Provision of Antiretroviral Therapy in South Africa: Unique Challenges and Remaining Obstacles

Bisola Ojikutu,1,2 Chris Jack,3 and Gita Ramjee4

1Division of AIDS, Harvard Medical School, and 2Massachusetts General Hospital, Boston, Massachusetts; 3Keep a Child Alive and 4Medical Research Council of South Africa, Durban, South Africa

From 2003 to 2006, the number of human immunodeficiency virus–infected people in sub-Saharan Africa able to access antiretroviral therapy (ART) has increased from 100,000 to >1 million. The World Health Organization estimates that >3.5 million patients are still in need. The challenges to more expeditious provision of ART in Africa are many. This article is an analysis of the barriers to ART scale-up that are unique to South Africa. With 5.3 million people infected and 1 million needing ART, this country carries nearly one-quarter of the treatment burden of the continent. Although South Africa is undeniably a middle-income nation, inequities born of apartheid, lack of political commitment, poverty, and cultural barriers have significantly slowed efforts to provide universal access to ART to South African citizens.

Of the 24.5 million people living with HIV infection in sub-Saharan Africa in 2005, 4.7 million meet criteria warranting initiation of life-saving antiretroviral therapy (ART) [1, 2]. In response to the glaring inequity in access to care in the developing world, the World Health Organization launched its “3 by 5” initiative, which challenged the world to increase access to ART to 3 million HIV-infected people by the end of 2005. This initiative helped to shed light on the overwhelming need for ART in resource-limited settings throughout the world. The number of HIV-infected people in sub-Saharan Africa needing ART who are able to access it increased from 100,000 in 2003 to >1 million at the conclusion of 2006 [3, 4]. Although this 10-fold increase in access to life-saving treatment should be applauded, significant unmet need remains.

Topping the list of global challenges to increasing access to treatment are severe human-resource deficits, a lack of a coordinated multisectoral response, and the paucity of comprehensive initiatives that include HIV infection prevention, universal testing, treatment, and support services. Although these are concerns faced by all countries attempting to combat this epidemic, each nation faces its own unique struggle if universal access to ART is to be achieved. In this article, we examine some of the most significant challenges faced by South Africa, the nation with the largest number of HIV-infected people in sub-Saharan Africa [5].

CASE STUDY: SOUTH AFRICA

Contemporary perceptions count South Africa among the most distinct of sub-Saharan African nations. From its racial and ethnic demographic heterogeneity to its disturbing juxtaposition of “first world” economic prowess and “third world” poverty and disrepair, South Africa faces unique sociopolitical and socioeconomic challenges. Never is this distinct quality more evident than when assessing the country’s HIV/AIDS epidemic. With >5.3 million people infected and nearly 1 million in need of ART, HIV has taken an unrivaled toll on the South African population [3, 6].

In response to mounting internal and external pressure to address the devastation wrought by this epidemic, the government of South Africa released its Operational Plan for the Comprehensive HIV and AIDS Care, Management and Treatment for South Africa in
November 2003 [7]. Heralded as groundbreaking, this operational plan states that, by 2009, all HIV-infected individuals requiring ART will be able to access therapy within the public health care system [7]. According to actuarial models, by the year 2009, the number of HIV-infected people country-wide requiring ART will be ∼1.2 million [8]. If this plan is successful, South Africa will have one of the largest ART rollout programs in the world.

Paradoxically, although South Africa is home to the largest number of HIV-infected people worldwide, the rollout of ART has been mired in controversy and has faced significant criticism from both South Africans and the international community. The criticism is largely centered on the slow pace of the rollout and the national government’s questionable commitment to the endeavor. Since 2003, the number of HIV-infected people in need of ART who have accessed this treatment in South Africa has risen from <2000 patients to ∼265,000 (165,000–175,000 accessing therapy in the public sector and ∼110,000 accessing ART in the private and nonprofit sectors) [8, 9]. However, in its June 2005 update on the 3 by 5 initiative, the World Health Organization estimated South Africa’s ART coverage to be 10%–14% [10]. ART coverage was estimated to be 21% by the end of 2005, leaving >600,000 adults and children in need without ART [2]. Disparity in access to ART among the country’s 9 provinces (e.g., the resource-rich Western Cape vs. the much less well-resourced Limpopo) is also evident [11]. Further contributing to disparity across provincial lines is the influx of external donor funds, which has been concentrated in the more affluent provinces.

The enormity of the task of providing comprehensive HIV care and treatment, including ART, to >1 million people is daunting and would pose a unique challenge to any health care system. Within the South African context, this task is compounded by the obstacle of overcoming a legacy of health care inequity manifested by infrastructural deficits within the public health care system that leave the poorest of the poor without.

**INFRASTRUCTURAL DEFICITS**

On the basis of economic indicators determined by the World Bank, South Africa is classified as a middle-income country [12]. Total national health care expenditure is nearly 8.0% of the nation’s gross domestic product, which approximates the percentage allocated to health care in many high-income countries. However, the overall health status of most South Africans is lower than that in most high-income and many other middle-income countries [13]. This inconsistency is a function of distribution, not overall expenditure. Seven times more money per capita is spent in the private sector, which serves ∼20% of the population, than in the public health sector, which serves the remaining 80%—that is, poor and uninsured individuals [14]. According to the 2003 South African Health Survey, disparity in health spending between the private and public sectors has actually widened over time [15].

This funding deficit within the public health sector has significantly hindered ART rollout. When the public sector ART rollout was initiated, most programs were started at large, government hospitals where human resources and laboratory facilities were comparatively better than in clinics. However, there are significant limitations in services available, and queues are commonplace at these public hospitals. When South Africa’s new democratic government was elected in 1994, they inherited a separate and highly unequal public health care system that was in disrepair. During the ensuing 13 years, some progress has been made, but many inequities remain. In a qualitative survey of low-income, rural residents, the public health care system was described as overcrowded, difficult to access, and of low quality [16]. As ART has been rolled out within public health facilities, infrastructural deficits have become more glaring. It is estimated that >30,000 people are on waiting lists at public hospitals nationwide in South Africa [9]. Unfortunately, the limited space, lack of adequate laboratory facilities, and overworked and underpaid health care providers who do not have experience in the provision of ART have inhibited efforts to decentralize treatment and initiate ART at primary care, community clinics [17]. Without access to therapy at the community level in local clinics, patients are left on long hospital waiting lists and may wait many months before receiving treatment.

Further fueling the infrastructural inequity within the public health care system is a significant human resource deficit. Potentially, there are >400 nurses/100,000 population working in South Africa [18]. In actuality, there are only 100 nurses/100,000 uninsuredpersons, many of whom rely on public health services [8]. The remaining nurses are most likely working in the private or nongovernmental organization sector, where compensation and benefits are higher. Interestingly, although the national plan promotes a nurse-centered approach to rollout, nurses are not allowed to prescribe ART. Although advocacy efforts challenging this regulation are under way, currently, provision of care is inherently doctor dependent. This is problematic, particularly in rural areas, where doctors are just as scarce as they are in rural regions of other African nations. Further compounding this problem is the prevalence of HIV infection among health care workers (16%), which leads to the untimely HIV-related death of doctors, nurses, pharmacists, and lay counselors [19]. As a result of these factors, 29,000 health care jobs in the public sector are unfilled nationally [20].

Even if human resource needs are met, programmatic sustainability is still a concern. A common critique of most ART rollout initiatives in South Africa is that they are not integrated into the practice of general primary health care. Typically, when
undernutrition, is

The rate of household food insecurity, a major determinant of

More than 50% of South Africa’s residents live in poverty [25].

POVERTY AND HIV

Nowhere is this lack of integration more evident than in the

management of TB/HIV coinfection. Although >60% of adults

with TB are HIV positive in South Africa, voluntary counseling

testing is not routinely available at every publicly funded TB treatment site [21]. If a coinfected patient is seen in a clinic, service for each infection is provided by different health care staff, with little exchange of information between caregivers [22]. Adherence efforts are also disconnected. The lack of integration of TB/HIV services leads to longer wait times for patients and to duplication of staff efforts. Studies evaluating the efficacy of melding TB and HIV services in South Africa have found integrated models to be both feasible and efficacious [23, 24].

POVERTY AND HIV

More than 50% of South Africa’s residents live in poverty [25].

The rate of household food insecurity, a major determinant of

undernutrition, is >40% [26]. Unemployment rates across the
country range from 25% to 42% [27]. Although the rate of

HIV infection is similar across all income groups within the
country, the impact of the disease is more severe in poorer

households, where health care and funeral costs comprise a

larger percentage of overall income [28]. Even when treatment
itself is free, poorer populations suffer from disparities in access to care. Seventy-two percent of poor individuals in South Africa live in rural areas where district hospitals (ART rollout sites) are long distances from the homes of community members [29]. Therefore, transportation costs may be the most significant barrier to accessing therapy for unemployed patients. For patients who are employed and have a source of income, the opportunity cost of losing a day of work to travel for health care may still be too high to afford [30]. Unfortunately, the availability of treatment has not reached most rural community clinics, because of infrastructural deficits and bureaucratic roadblocks.

Poverty is certainly not unique to South Africa. Without a
global commitment to addressing poverty’s adverse sequelae, ART rollout will be limited in any setting. Peculiar to South Africa, however, is the conundrum created by the social welfare program instituted in the early 1990s. Welfare grants are available to needy citizens; these include child care, old age pension, and disability grants [31]. Nattrass [32] describes the conundrum created by the disability grant. A monthly stipend (approximately US $100) is available to anyone 18–65 years of age who is deemed unable to work for medical reasons [31]. Recipients may become the primary breadwinner for an extended family. An HIV-infected person can qualify for a disability grant if they have a CD4 cell count of <200 cells/mm³ or an AIDS-defining illness. Once ART is initiated and the immune system is reconstituted, the patient no longer qualifies for the grant. This system would serve as a reasonable safety net if the now “well” individual had a reasonable chance for gainful employment. However, as mentioned above, high rates of unemployment plague South Africa. Therefore, it is likely that the patient and their family will lose their sole means of support. Anecdotal reports suggest that some patients may be choosing to not start ART or even to discontinue therapy because of fear of losing the disability grant once immune reconstitution occurs [32].

This situation has led to calls for welfare reform. The most popular suggested mandate is the institution of the basic income grant, which would provide a minimum amount of money to all unemployed and impoverished people regardless of disability [32]. Prior research has shown that a nationwide safety net in the form of a basic income grant, which would be distributed regardless of HIV infection status or disability, would help to reduce poverty and remove the risk of patients trading health for disability grants. The amount of money necessary to achieve this goal may be as low as US $10 to $15/month/person within a household [33, 34]. Although no legislation had yet been instituted at the time of the writing of the present article, some action must be taken in the near future. No one should be required to choose between income and health.

TRADITIONAL MEDICINE: CULTURAL NORMS VERSUS WESTERN STANDARDS

For many Africans, a traditional healer may be the only “health care provider” that they have ever known. According to the World Health Organization, 80% of Africa’s population uses traditional medicine for primary health care. In South Africa, 75% of HIV-infected people use remedies (muti) dispensed by these traditional healers (sangomas) [35].

The use of complementary and alternative medicine (traditional medicine’s Western synonym) is also fairly widespread in the United States. Why, therefore, is there concern that traditional medicine is a barrier to ART rollout in South Africa? Several studies have demonstrated the toxicity of standard traditional therapies. High rates of dehydration, vomiting, diarrhea, altered mental status, and renal failure were found among patients at Chris Hani Baragwanath Hospital in Gauteng who reported use of traditional remedies [36]. When therapies that cause these adverse effects are used with ART, untoward toxicities may occur, and the efficacy of the antiretroviral regimen may be compromised. The use of traditional remedies before...
ART is also a concern because HIV-related complications, such as wasting and renal failure, may be exacerbated.

Regardless of the potential adverse effects, HIV-infected patients continue to seek advice and treatment from community-based traditional healers. Low cost, proximity to the community, and respect for traditional leadership continue to drive the demand for services provided by healers. Incorporation of traditional healers into the HIV care and treatment team is an appropriate intervention and is supported by the South African Department of Public Health. In recognition of the central role that traditional healers play in the community, sites are now including them in their approach to HIV prevention, care, and treatment. In a cross-sectional survey of traditional healers in KwaZulu-Natal, Peltzer et al. [37] found that 56% of those surveyed had referred a patient for HIV testing within the past 3 months. At Cape Town's Tygerberg Hospital, traditional healers are being trained to recognize the signs and symptoms of HIV infection and to refer patients to local testing facilities [38].

Although incorporating traditional healers into the HIV/AIDS treatment team is appropriate, promotion of traditional or alternative therapies as viable (or superior) alternatives to ART raises serious concern among treatment advocates. The promotion of a mixture of garlic oil, lemon juice, and beetroot as a treatment for HIV infection by the Minister of Health of South Africa sparked a firestorm of controversy and led to both national and international uproar. Moreover, the promulgation of these alternative therapies for HIV infection has led many to doubt the commitment of the national government to deliver on its promise to provide comprehensive care and treatment, including ART, to HIV-infected patients in the public sector. Promotion of alternative treatments for HIV infection has also led to an enormous amount of confusion among people living with HIV infection and AIDS. Substances touted to be “immune boosters” are commonly sold throughout South Africa, but there is no evidence to suggest that these “boosters” have any impact on the immune system, treat HIV infection, or cure any HIV-related opportunistic infection. However, there is evidence to suggest that HIV-infected South Africans are choosing these and other alternative therapies over the Western standard, ART [39]. In communities where ART is inaccessible, this choice is often dictated by a lack of other viable options.

In an effort to comprehensively study the efficacy of traditional therapies, the Medical Research Council of South Africa has established the Traditional Medicines Research Unit [40]. This unit is currently researching the efficacy of numerous indigenous substances purported to treat HIV infection. Thus far, none have proven efficacy [41].

SUMMARY

As the provision of care and treatment for HIV infection is expanded, South Africa must face several unique challenges. Although the infrastructural, legal, political, and cultural barriers are significant, if there is strong leadership and political commitment, these obstacles are surmountable. In our experience, many individuals, health care workers, people living with AIDS, and administrators both within nongovernmental organizations and within government are struggling on the ground to overcome these obstacles and improve access to treatment for South Africans living with HIV infection. As they persevere in this struggle, the global lens will continue to be focused on South Africa. Hopefully, this watchful eye will be accompanied by equally intense worldwide commitment to this effort.

Acknowledgments

Supplement sponsorship. This article was published as part of a supplement entitled “The Realities of Antiretroviral Therapy Rollout: Challenges to Successful Programmatic Implementation,” sponsored by the Harvard Medical School Division of AIDS, the Harvard University Center for AIDS Research, and the Harvard Initiative for Global Health.

References

17. Wu W. Public sector antiretroviral therapy rollout in Amajuba district, KZN, South Africa. Center for International Health and Development, Boston University, 2006.
18. Pringle A. Here to stay or here to go. Nurs Stand 2006; 20:70–1.