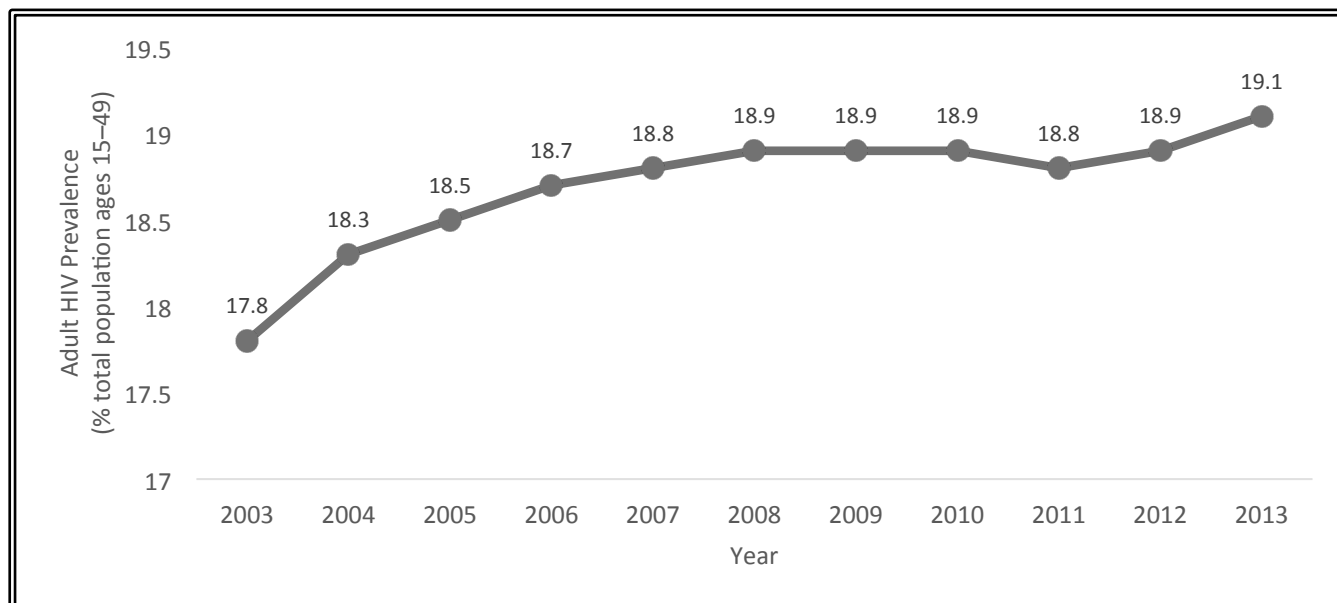
<sup>†</sup> The Global Fund disbursed a majority of funds directly to the National Department of Health, with a small amount of funding directly supporting HIV NGOs and provincial health departments.<sup>77</sup>

While Motsoaledi believed that domestic NGOs had been instrumental in turning around the country's HIV/AIDS response, some civil society leaders felt that their relationship with him had become strained; it was more difficult to give him constructive feedback, and he was not consulting in-country experts enough when making important policy decisions and setting programmatic targets. "The South African AIDS response is now something that has a glow around it all over the world, and you don't want to puncture the glow," one NGO leader commented.

Motsoaledi aimed to have 4.6 million patients on treatment by 2016. With the international community moving to a test-and-treat model, he wondered if he should invest in purchasing and installing CD4 count machines throughout the country to make point-of-care testing available. Yogan Pillay was also piloting a mobile technology in KwaZulu-Natal to manage health facility inventory in real-time and share inventory data with the NDoH. He hoped to expand the pilot nationwide to reduce the frequency of shortages.

As the public health system struggled to meet increased demand for HIV/AIDS-related services, Motsoaledi wondered how to continue advancing the HIV program that had required tremendous early investment to start in the face of larger health system challenges. Could the NDoH translate its experience in building the HIV/AIDS program to improve the response to South Africa's quadruple burden of disease? Could Motsoaledi leverage the success of the HIV program to strengthen the overall health system?

**Exhibit 1** *Adult HIV Prevalence as Percentage of Total Population, South Africa  
2003–2013*



Source: World Bank Health and Nutrition Population Statistics Database.

**Exhibit 2** *Map of South Africa*

Source: Wikimedia Commons.

**Exhibit 3** *Examples of Key HIV/AIDS Organizations in South Africa***Treatment Action Campaign (TAC)**

In 2015, the Treatment Action Campaign (TAC) was a national, nonprofit organization with 8,000 members and 182 branches in South Africa. Its donor-financed 2015–2016 operating budget was ZAR 35 million (USD 2.9 million).

HIV/AIDS activists Zackie Achmat and Mark Heywood founded TAC in 1998 to advocate for access to HIV treatment. TAC organized public demonstrations and protests calling on the National Department of Health to provide antiretrovirals (ARVs) to HIV-infected South Africans and to launch a national prevention of mother-to-child transmission (PMTCT) program. Despite its criticism of the government response to HIV/AIDS, TAC's early legal advocacy work included supporting the national government when 39 pharmaceutical companies sued it for violating patent laws protecting costly brand-name ARVs.

In 2001, TAC sued the National Department of Health for failing to provide ARVs to pregnant women. In 2002, South Africa's Constitutional Court ruled in favor of TAC and ordered the government to provide nevirapine to HIV-infected pregnant women to prevent HIV transmission to their babies.

During the mid- and late-2000s, TAC continued to press the national government to expand HIV treatment and PMTCT programming. In 2006, TAC won a court case on the rights of imprisoned South Africans to access ARVs. It joined several other civil society organizations in 2009 to advocate for ending the moratorium on ARV treatment in Free State province. TAC continued to be a vocal critic of the National Department of Health's response to HIV/AIDS, with a focus on regularly occurring ARV stock-outs at public treatment facilities.

Source: Fighting for Our Lives: The History of the Treatment Action Campaign. Treatment Action Campaign. 2010.

**South African National AIDS Council (SANAC)**

In 2000, the South Africa National AIDS Council (SANAC) replaced the Inter-Ministerial Committee on AIDS (IMC) as the body through which government and civil society organizations voluntarily collaborated to develop national HIV/AIDS and sexually transmitted infections (STIs) policy. SANAC was funded primarily through the National Department of Health. It also received support from international donors such as the Global Fund.

During the 2000s, SANAC restructured several times in an effort to diversify membership and increase the effectiveness and transparency of its work. In 2006, it established formal committees and began advising the National Department of Health on national policy formation. The Deputy President of South Africa was the SANAC chairperson, and the deputy chairperson was a member of civil society. Existing SANAC members elected new members. SANAC members represented 17 civil society "sectors," including the Children's Sector, the Men's Sector, the Sex Worker Sector, the NGO Sector, and the Youth Sector, for example.

In 2007, Mark Heywood—cofounder of the Treatment Action Campaign—became the deputy chairperson and led members in drafting the National Strategic Plan for HIV/AIDS and STIs 2007-2011. In 2013, Heywood stepped down "to make way for a change of management," and Mmapaseka Steve Letsike assumed the role. In the same year, SANAC received ZAR 3 billion from the Global Fund, the largest Global Fund grant in South African history.

Source: Interview data; Decoteau, CL (2013). Ancestors and Antiretrovirals: The Biopolitics of HIV/AIDS in Post-Apartheid South Africa; SANAC, "SANAC gets new deputy chair."

**Exhibit 3, continued****SECTION27 (formerly the AIDS Law Project)**

In 2015, SECTION27 (formerly known as the AIDS Law Project) was a national, nonprofit public interest law center seeking “to influence, develop, and use the law to protect, promote, and advance human rights.” The organization used research, advocacy, and legal action to advance five key priority areas: the right to access health care, the right to sufficient food, the right to basic education, good governance and accountability, and tracking South Africa’s National Strategic Plan on HIV, TB and STIs. SECTION27’s 2013 operating budget was ZAR 18.6 million (USD 1.9 million). The organization’s name refers to the section of the South African constitution guaranteeing the right to health care, food, water, and social security. Mark Heywood was executive director of SECTION27 in 2015.

SECTION27 began as the AIDS Law Project (ALP), founded by Justice Edwin Cameron in 1993 to use legal action to compel the South African government to expand HIV/AIDS treatment. The ALP and the Treatment Action Campaign (TAC) sued the government multiple times in the late 1990s and early 2000s for failing to provide ART and PMTCT to HIV- or AIDS-infected patients.

When SECTION27 was formed in 2010, it absorbed the ALP and committed to broaden the organization’s focus to include other health and human rights issues.

Source: *SECTION27 2012-2013 Review*, <http://section27.org.za/wp-content/uploads/2014/10/S27review2014web.pdf>; *SECTION27 Incorporating the AIDS Law Project*, <http://www.ipc-undp.org/pressroom/files/ipc137.pdf>.

**Right to Care**

In 2015, Right to Care was a national, nonprofit organization delivering prevention, care, and treatment services for HIV, TB, cervical cancer, and STIs in five provinces and providing technical assistance to the National Department of Health. Right to Care’s chief funding sources were PEPFAR and Global Fund grants, private-sector donations, and income from its workplace wellness program. It treated 203,000 patients through its clinic network in 2014 and used an electronic medical records system to track and monitor them.

Ian Sanne, MD, and his colleagues founded Right to Care with PEPFAR funding in 2004. In an August 2014 *New York Times* article, Dr. Sanne described how critical PEPFAR funding was in seeding and sustaining Right to Care and expressed concern that South Africa’s budget would be halved by 2018.

Source: “About Right to Care,” [http://www.righttocare.org/index.php?option=com\\_content&view=article&id=20&Itemid=45](http://www.righttocare.org/index.php?option=com_content&view=article&id=20&Itemid=45); “AIDS progress in South Africa is in peril,” *New York Times*: [http://www.nytimes.com/2014/08/26/health/aids-south-africa-success-pepfar.html?\\_r=0](http://www.nytimes.com/2014/08/26/health/aids-south-africa-success-pepfar.html?_r=0).



**Exhibit 3, continued****Southern African HIV Clinicians Society**

The Southern African HIV Clinicians Society (the Society) was a regional, nonprofit membership organization of more than 3,000 HIV health care workers in 2015. Its mission was “to promote evidence-based, quality HIV health care in Southern Africa.” Members included doctors, nurses, pharmacists, and other health care professionals working in HIV. The Society’s headquarters were in Johannesburg, South Africa.

In 2000, the Society founded the *Southern African Journal of HIV Medicine* to disseminate original HIV-related research, case reports, commentary, and reviews. The Society launched a magazine for nurses working in HIV, *HIV Nursing Matters*, in 2010. Member benefits included quarterly issues of Society publications, professional development opportunities, discounted registration rates for Society conferences, and inclusion in the Society’s public, web-based HIV Provider Directory.

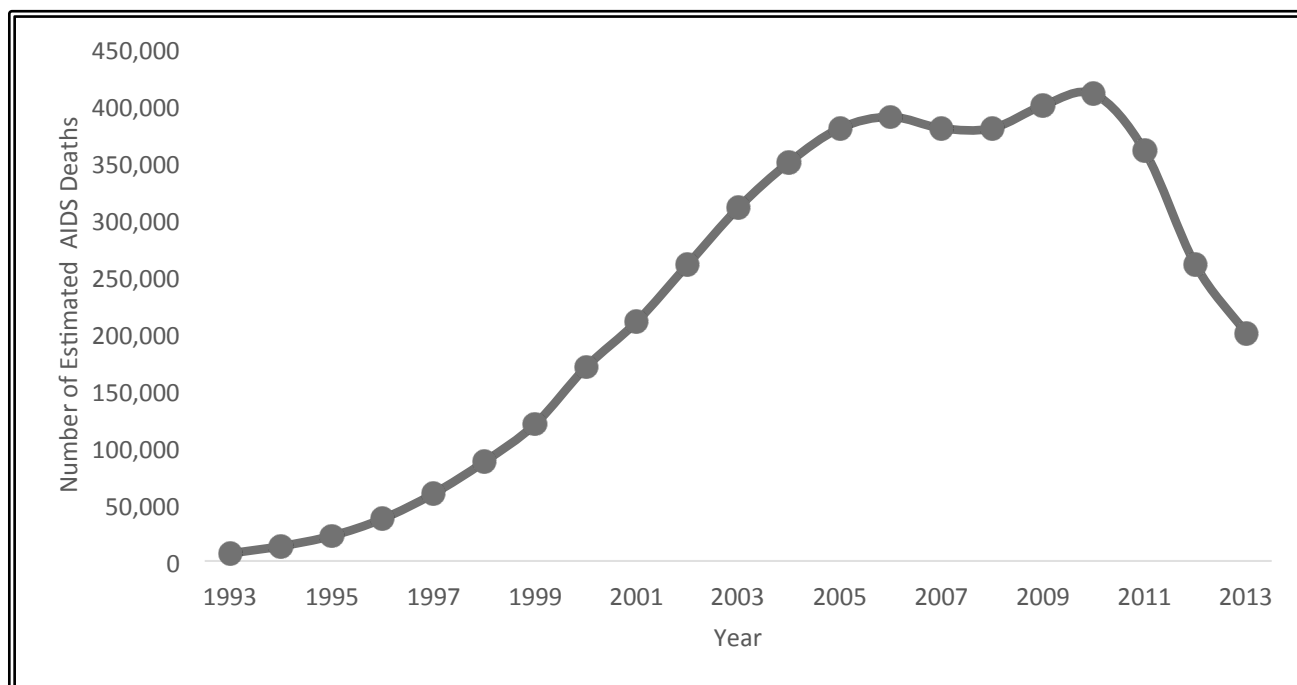
Source: “Overview,” <http://www.sahivsoc.org/about/overview>.

**Exhibit 4** *South Africa HIV/AIDS Timeline*

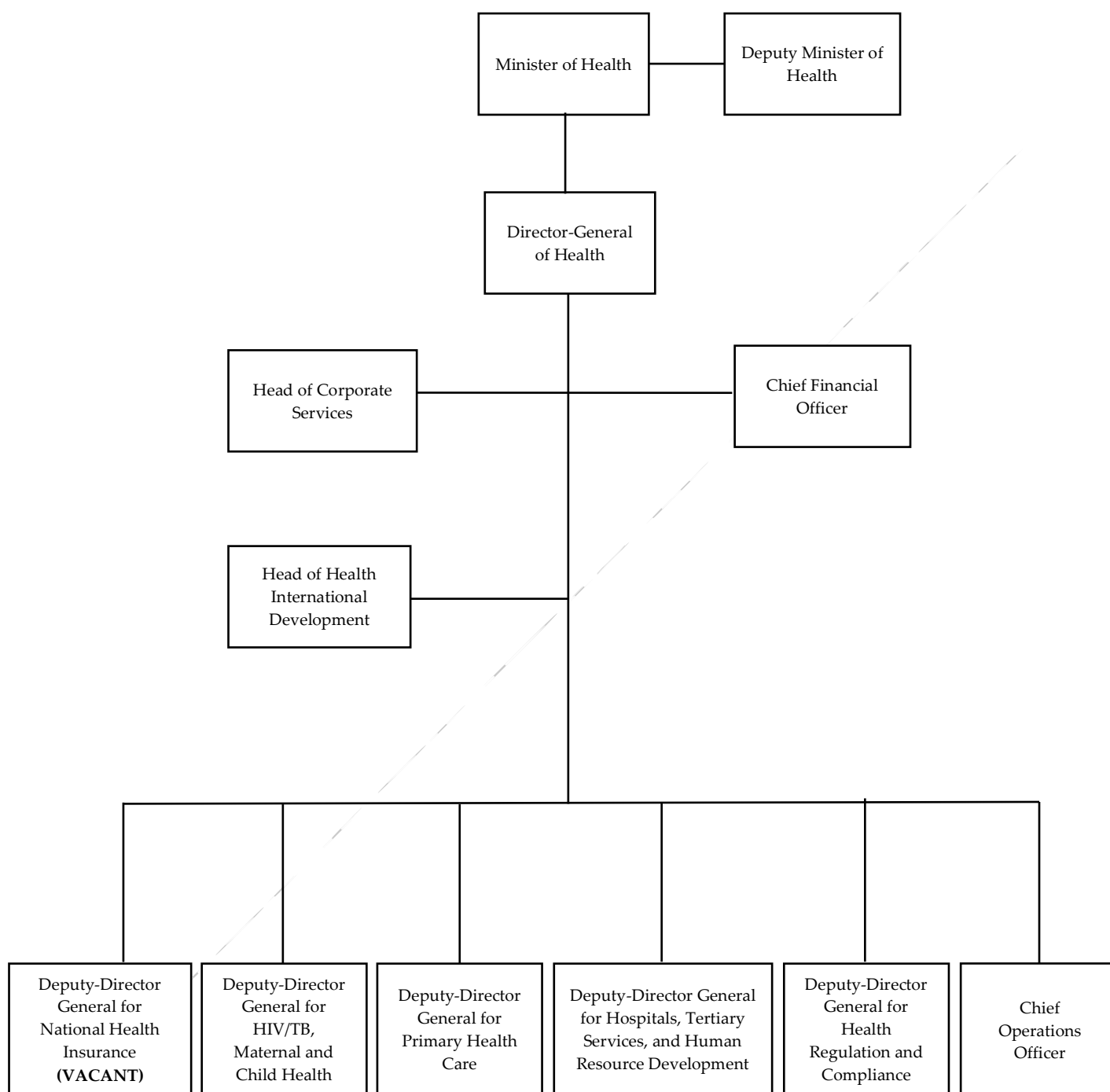
Year	Event
1983	First two cases of HIV in South Africa are identified.
1992	The South African government declares a generalized HIV epidemic.
1997	The Inter-Ministerial Committee on AIDS is established as the first high-level political body on AIDS.
1998	First time AIDS is discussed publically by a national political leader (Nelson Mandela).
1999	Thabo Mbeki becomes president and questions whether HIV causes AIDS; appoints a minister of health who supports this viewpoint, ushering in the era of AIDS denialism.
2002	The Treatment Action Campaign (TAC) sues the National Department of Health (NDoH) for failure to provide PMTCT services. South African Constitutional Court orders the government to provide ARVs to all HIV-positive pregnant women.
2003	National PMTCT treatment program launches.
	The Global Fund begins funding South Africa's HIV/AIDS response.
2004	PEPFAR begins funding South Africa's HIV/AIDS response.
	National ARV program launches in select provinces and districts.
2006	Minister of health takes medical leave, deputy minister of health steps in as interim National Department of Health lead and partners with civil society to write the 2007–2011 National Strategic Plan for HIV/AIDS.
Sep 2008	President Mbeki resigns; the African National Congress (ANC) political party appoints a seven-month transitional government. Barbara Hogan becomes minister of health, begins ramping up PMTCT treatment and increases NDoH engagement with HIV/AIDS civil society organizations.
Nov 2008	Free State province experiences ARV drug stock-outs due to budgetary problems, places a moratorium on treatment for HIV-positive patients.
<b>Aaron Motsoaledi Becomes Minister of Health</b>	
May 2009	ANC party leader Jacob Zuma elected president, appoints Dr. Aaron Motsoaledi as minister of health. Motsoaledi names HIV one of his major priorities.
Nov 2009	WHO releases new HIV treatment guidelines recommending earlier ART initiation, increasing the CD4 count threshold from 200 to 350. Free State and other South African provinces report ongoing drug stock-outs.
Dec 2009	President Zuma announces expansion of ART program and an increase in treatment thresholds from CD4 200 to CD4 350 for at-risk groups.
Apr 2010	President Zuma and Motsoaledi collaborate with SANAC to launch a national HIV counseling and testing (HCT) campaign and voluntary male medical circumcision (VMMC) program.
Dec 2010	With help of international partners, NDoH negotiates a 53% reduction in total cost of ARVs, enabling them to double the number of people on treatment. South Africa obtains the lowest prices in the world for ARVs.

<b>2011</b>	VMMC program expanded to cover all provinces.
<b>Apr 2011</b>	10.2 million people tested for HIV since national counseling and testing campaign launch in April 2010.
<b>Aug 2011</b>	ART initiation threshold of CD4 350 expanded to all HIV-positive individuals.
<b>Oct 2011</b>	18 million people tested for HIV since counseling and testing campaign launch in April 2010.
<b>Apr 2012</b>	WHO moves PMTCT treatment guidelines from Option A to Option B and Option B+ for HIV-positive pregnant women.
<b>Nov 2012</b>	South Africa begins offering triple fixed dose combination ARVs.
<b>Apr 2013</b>	South Africa moves from PMTCT treatment Option A to Option B.
<b>May 2013</b>	PEPFAR announces 50% reduction in funding to South Africa by 2017.
<b>Jun 2013</b>	WHO ART guidelines increase from CD4 350 to CD4 500 for HIV-positive individuals.
<b>Nov 2013</b>	Stop Stockouts Initiative reports that 20% of health centers reported ARV drug stock-outs that year.
<b>Apr 2014</b>	NDoH releases a joint report with UNICEF, WHO, and USAID reviewing its HIV, PMTCT, and TB programs.
<b>May 2014</b>	Motsoaledi retained for second term as minister of health.
<b>Jan 2015</b>	South Africa reaches 80% ARV coverage of HIV-positive individuals under CD4 350 threshold, with more than 3 million people on treatment.
<b>Jan 2015</b>	NDoH expands ART threshold to CD4 500 and PMTCT guidelines from B to B+ in line with WHO guidelines.
	NDoH aims to have 4.6 million people on treatment by the end of 2016.

Source: Case writers created this exhibit using publically available online resources.

**Exhibit 5** *Estimated AIDS Deaths, South Africa 1993–2013*

Source: World Bank Health and Nutrition Population Statistics Database.

**Exhibit 6** *Management Structure of the National Department of Health, 2015*

Source: South African National Department of Health.

**Exhibit 7** *Profiles of Senior Managers in the National Department of Health***Yogan Pillay, Deputy Director-General of HIV/AIDS, TB, and Maternal, Child, and Women's Health**

- PhD in public health from Johns Hopkins University in the United States (US)
- Worked for US-based international nonprofit organization Management Sciences for Health
- Joined the South African National Department of Health in the early 2000s; roles included Director of District Health Systems and Chief Director of Strategic Planning
- Deputy-Director General of HIV/AIDS, TB, and Maternal, Child and Women's Health by Minister of Health Aaron Motsoaledi since 2008; chief responsibilities included HIV/AIDS program implementation
- Member of Minister Motsoaledi's Ministerial Advisory Committee on national health insurance
- Member of the World Health Organization (WHO) strategic and technical committee for HIV and TB

**Anban Pillay, Deputy Director-General of Health Regulation and Compliance Management**

- Bachelor's of pharmacy from the University of KwaZulu-Natal and a master's of clinical pharmacology from the Nelson Mandela School of Medicine
- PhD in health economics from the University of Newcastle in Australia
- Joined the South African National Department of Health in 2004, became Chief Director of Health Financing and Planning
- Became responsible for procurement and pharmaceutical pricing in 2010
- Applied for and promoted to position of Deputy-Director of Health Regulation and Compliance in 2012; chief responsibilities included antiretroviral contract price negotiations with pharmaceutical companies and managing the development of national health insurance policy papers through the Ministerial Advisory Committee
- Member of the Council for Medical Schemes, a South African government agency that regulates health insurance companies

Source: Case writers created this exhibit using interviews and publically available resources.

**Exhibit 8** *HIV/AIDS Program Indicators, South Africa 2009–2014*

	2009–2010	2010–2011	2011–2012	2012–2013	2013–2014
<b>New patients started on ARV treatment</b>	498,775	418,677	617,147	612,118	662,312
<b>HIV tests performed</b>	N/A	9,700,000	8,772,423	8,968,177	6,688,950
<b>Medical male circumcisions performed</b>	N/A	100,000	347,973	422,262	331,668

Note: Years correspond to the South African fiscal year, which runs from April 1 through March 31.

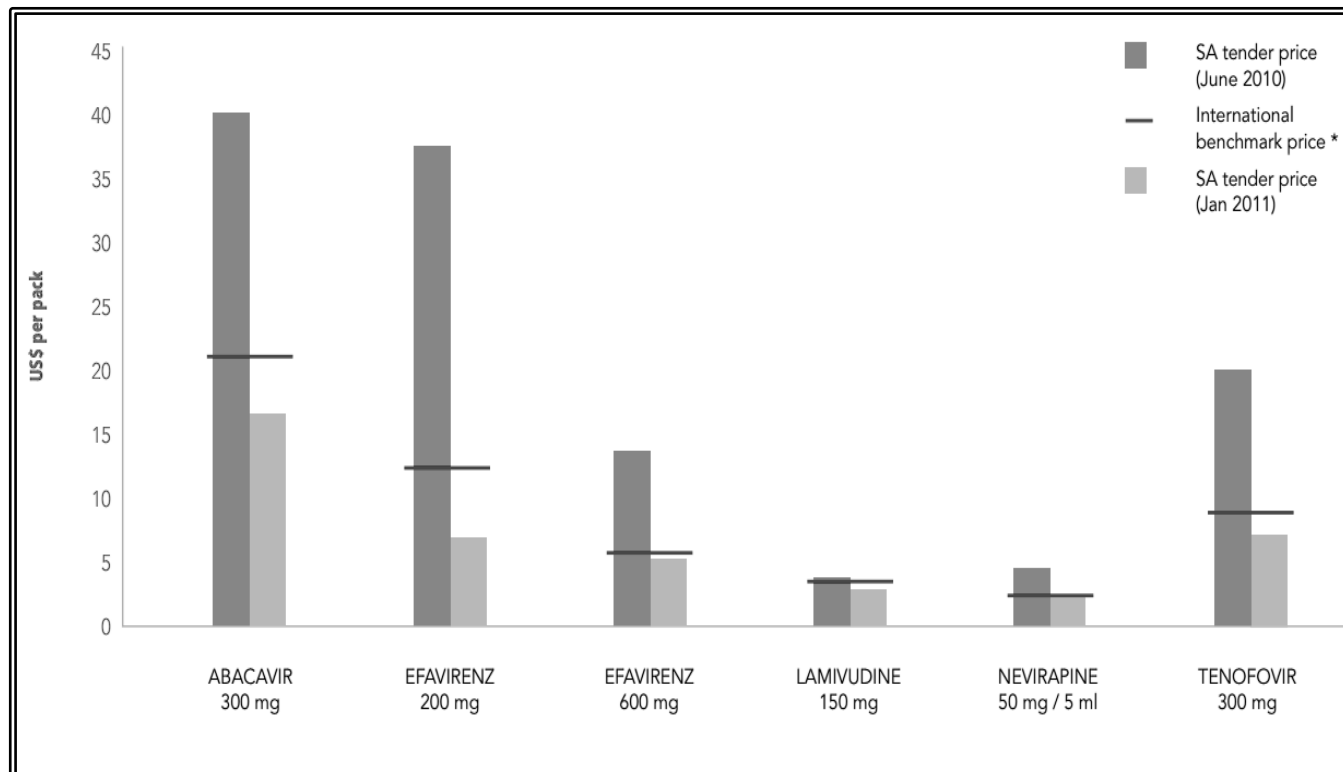
Source: South African National Department of Health and National Treasury.

**Exhibit 9** *NGO Partners Engaged in National HIV Counseling and Testing Campaign*

Province	Supporting NGOs
Eastern Cape	SFH, KCP, Soul City Institute, NAPWA, TAC, NMF, Broadreach
Free State	SFH, KCP, CDC, R2C
Gauteng	RHRU, TAC, CMT, R2C, ECHO, KCP
KwaZulu-Natal	PAC, KCP, URC, Broadreach, NAPWA
Limpopo	HAAST, FPD, New Start
Mpumalanga	Broadreach, TAC, KCP
Northern Cape	SABCOHA, URC, NAPWA, KCP
North West	URC, Soul City Institute, Broadreach, KCP
Western Cape	CMT, NACOSA, SA, TAC, NMF, New Start

Source: Adapted from SANAC Secretariat, National HIV Counseling and Testing Campaign Strategy.



**Exhibit 10** *Contract Prices for Key Antiretroviral Drugs, South Africa 2010–2011*

Source: UNAIDS. Efficient and Sustainable HIV Responses: Case Studies on Country Progress. UNAIDS: Geneva; 2013. [http://www.unaids.org/sites/default/files/media\\_asset/JC2450\\_case-studies-country-progress\\_en\\_o.pdf](http://www.unaids.org/sites/default/files/media_asset/JC2450_case-studies-country-progress_en_o.pdf).

**Exhibit 11** *South Africa Life Expectancy at Birth (Years), Estimates by Data Source*

Year	World Bank	World Health Organization	Statistics South Africa
1990	62.1	62	58.2
2000	55.8	59	58.7
2009	53.5	N/A	57.3
2012	56.1	59	59.3
2013	56.7	60	60.2
2014	N/A	N/A	61.2

Source: Adapted from World Bank Development Indicator Database, WHO Global Health Observatory, and South Africa Statistics Population Estimates.

**Appendix** *Commonly Used Abbreviations*

<b>ANC</b>	African National Congress
<b>ARV</b>	Antiretroviral
<b>ART</b>	Antiretroviral therapy
<b>CHAI</b>	Clinton Health Access Initiative
<b>COSATU</b>	Congress of South African Trade Unions
<b>MEC</b>	Member of the Executive Council
<b>MSF</b>	Médecins Sans Frontières
<b>NGO</b>	Nongovernmental organization
<b>NHLS</b>	National Health Laboratory Service
<b>PEPFAR</b>	President's Emergency Plan for AIDS Relief
<b>SANAC</b>	South African National AIDS Council
<b>TAC</b>	Treatment Action Campaign
<b>UNAIDS</b>	Joint United Nations Program on HIV/AIDS
<b>USD</b>	United States Dollars
<b>WHO</b>	World Health Organization
<b>VMMC</b>	Voluntary male medical circumcision
<b>ZAR</b>	South African Rand

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