HIV/AIDS in South Africa

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Preface

The Country AIDS Policy Analysis Project is managed by the AIDS Policy Research Center at the University of California San Francisco. The project is funded by the U.S. Agency for International Development, Cooperative Agreement PHN-A-00-01-00001-00. Stephen F. Morin, PhD, is the project’s principal investigator. The project receives additional support from the International Training and Education Center on HIV (I-TECH), a collaboration of the University of Washington and UCSF funded through a cooperative agreement with the HIV/AIDS Bureau of the U.S. Health Resources and Services Administration. The views expressed in the outputs of the Country AIDS Policy Analysis Project do not necessarily reflect those of USAID or I-TECH.

The Country AIDS Policy Analysis Project is designed to inform planning and prioritizing of effective and equitable HIV/AIDS prevention and treatment interventions through multidisciplinary research on HIV/AIDS. The project evolved from the acute need for analysis of the epidemiology of HIV/AIDS in tandem with analysis of countries’ political economy and sociobehavioral context—at household, sectoral, and macro levels. This multidisciplinary analysis aims to:

- help inform national HIV/AIDS policies
- strengthen ability to plan, prioritize, and implement effective interventions
- highlight the range of sectoral interventions that may affect or be affected by HIV/AIDS
- facilitate multisectoral/interministerial coordination
- facilitate intercountry information sharing
- increase national and subregional capacity for effective partnerships

The project develops and disseminates online, fast-download, continually updated analyses of HIV/AIDS in 12 USAID priority countries: Ethiopia, Kenya, Malawi, Senegal, South Africa, Uganda, Tanzania, Zambia, Zimbabwe, Brazil, Cambodia, and India <http://ari.ucsf.edu/ARI/policy/countries.htm>

Each analysis is linked with national strategic plans for HIV/AIDS prevention, care, and support. Analyses also include a comparative table of 70 key HIV/AIDS and socioeconomic.

The primary audience for the country analyses is in-country HIV/AIDS planners, including those from government ministries and agencies, multi- and bilateral donors, international and local NGOs, health care institutions, prevention programs, academia, affected communities, and the private sector. International investigators and policymakers also report using the analyses in their work.

All country analyses undergo peer review at the AIDS Research Institute of the University of California San Francisco. In addition, two in-country experts from each profiled country serve as peer reviewers. A scientific advisory board also reviews all analyses.

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University of Witwatersrand, South Africa; and Professor Mary Crewe, Center for the Study of AIDS, University of Pretoria, South Africa. They are not responsible for any errors of fact or judgment.

**Note on Terminology**

All racial categorizations and nomenclature used in the data sources cited throughout this profile have been maintained; they do not constitute an endorsement of any particular terminology.

Users please note that this version contains two bibliographies; we will post a corrected version shortly.

**Contact Information**

Because this analysis is continually updated, comments and suggested sources of new data are welcome and may be sent to the coinvestigator/project director at UCSF's AIDS Policy Research Center: Lgarbus@psg.ucsf.edu
Executive Summary

Epidemiology

Since 1990, South Africa's Department of Health has conducted annual HIV sentinel surveys of public sector antenatal clinic attendees. In September 2003, the department released the 2002 HSS findings, which indicated that nationally, 26.5 percent of women attending ANCs were HIV-positive in 2002. The department states that although this estimate is higher than the 24.8 percent prevalence recorded in 2001, the increase is not statistically significant; however, the higher confidence interval of in 2002 does suggest a marginal increase in the estimate.

In 2002, KwaZulu-Natal recorded the highest HIV prevalence among all provinces; the lowest recorded prevalence was in the Western Cape. The 2002 ANC survey found that, as in 2000 and 2001, HIV prevalence peaked among women ages 25 to 29.

UNAIDS estimated that at the end of 2001, HIV prevalence among adults ages 15 to 49 was 20.1 percent. Commissioned by the Nelson Mandela Foundation and conducted by South Africa's Human Sciences Research Council (HSRC), the survey found 11.4 percent of South Africans were living with HIV/AIDS at the end of 2002. Using the results of the 2002 HSS, the South African Health Department estimated that 5.3 million South Africans were HIV-positive at the end of 2002, an increase from the comparable 2001 estimate of 4.74 million. The 2002 HSRC national survey estimated that 4.5 million South Africans were living with HIV/AIDS at the end of 2002. Researchers from the University of Cape Town's Center for Actuarial Research put this figure at 6.6 million.

UNAIDS estimated that there were 5 million South Africans living with HIV/AIDS at the end of 2001 (estimate range: 4 million to 6 million). These estimates suggest that South Africa has more people living with HIV/AIDS than any other country in the world. UNAIDS underscores that populous countries with fast-growing epidemics may surpass this figure.

During 1982-97, 79 percent of transmission was heterosexual, 13 percent through MTCT, 7 percent through men who have sex with men, and 1 percent through infected blood.

At least 453,352 South Africans were living with AIDS at the end of 2002. In September 2001, South Africa's Medical Research Council (MRC) estimated that about 40 percent of adult deaths that occurred during 2000 were due to HIV/AIDS and that about 20 percent of all adult deaths in that year were due to AIDS. It went on to estimate that AIDS accounted for about 25 percent of all deaths in 2000 and had become the leading cause of death in South Africa. In March 2003, the MRC released initial estimates from the South African National Burden of Disease Study 2000. It found that HIV/AIDS now accounted for 30 percent of all deaths (34 percent of female deaths and 26 percent of male deaths). AIDS was by far the largest single cause of premature mortality in both males and (particularly) females.

ANC data currently serve as South Africa's primary sentinel surveillance of HIV/AIDS. Though ANC prevalence is widely used, they are imperfect. Since at least 2000, the South African
Government's interpretation of the HSS data has varied greatly from that of many South African and international researchers. The government believes that the epidemic is stabilizing, whereas other researchers voice concern that because more people are dying from HIV/AIDS-related causes, the rate of new HIV infections must be increasing to keep the prevalence rate stable.

With regard to the 2002 HSS, the government again appears to be focusing solely on declines in prevalence among those under age 20, regardless of whether they are significant, to make the leap to demonstrating slowing incidence. Moreover, the government does not discuss that even if the epidemic is stabilizing (as yet unproven), it is doing so at very high levels.

**Political Economy and Sociobehavioral Context**

Many of the factors discussed in this section exist in countries that, unlike South Africa, have low HIV prevalence; these include wide income disparities, history of colonialism and political and economic disenfranchisement, and gender inequality. The relationship between HIV prevalence and socioeconomic markers is highly complex. Risk of HIV infection is related, inter alia, to individual behavior and socioeconomic characteristics as well as to the socioeconomic profile of the community in which one is situated. Moreover, since 1994, the social divisions within South African society have themselves become more complex. This section does not seek to demonstrate causality. Rather, it analyzes key political economy and sociobehavioral contextual elements to highlight the range of sectoral policies and interventions that may affect or be affected by HIV/AIDS.

Black South Africans have been subject to a long history of systematic social disruption and dislocation. Apartheid disenfranchised black South Africans politically, socially, and economically. Human rights abuses—including those perpetrated within the health sector—were common. The apartheid government routinely used violence to exert power. Violence remains common in daily life in South Africa.

Even when adjusting for socioeconomic factors, race remains a significant determinant of HIV risk. HIV risk is highest among black South Africans, substantially lower among coloureds and Asians, and lowest among whites. South Africa's 2001 GNI per capita was US$2,820, the second-highest in sub-Saharan Africa, masks wide income disparities. Thirty-five percent of South Africa's population lives on less than US$2 a day. Postapartheid economic growth in South Africa has been slow, and efforts to increase employment have stalled. Unemployment among women greatly exceeds that among men. There is a high rate of unemployment among unskilled workers, who have the highest HIV infection rate and the highest AIDS-related death rate.

Sixty-one percent of Africans, 38 percent of coloureds, 5 percent of Indians, and 1 percent of whites were poor in 1995. A disproportionate number of the chronically poor are Africans and coloureds living in rural areas; the elderly and female-headed are most likely to be chronically poor.

Mass resettlements of populations under apartheid, seasonal labor migration, movements along major trade routes, refugees fleeing war in other parts of Africa, and, since 1990, return of
political exiles and liberation armies have all contributed to the spread of HIV. There is high mobility among urban, rural, mining, and port areas, much of it dominated by men. Migrant labor separates men from their families, places them in close proximity to "high-risk" sexual networks, and may result in their having an increased number of sexual contacts. Migration is an independent risk factor for HIV infection among South African men. Concurrently, it may also lead to women's reliance on sex to supplement their incomes while their male partners are away for long periods.

Men are not allowed to bring their families with them to the mines. Miners live in single-sex hostels or barracks, far from their spouses or regular partners. Commercial sex and access to alcohol are common features of live in hostel compounds. Migrant labor and hazardous physical work—relieved primarily by alcohol and sex—create an environment that may be considered conducive to rapid HIV transmission.

According to the U.N. Office on Drugs and Crime, overall levels of crime began to increase in the mid-1980s and rose throughout the 1990s. Although there are some indications that the steep increase in crime has abated, South Africa remains among the most crime-ridden and crime-concerned societies in the world. Violent crimes, such as attempted murder, aggravated robbery, serious and common assault, and in particular violence against women and children, has increased since 1994.

Stigma around HIV/AIDS remains strong and is likely to influence personal decisionmaking with regard to HIV testing and disclosure.

There are one national and nine provincial health departments, with provinces responsible for implementation of AIDS programs. The national government is primarily responsible for collecting and distributing revenue equitably among provinces, formulating broad policy frameworks, and defining norms and standards for service provision. Despite redistributive policies in the early postapartheid period, South Africa's health care infrastructure remains highly inequitable. WHO ranks South Africa a "high TB burden" country, with the world's seventh-highest burden of TB (by number of cases). There is a lack of effective integration between TB and HIV policies and programs.

The 2002 ANC survey found that an estimated 3.2 percent of ANC attendees had active syphilis. This figure is an increase over the 2001 figure of 2.8 percent in 2001. A study in the mining center Carletonville found that infection with herpes simplex virus type-2 was the most significant factor associated with HIV status for both men and women.[39]

HIV prevalence among South African women tends to peak between ages 25 and 29, whereas among men, it peaks several years later (usually between ages of 30 and 35) and at lower levels. Women tend to become infected at younger ages than men for both biological and behavioral reasons. High male-to-female transmissibility of HIV is considered likely to play a significant role. Age mixing is another crucial factor.

Women's subordinate economic status affects their vulnerability to acquiring HIV and, once infected, accessing care and support services. Even among married South African women, there
is a high level of economic maltreatment. Women are commonly viewed as "being inferior to men, as possessions, and as needing to be led and controlled." Many women are unable to insist on condom use and negotiate the timing of sex and the conditions under which it occurs.

Many women also face abuse and/or abandonment if they disclose their HIV-positive status. Lobola, a long-standing tradition whereby men purchase a wife by paying her family a dowry, also renders it difficult for women to leave their husbands, as this would require fathers to repay the dowry.

In most presentations of police rape statistics, South Africa is near or at the top. Household surveys represent another method of obtaining information on the extent of sexual violence. The last South African Demographic & Health Survey found a national rape prevalence of 7 percent, a range of 3 to 12 percent across provinces. Both police statistics and household studies reveal that young women—the demographic group most at risk for HIV/AIDS—are also at highest risk of being raped.

According to a recent report from the U.S. State Department, South Africa is a destination country for women trafficked from other parts of Africa, Eastern Europe, Asia, and the former Soviet Union for commercial sexual exploitation. South African women and children are also trafficked internally for labor and commercial sexual exploitation.

Rape, sexual violence, sexual harassment, agressivity toward and physical and verbal degradation of female students by male school teachers and male classmates are widespread and largely normalized and tolerated. Girls who report sexual abuse are often further victimized and stigmatized by teachers and students. School authorities rarely ensure a sense of security at school nor counsel and discipline male perpetrators.

Several South African researchers underscore that individual risk of HIV infection is determined by individual as well as community factors. Thus, individual sexual behavior may be less important than the community from which sexual partners are chosen, i.e., social context may be a stronger predictor of disease than individual behavior.

In South Africa, sexual debut is generally early, usually beginning during the mid-teens; for girls, often shortly after menarche. The 2002 HSRC survey found that sexual experience among youth was significantly higher in urban informal areas than in any other types of localities.

A high number of sexual partners, especially among men, is socially acceptable and encouraged. Given the country's economic situation and high unemployment, as well as lack of affordable recreational opportunities, sexual relationships provide one of the few opportunities wherein young South Africans may obtain success, respect, and self-esteem.

Multiple sexual partners, as well as ability to control girlfriends, are key to notions of "masculinity." Masculinity among miners signifies bravery, fearlessness, and the willingness to take risks; "real" men have enormous sex drives that lead them to have sex with an unlimited number of women. Given this scenario, many miners do not use condoms.
Among 2002 HSRC respondents who had sex in the past 12 months, most indicated that they had a single partner during the past 12 months; the proportion of those with more than one partner was lower for females than for males. A higher proportion of Africans and male or female respondents living in urban informal areas had multiple partners. The 2002 HSRC survey found that youth had significantly higher rates of condom use than adults. Single respondents were considerably more likely to use a condom than those who were married.

Sex is also often used as a commodity in exchange for money or other forms of payment. Transactional sex involves nonmarital sexual relationships, often with multiple partners, that are a result of men's superior economic position and access to resources, the value placed on men's having multiple sexual partners, and women's desire to access power and resources such as gifts or cash.

Much sex work in South Africa is initiated in shebeens (informal liquor stores or bars), and alcohol consumption is likely to result in inconsistent condom use and other unsafe sex behaviors. Alcohol consumption is more likely to be a risk factor for HIV if associated with an "unsettled lifestyle and migrancy." This is because migrants are less likely to have a regular partner living with them and are thus more likely to acquire sexual partners through visits to shebeens. Data from surveys of young South Africans convey that their drug and alcohol use during sex is a concern.

Since 2000, heroin use has increased significantly in major urban areas, particularly in Gauteng and Cape Town. Injecting drug use is not common in South Africa, although recent evidence indicates that the injecting of heroin is increasing.

Some observational studies from sub-Saharan Africa have indicated that male circumcision may reduce the risk of HIV acquisition, though circumcision does not appear to affect transmission from HIV-positive men to their partners. The 2002 HSRC study found that 35 percent of all adult and young males had been circumcised.

**Impact**

By 2045-50, South Africa will have the world's 10th-lowest life expectancy at birth. Between 2000 and 2050, life expectancy will be 27 to 41 lower than it would have been in a no-AIDS scenario. Because of AIDS, South Africa's population will be 44 percent smaller in 2050 than it would have been without the epidemic.

There were 757,000 AIDS deaths in South Africa through 2000, with AIDS increasing mortality by 13 percent. Between 2000 and 2015, there will be 9.3 million AIDS deaths, representing a 195 percent increase in mortality.

According to a June 2003 report from the World Bank, previous studies have grossly seriously underestimated the economic impact of the AIDS epidemic, failing to factor in the impact of education and parenting on the economy. The authors underscore that by killing primarily young adults, AIDS does more than destroy the human capital embodied in them; it also deprives their children of the requirements to become economically productive adults: their parents' care,
knowledge, and capacity to finance education. This weakening of the mechanism through which human capital is transmitted and accumulated across generations becomes apparent only after a long time lag, and it is progressively cumulative in its effects.

Applying the model to South Africa, they found that in the absence of AIDS, South Africa would have enjoyed modest, though accelerating growth of per capita income, with universal and complete education attained within three generations. With AIDS, however, if no efforts are put forth to combat the epidemic, they project a complete economic collapse within three generations. By 2050, per capita income per family will be half the amount it was in 1990. In about 90 years, South Africa's per capita GDP could experience a 50 percent decline.

South Africans without access to jobs (particularly those that require high skill levels) are likely to bear the brunt of the HIV/AIDS epidemic, whereas relatively skilled workers could benefit from greater employment opportunities (as production becomes more skill- and capital-intensive) and higher wages (as the relative demand for skilled labor increases). And as firms begin to provide these workers with greater access to antiretroviral therapies, they are likely to live longer and more productive lives. Under this scenario, South Africa's socioeconomic disparities will be further exacerbated.

HIV/AIDS has already forced the public health sector to incur significant expenditures. Combined national and provincial expenditures on HIV/AIDS in 2001/2 represented 15 percent of total public health expenditures. In 2000, there were an estimated 628,000 admissions to public hospitals for AIDS-related illnesses, accounting for 24 percent of all public hospital admissions. In 2001/2, the cost of hospitalizing AIDS patients in public facilities equalled 12.5 percent of the total public health budget.

Approximately 25 percent of miners in South Africa are living with HIV/AIDS; the MRC expects this figure to increase to 30 percent by 2005. Between 1995 and 2020, South Africa will have lost 20 percent of its agricultural labor force because of AIDS. At least one-fifth of the South African National Defence Force is HIV-positive. Among South Africa's 17,5000 inmates, 45.2 percent are HIV-positive.

Traditional extended family and community coping mechanisms in South Africa were weakened by apartheid, which disrupted family and communal life and led to rapid urbanization. As family and community structures became weaker, many South Africans assumed that the state would provide health care and other support. HIV/AIDS has further strained coping mechanisms through its enormous and complex impact on households. By 2010, AIDS may contribute to the chronic impoverishment of 26 to 33 percent more households than would have been the case in the absence of the epidemic.

AIDS-affected households spend an average 34 percent of their monthly income on health care, much higher than that spent on health care by non-AIDS-affected households. The main caregiver in AIDS-affected households is usually a woman, and 73 percent of caregivers are women over 60.

At the end of 2001, UNAIDS estimated that there were 660,000 AIDS orphans living in South Africa. The number of paternal AIDS orphans under age 18 is expected to peak at 4.7 million in
2015, and the total number of children having lost one or both parents to AIDS will be highest around 2014, at 5.7 million. South Africa's capacity to deal with increased numbers of orphans is limited. Awareness of foster care grants and other forms of assistance is low; moreover, foster care grants are difficult to access. The country's Child Care Act has been criticized as being limited in the placement options it offers for orphaned children. Institutional care is being provided, but to contain costs, there is a shift to models of community-based care, which assume that hard-hit communities have sufficient capacity to care for orphans.

**Response**

As it was being unbanned, the African National Congress (ANC) played a major role in development of national HIV/AIDS policies. In October 1992, the ANC and the apartheid government's National Department of Health jointly convened a conference on AIDS, which led to creation of the National AIDS Committee of South Africa (NACOSA).

After a peaceful transition, the ANC won the country's first fully democratic elections. Numerous initiatives aimed at redressing inequalities were launched in the immediate postapartheid period under the Reconstruction and Development Program, the ANC's election platform. The ANC adopted NACOSA's AIDS plan. Along with 20 other social priorities, AIDS was declared a "Presidential Lead Project," giving it special status and early access to resources set aside for reconstruction and development.

The AIDS plan, however, greatly overestimated the implementation capacity of the new government, not least because of the numerous challenges the ANC faced upon assuming office and the enormity of postapartheid reconstruction. In 1994, President Nelson Mandela inherited intact the apartheid administration. The legacy of the apartheid civil service, coupled with the transition period, led to uncoordinated planning within and across government, weak financial and information systems, and lack of managerial skills. Consequently, coordination of a national response was constrained.

Given public sector capacity constraints, multiple sources of special AIDS allocations, and complex disbursement procedures, the national government underspent AIDS funds. Some of the projects on which funds were spent—and lack of transparency in granting them—were heavily criticized. As in many countries, the national AIDS program was housed in the Department of Health, thereby impeding a multisectoral response.

In 1997, the Department of Health commissioned the MRC to undertake a review of the 1994 AIDS plan, which led to a reformulation of policy priorities at the national level. In January 2000, the National Department of Health launched the *HIV/AIDS and STD Strategic Plan for South Africa 2000-2005*. However, the plan has been deemed vague in terms of action and resource prioritization as well as provision of ART. In January 2000, the South African National AIDS Council (SANAC) was formed, bringing together government and civil society, although medical researchers and key were excluded from SANAC.

In the late 1990s, South Africa's Health Minister announced that she would not permit AZT nor NVP to be provided to pregnant, HIV-positive women nor rape survivors in public health
facilities; she stated that she had based her decision on ARVs' "cost, toxicity, and efficacy, particularly for the 'African' setting." With regard to AZT, she rejected several reports from the Medicines Controls Council (South Africa's statutory licensing authority for medicines and drugs) in favor of AZT. Her decision also contradicted the international medical consensus that the benefits of AZT outweigh its risks.

During 2000, President Thabo Mbeki, who had succeeded Nelson Mandela as South Africa's president in 1999, had begun to publicly question the link between HIV and AIDS. In May 2000, he convened a panel of international AIDS experts—including AIDS dissidents—charged with reexamining the causes of AIDS and determining African solutions to the pandemic. The panel and its report were met with widespread criticism by South African and international scientists. Prior to the XIII International AIDS Conference, held in Durban in July 2000, there was growing international discussion of access to ARVs and PMTCT. Data from a South African study of NVP, which highlighted its ease of administration and greater cost-effectiveness were presented at the Durban conference.

The Durban meeting marked the first time that the international AIDS conference had been held in the South. This, coupled with the increasing international coverage of President Mbeki and Minister Tshabalala-Msimang's HIV/AIDS policies, brought enormous attention to South Africa, much of it highly critical. The controversies had reached a point such that over 5,000 scientists worldwide signed the Durban Declaration, in which they reaffirmed that HIV was the cause of AIDS.

After Durban, several medical and advocacy groups, such as TAC, petitioned the government to approve and provide NVP in the public health system for PMTCT. In late 2000, the government announced 18 pilot PMTCT sites, which were launched between May and December 2001.

In February 1998, the Pharmaceutical Manufacturers Association and 39 drug makers brought legal action against the South African Medicines and Related Substances Control Amendment Act (90) of 1997, specifically Section 15C allowing for measures (compulsory licenses and parallel imports) that would allow the government to procure essential drugs at cheaper prices. In April 2001, under national and international pressure, the case against the act was withdrawn. However, the government immediately announced that ARVs were still not a feasible option in the public sector and therefore did not move to issue a compulsory license for generic manufacture of ARVs.

Minister Tshabalala-Msimang continued to stress South Africa's inability to provide and monitor ARVs, citing toxicity, financial constraints, inadequate health infrastructure, and competing health demands. Many South African researchers acknowledged the major role that poverty plays in HIV transmission and ability to access and provide care, as well as the high cost (even at subsidized prices) of ARVs. However, they did not believe that these constraints merited rejection of ARVs.

The South African Government released a statement in April 2002 that appeared to open the door to public provision of ART. However, no concrete actions were taken until mid-2003.
The South African courts have played a major role in HIV policy. Their actions have been underpinned by the South African Constitution, finalized in 1996. The Constitution is the highest law in the land; its Bill of Rights lists protected human rights. For example, the action that TAC and others brought against the government on PMTCT was viewed as a test of the extent to which the Constitution can define social policy for the executive level.

Apart from the Bill of Rights, numerous other policy and legal instruments protect the rights of persons infected with and affected by HIV/AIDS with regard to education, the workplace, testing and counseling, and patient management. For example, the Labor Relations Act of 1995 protects employees from being dismissed because they are HIV-positive and from being discriminated against with regard to staff training, employee benefits, and other work-related opportunities.

Under the Employment Equity Act of 1998, "no person may unfairly discriminate, directly or indirectly, against an employee, in any employment policy or practice, on one or more grounds, including...HIV status..." The act also prohibited testing of an employee to determine his/her HIV status unless the Labor Court justifies such testing.

However, many of the policies and laws mentioned above have been inadequately implemented and have not had significant impact on the ground. Poverty, stigma, and poor access to legal resources deter many South Africans from seeking redress for human rights violations. Women's low socioeconomic status, coupled with lack of support services and shelters, often prevents them from taking steps to protect themselves from HIV.

Unlike almost all other sub-Saharan African countries, South Africa is not dependent on donor aid to fund its health and social services. However, the country's national AIDS program has received significant foreign aid and technical assistance.

In the first round of the Global Fund to Fight AIDS, Tuberculosis & Malaria, South Africa submitted two proposals, both of which were funded in April 2002. The federal government was angered that the KZN grant was not submitted through SANAC. After much delay, the South African and KZN governments reached resolution with the GFATM, and in August 2003 they signed agreements for US$41 million over the next two years. Included in this amount was US$27 million for the Enhanced Care Initiative in KZN, a consortium of government, private, and civil society partners to promote continuum of care by implementing key interventions including VCT, ART, and care for patients and their families. SANAC has also signed agreements for:

1. two-year US$12 million grant to enable expansion and acceleration of National Adolescent Friendly Clinic Initiative, formal partnership between loveLife and SA government, to improve access and quality of services to adolescents in public clinics dealing with teen sexuality and reproductive health.
2. one-year US$2 million grant to support ongoing development and implementation of Soul City and Soul Buddyz, awareness-raising and mobilization tools among youth.

For the second round of the GFATM, SANAC submitted three proposals, of which one (HIV/AIDS-TB) was approved to receive US$25 million, pending clarifications.
Numerous nongovernmental organizations—including community-based organizations, academic institutes, and trade unions—have played major, galvanizing roles in initiating and strengthening South Africa's response to HIV/AIDS.

Health Minister Tshabalala-Msimang had not permitted provision of ARVs in public clinics for postexposure prophylaxis after rape. In a major policy shift, the government announced in April 2002 that it would seek to provide a comprehensive package of care for sexual assault survivors, including counseling and testing for HIV, pregnancy and STIs. This package would also include provision of ARVs, with a related standardized national protocol. However in July 2003, a cabinet decision led to the removal of a clause from the Sexual Offences Bill that would have compelled the government to provide rape survivors with drugs to reduce the risk of HIV infection.

The government launched a VCT program in 2000. Success in implementing VCT varies greatly among provinces. In most provinces, over half of respondents knew where to access VCT services. Mpumalanga and Limpopo have the lowest percentages of respondents who knew where to obtain VCT services. About 40 percent of those ages 15-24, as well as one-third of those ages 25-49, do not know where to find these services. Urban respondents are more likely to know about VCT services than those in rural areas ones.

A February 2002 review of the 18 pilot PMTCT sites strongly advocated expansion of them. In 2001, the Treatment Access Campaign brought a lawsuit against the Government of South Africa to compel it to (1) make NVP immediately accessible in the public sector outside pilot sites if medical personnel deemed NVP necessary and (2) institute a comprehensive PMTCT program nationwide. In December 2001, the Pretoria High Court ruled that the South African Government must provide NVP to all HIV-positive pregnant women through its public health facilities. After various government appeals, the Constitutional Court ruled in July 2002 that the government must abide by the High Court's ruling.

Western Cape was the first province to defy South African government policy by providing NVP to HIV-positive pregnant women in the public health sector. In March 2003, the province announced that all HIV-positive pregnant women could access NVP at their nearest clinic. The province has achieved universal PMTCT coverage of pregnant women. In January 2002, KwaZulu-Natal became the second provincial government to defy government policy by making NVP available to HIV-positive pregnant women in state hospitals.

The Perinatal HIV Research Unit at Chris Hani Baragwanath Hospital provides HAART and monitoring for adults and children. In July 2002, the MTCT Plus Initiative, managed by Columbia University's Mailman School of Public Health, announced grants to several sites in South Africa: clinics operated by Médecins sans Frontières in Khayelitsha, Cape Town, and programs within the universities of the Witwatersrand and Natal. The initiative includes ART, care, and support services for mothers.

In early August 2002, South Africa's MCC announced that it was considering reversing its approval of NVP to prevent mother-to-child transmission of HIV. The MCC stated that it had
concerns about NVP's effectiveness and toxicity, despite continued recommendation of NVP by UNAIDS, WHO, NIH, and others.

WHO reported that during 2001, there were no sites in South Africa providing ART. As of July 2003, about 21,000 South Africans were receiving ART; of them, about 1,500 were receiving treatment in the public sector, the remainder through NGO, university, and private company programs. Apart from postexposure prophylaxis and nevirapine for PMTCT pilot sites, ART is not purchased by the public sector health service.

In 2003, the South African Cabinet formed a Health/Treasury Task Team to analyze ART roll out. The Task Team recommended the establishment of a "fast track" national price negotiating team and a strategy to obtain drugs at optimal prices. It also recommended encouraging the granting of voluntary licenses by patent holders for local manufacture. The Task Team found that the total cost of providing ART to everyone in need of it would be between US$1 billion and US$1.09 billion by 2005. The Task Team estimated that 1.7 million lives could be saved by 2010 if ART were provided to all in need of it. If ART were not provided, the team projected that 1.8 million more children would be orphaned by 2010. The team estimated that this number would be reduced by 860,000 with 100 percent ART coverage, and by 350,000 with 50 percent ART coverage. In August 2003, the Cabinet approved the provision of AIDS drugs to HIV-positive citizens through the public health system. The Cabinet instructed the Health Department to develop a detailed operational plan for ART rollout and to act "with urgency." The department is now working on a plan, including a procurement strategy, which was due by the end September 2003.

Over the past four years, South Africa has seen large reductions in the prices of patented ARVs. MSF reports that by importing generic ARVs manufactured by the Brazilian National STD/AIDS Program—under the South Africa Medicines Control Council "Section 21" permit—the prices of triple therapy used in Khayelitsha have fallen by 50 percent, with a triple-therapy regimen provided for R10/day. Aspen Pharmacare was granted a voluntary license by Bristol-Myers Squibb to produce a generic version of Zerit. Under the terms of the agreement, Aspen Pharmacare can sell its version to both public and private patients across Africa. In July 2003, Aspen announced that it is selling one month's supply of Aspen-Stavudine for between US$3 and US$4.50, about 41 percent less expensive than original. In early 2003, 19 projects providing ART established the Generic Antiretroviral Procurement Project (GARPP) to improve access to ART through promotion of cheaper generic drugs. The initiative sources generics approved by the MCC and supplies members throughout the country. In August 2003, GARPP was selling triple-combination therapy at US$40 a month.

In June 2003, South Africa's Medicines Control Council approved the country's first HIV vaccine trial.

Within South Africa, approximately 12 million people are employed directly, with a further 20 million dependants. Consequently, workplace HIV/AIDS initiatives can have far-reaching impact. Eighty-two percent of large companies have formal HIV/AIDS policies. Among medium and small companies, 51.7 percent and 6.5 percent, respectively, have such policies. Only 6.5 percent of small and 34.5 percent of medium companies have made any HIV/AIDS communication to their employees. Overall, 70.9 percent of companies have not commissioned an HIV/AIDS risk assessment; the majority of companies that have commissioned such an
assessment have over 500 employees. Many large South African companies view HIV/AIDS as their main strategic challenge and have formulated and implemented substantial HIV/AIDS policies that address, inter alia, confidentiality and stigma.

All major mining companies have HIV/AIDS programs, which have been based largely on prevention, condom distribution, treatment of STIs and OIs, and wellness programs for HIV-positive employees. Many utilize peer educators. Several home-based care initiatives for HIV-positive miners are also beginning. Recently, several mining companies in South Africa have been reformulating living arrangements for their male workers as an HIV prevention tool—permitting miners' families to live with them at the worksite.

Numerous firms, including mining companies, have announced pilot plans to offer ART. In some cases, ART will also be available to employees' dependents. Most companies are offering cost-sharing arrangements for ART, which may impede uptake.
Epidemiology

At a Glance Summary Bullets

HIV Sentinel Surveillance

- Since 1990, South Africa's Department of Health has conducted annual HIV sentinel surveys of public sector antenatal clinic attendees.

- In September 2003, the department released the 2002 HSS findings, which indicated that nationally, 26.5 percent of women attendingANCs were HIV-positive in 2002. The department states that although this estimate is higher than the 24.8 percent prevalence recorded in 2001, the increase is not statistically significant; however, the higher confidence interval of in 2002 does suggest a marginal increase in the estimate.

- In 2002, KwaZulu-Natal recorded the highest HIV prevalence among all provinces; the lowest recorded prevalence was in the Western Cape.

- The 2002 ANC survey found that, as in 2000 and 2001, HIV prevalence peaked among women ages 25 to 29.

First National Study of HIV Prevalence

- Commissioned by the Nelson Mandela Foundation and conducted by South Africa's Human Sciences Research Council (HSRC), the survey found that 11.4 percent of South Africans were living with HIV/AIDS at the end of 2002.

Number of South Africans Living with HIV/AIDS

- The South African Health Department estimated that 5.3 million South Africans were HIV-positive at the end of 2002, an increase from the comparable 2001 estimate of 4.74 million.

- The 2002 HSRC national survey estimated that 4.5 million South Africans were living with HIV/AIDS at the end of 2002. Researchers from the University of Cape Town's Center for Actuarial Research put this figure at 6.6 million.

- UNAIDS estimated that there were 5 million South Africans living with HIV/AIDS at the end of 2001 (estimate range: 4 million to 6 million). These estimates suggest that South Africa has more people living with HIV/AIDS than any other country in the world. UNAIDS underscores that populous countries with fast-growing epidemics may surpass this figure.

Adult Prevalence

- UNAIDS estimated that at the end of 2001, HIV prevalence among adults ages 15 to 49 was 20.1 percent.
Transmission Patterns

- During 1982-97, 79 percent of transmission was heterosexual, 13 percent through MTCT, 7 percent through men who have sex with men, and 1 percent through infected blood.

AIDS Cases

- At least 453,352 South Africans were living with AIDS at the end of 2002.

AIDS Mortality and Disability

- In September 2001, South Africa's Medical Research Council (MRC) estimated that about 40 percent of adult (ages 15-49) deaths that occurred during 2000 were due to HIV/AIDS and that about 20 percent of all adult deaths in that year were due to AIDS. It went on to estimate that AIDS accounted for about 25 percent of all deaths in 2000 and had become the leading cause of death in South Africa.

- In March 2003, the MRC released initial estimates from the South African National Burden of Disease Study 2000. It found that HIV/AIDS now accounted for 30 percent of all deaths (34 percent of female deaths and 26 percent of male deaths). AIDS was by far the largest single cause of premature mortality in both males and (particularly) females.

Data Quality Issues

- ANC data currently serve as South Africa's primary sentinel surveillance of HIV/AIDS. Though ANC prevalence is widely used, they are imperfect. Children and the elderly—who are at substantially lower risk of HIV—are not captured by antenatal surveys. Even among adults in sexually active groups, the ANC survey prevalences do not reflect the lower overall risk of men, people who are less sexually active, and those who use private sector health facilities.

- Moreover, ANC data may underestimate HIV prevalence in women of reproductive age as recent studies indicate that fertility among HIV-positive women is substantially lower than among uninfected women.

- Since at least 2000, the South African Government's interpretation of the HSS data has varied greatly from that of many South African and international researchers. The government believes that the epidemic is stabilizing, whereas other researchers voice concern that because more people are dying from HIV/AIDS-related causes, the rate of new HIV infections must be increasing to keep the prevalence rate stable.

- With regard to the 2002 HSS, the government again appears to be focusing solely on declines in prevalence among those under age 20, regardless of whether they are significant, to make the leap to demonstrating slowing incidence. Moreover, the government does not discuss that even if the epidemic is stabilizing (as yet unproven), it is doing so at very high levels. And
rather than investigate possible provincial dynamics, the government downplayed prevalence increases observed in Western Cape and other provinces.

**HIV Sentinel Surveillance**

**Methodology**

Since 1990, South Africa's Department of Health has conducted annual HIV sentinel surveys of public sector antenatal clinic attendees. (In South Africa, 80 percent of all pregnant women, of whom 85.2 percent are African, attend public sector antenatal clinics.[2]) Anonymous, unlinked surveys are carried out during October and involve pregnant women presenting for antenatal care for the first time during the current pregnancy at selected ANC sites in the country's nine provinces.[1]

**Latest Findings: 2002**

In September 2003, the Department of Health released the 2002 HSS findings. For this round, a total of 16,587 women participated, spanning 396 sentinel sites.[1] (The 2001 HSS involved 421 sentinel sites, from which 16,730 specimens were tested for HIV and 16,701 were tested for syphilis.[2])

The survey found that nationally, 26.5 percent of women attending ANCs were HIV-positive in 2002. The department states that although this estimate is higher than the 24.8 percent prevalence recorded in 2001, the increase is not statistically significant; however, the higher confidence interval of 27.6 percent in 2002 (vs. 26.1 percent in 2001) does suggest a marginal increase in the estimate.[1]

In 2002, KwaZulu-Natal recorded the highest HIV prevalence among all provinces: 36.5 percent, an increase over the 33.5 percent recorded in 2001. The lowest recorded prevalence was in the Western Cape: 12.4 percent (vs. 8.6 percent in 2001). According to the South Africa Department of Health, this increase was not statistically significant, nor were increases observed in KwaZulu-Natal, Gauteng, North West, Eastern Cape, and Limpopo. The decreases in Free State, Mpumalanga and Northern Cape were also not statistically significant.[1]

**Table 1: Provincial HIV Prevalence Estimates: Public Antenatal Clinic Attendees, South Africa, 1999-2002**

<table>
<thead>
<tr>
<th>Province</th>
<th>HIV pos. 95% CI</th>
<th>1999</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
</tr>
</thead>
<tbody>
<tr>
<td>KwaZulu-Natal (KZN)</td>
<td></td>
<td>32.5 (30.1 - 35.0)</td>
<td>36.2 (33.4 - 39.0)</td>
<td>33.5 (30.6 - 36.4)</td>
<td>36.5 (33.8-39.2)</td>
</tr>
<tr>
<td>Mpumalanga (MP)</td>
<td></td>
<td>27.3 (25.2 - 30.7)</td>
<td>29.7 (25.9 - 33.6)</td>
<td>29.7 (25.9 - 33.6)</td>
<td>28.6 (25.3-31.8)</td>
</tr>
<tr>
<td>Gauteng (GP)</td>
<td></td>
<td>23.9 (21.7 - 26.0)</td>
<td>29.4 (27.2 - 31.5)</td>
<td>29.8 (27.5 - 32.1)</td>
<td>31.6 (29.7-33.6)</td>
</tr>
<tr>
<td>Free State (FS)</td>
<td></td>
<td>27.9 (24.7 - 29.8)</td>
<td>27.9 (24.6 - 31.3)</td>
<td>30.1 (26.5 - 33.7)</td>
<td>28.8 (26.3-31.2)</td>
</tr>
<tr>
<td>North West (NW)</td>
<td></td>
<td>23.0 (19.7 - 26.3)</td>
<td>22.9 (20.1 - 25.7)</td>
<td>25.2 (21.9 - 28.6)</td>
<td>26.2 (23.1-29.4)</td>
</tr>
<tr>
<td>Eastern Cape (EC)</td>
<td></td>
<td>18.0 (14.9 - 21.1)</td>
<td>20.2 (17.2 - 23.1)</td>
<td>21.7 (19.0 - 24.4)</td>
<td>23.6 (21.1-26.1)</td>
</tr>
<tr>
<td>Limpopo (LP)</td>
<td></td>
<td>11.4 (9.1 - 13.5)</td>
<td>13.2 (11.7 - 14.8)</td>
<td>14.5 (12.2 - 16.9)</td>
<td>15.6 (13.2-17.9)</td>
</tr>
</tbody>
</table>
The 2002 ANC survey found that, as in 2000 and 2001, HIV prevalence peaked among women ages 25 to 29, at 34.5 percent in 2002, an increase from 31.4 percent in 2001. The Department of Health states that this increase was statistically significant, as were recorded increases in prevalence among the 30-34 and 40+ age groups.[1]

Table 2: HIV Prevalence by age group among ANC attendees in South Africa: 2000-2002

<table>
<thead>
<tr>
<th>Age Group</th>
<th>HIV pos. 95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2000</td>
</tr>
<tr>
<td>&lt;20</td>
<td>16.1 (14.5-17.7)</td>
</tr>
<tr>
<td>20-24</td>
<td>29.1 (27.4-30.8)</td>
</tr>
<tr>
<td>25-29</td>
<td>30.6 (28.8-32.4)</td>
</tr>
<tr>
<td>30-34</td>
<td>23.3 (21.5-25.1)</td>
</tr>
<tr>
<td>35-39</td>
<td>15.8 (13.9-17.7)</td>
</tr>
<tr>
<td>40+</td>
<td>11.0 (7.9-14.2)</td>
</tr>
</tbody>
</table>


First National Study of HIV Prevalence

The Nelson Mandela Foundation and the Nelson Mandela Children's Fund commissioned South Africa's first nationally representative study of HIV prevalence. The study was conducted by South Africa's Human Sciences Research Council (HSRC) in collaboration with the Medical Research Council (MRC) and the Center for AIDS Development, Research, and Evaluation (CADRE). It utilized a national sample of 9,963 people, including anonymous, saliva-based HIV tests from 8,840 participants. The findings, released in December 2002, indicated that 11.4 percent of South Africans—4.5 million people—were living with HIV/AIDS at the end of 2002.[3] (HSRC notes that the total sample size was limited by financial constraints. Overall, a total of 14,450 potential participants comprising of 4,001 children, 3,720 youths, and 6,729 adults were selected for the survey; 13,518 (93.6 percent) were actually visited. A small proportion (6.4 percent) of potential respondents could not be approached due to logistic constraints. Among the 13,518 individuals who were selected and contacted for the survey, 9,963 (73.7 percent) agreed to be interviewed, and 8,840 (65.4 percent) also agreed to provide a specimen for an HIV test.[3])

The 2002 HSRC study also found that:

- Among children ages 2–14, HIV prevalence was 5.6 percent (CI: 3.7–7.4%); among girls in this age group, it was 5.2 percent (95% CI=3.2–7.3%) and among boys, 5.9 percent (95% CI=2.8–8.9%). However, given relatively small sample sizes, HSRC noted that prevalence for
girls should be interpreted with caution. Among African children in this age group, HIV prevalence was 5.4% (95% CI=3.3–7.6%).[3]

- HSRC notes that the HIV prevalence among children ages 2–14 was unexpected. Once HIV prevalence was identified as high in this group, the authors undertook a record review to determine the number that could have been infected through MTCT. They found that only seven (6.1 percent) of the 86 HIV-positive children ages 2-14 had a biological mother who had died and a similar percentage (7 percent) had a biological father who had died. It remained unclear as to how these children could have been infected. Possible factors for investigation include sexual abuse and unsafe medical practices.[3]

- Prevalence among youth (ages 15–24 ) was 9.3 percent (95% CI=7.3–11.2). Among young males, it was 6.1 percent (95% CI=3.9–8.3), and among young females, 12.8 percent (95% CI=9.2–14.7). African youth had the highest observed prevalence of HIV infection (10.2 percent [95% CI=7.9–12.5]), followed by coloured youth (6.4 percent [95% CI=4.5–8.4])[3]

- HIV prevalence was higher in urban versus rural areas. Among all locality types, it was highest in urban informal settlements (21.3 percent [95% CI=16.2 –26.5]).[3][3]

- In contrast to the 2002 HSS findings, Free State, Gauteng, and Mpumalanga had the highest HIV prevalences in South Africa, whereas KwaZulu-Natal ranked fourth (Western Cape and Northwest has similar levels of prevalence). Eastern Cape had the lowest prevalence. HSRC posited several reasons for the observed discrepancies. First, all of KwaZulu-Natal's 36 HSS sites are found along major or main roads, where HIV prevalence is often higher. The HSRC study, in contrast, sampled respondents from rural and urban areas throughout KwaZulu-Natal. A second explanation may lie in locality types. KwaZulu-Natal has the country's second lowest proportion of people living in informal settlements (5 percent), which may account for the province's ranking in the HSRC study. The two provinces with the highest HIV prevalences also had the highest proportion of persons living in urban informal areas: Gauteng (19.9 percent) and Free State (16.9 percent). Further studies are needed to validate HIV prevalence in KwaZulu-Natal. [3]

- The observed HIV prevalence for women age 15–49 years in the Western Cape of 18.5 percent (95% CI=10.9–29.7%) is much higher than that observed in HSS data. The province has a high percentage of its population living in informal settlements (12.8 percent), which may be a factor. This finding also requires further investigation.[3]

A critique of the 2002 HSRC national study by Sarah Bennett, a health care actuary with NMG-LEVY Consultants and Actuaries in South Africa, cautioned that:

"Some of the results of the HSRC survey contradict the results of the annual antenatal survey. In the HSRC survey, prevalence amongst adults in KwaZulu-Natal is estimated to be the fourth highest at 15.7%, compared to the 2001 antenatal survey, which estimates prevalence amongst pregnant women in the province at 33.5% and the highest in South Africa. The findings of the HSRC report also contradict the Actuarial Society of South Africa (ASSA) prevalence projections calibrated primarily on the antenatal survey
results. ASSA’s estimate of adult prevalence is 24% compared to the HSRC’s estimate of 16%.[4]

"When extrapolating the findings of the HSRC report to the entire South African population, we must be convinced that the sample is representative and not biased in any way. The potential for bias arises out of a number of areas:

1. Firstly, as acknowledged by the report, certain potentially high-risk groups such as the military, prisons and hospitals were excluded from the survey.
2. Secondly, only 71% of the valid visiting points were realized. The remaining potential respondents were not at home or not available for the survey. People who are away from home a lot, or keep unconventional hours, may be at higher risk of infection.
3. Thirdly, only 74% of the selected respondents agreed to be interviewed and only 65% agreed also to give a specimen for an HIV test. Those refusing participation could be doing so because they are a higher risk group or know they are positive. An exception to this is the more affluent, who could be low risk, but unwilling to cooperate.
4. Therefore only 48% (65% of 71%) of potential respondents were tested. With such a low participation rate, there is substantial potential for bias in the results."[4]

"Further sources of bias could be:

- People with no fixed abode, such as truck drivers, who have been proven to have high levels of prevalence, were excluded.
- The interviewers were recently retired nurses, who have a high status in some communities in South Africa. This might have had an impact on how the respondents answered the questionnaire.
- Finally, it is quite possible that children interviewed/tested were those at home who may be there because of illness, which could have resulted in an overstatement of child prevalence."[4]

"Given a sample of 8,428 respondents and ignoring any bias, the estimate of national prevalence of 11.4% is not statistically significantly different from a true national prevalence as high as, or even higher than, 12.7%. Of course the uncertainty increases as the population sampled gets smaller. Thus although the report suggests that KwaZulu-Natal is no longer the province with the highest prevalence, the confidence interval around the estimate extends up to 15.2%, which means that it is entirely possible that the ordering of the top four provinces is simply a matter of chance. Likewise, again ignoring bias, the prevalence of Whites could be 50% higher or lower than the 6% (i.e. 3% - 9%) estimated by the survey. Thus the estimates from the survey, ignoring any bias, are somewhat uncertain. If 5.6% of the children aged 2-14 are infected, this means around 700 000 children are infected, which would lead, even on very optimistic assumptions about when they got infected and their survival, to around 4 000 deaths per annum due to HIV/AIDS in the 10-14 age group, for example. Extrapolating from the cause of death data captured by Statistics South Africa and adjusting for underreporting of deaths, we
only have some 350 to 400 deaths due to AIDS and potentially AIDS related conditions per annum."[4]

**HIV Incidence**

Dorrington et al. believe that HIV incidence in South Africa peaked around 1998 and has begun to decrease.[5] The prevalence declines observed between 2000 and 2002 in the <20 year age group may be an indication of slowing HIV incidence. Reductions in HIV-1 prevalence, especially those in young adults, may indicate concomitant declines in HIV-1 incidence. However, other factors, such as mortality rates, migration, and survey coverage, also contribute to prevalence trends. Thus, incidence trends cannot be estimated directly from prevalence trends.[6]

**Number of South Africans Living with HIV/AIDS**

Using the results of the 2002 HSS, the South African Health Department estimated that 5.3 million South Africans were HIV-positive at the end of 2002, an increase from the comparable 2001 estimate of 4.74 million. The department estimated that in 2002, 2.95 million women and 2.3 million men between ages 15 and 49 years were infected with HIV. An estimated 91,271 babies became infected with HIV through mother-to-child transmission route.[1]

As mentioned above, the 2002 HSRC national survey estimated that 4.5 million South Africans were living with HIV/AIDS at the end of 2002.[3] Dorrington, Bradshaw, and Budlender of the University of Cape Town's Center for Actuarial Research, estimate that at the end of 2002, there were 6.6 million HIV-positive South Africans.[5]

UNAIDS estimated that there were 5 million South Africans living with HIV/AIDS at the end of 2001 (estimate range: 4 million to 6 million), of whom 4.7 million were adults.[4] These estimates suggest that South Africa has more people living with HIV/AIDS than any other country in the world. UNAIDS underscores that populous countries with fast-growing epidemics may surpass this figure.

**Adult Prevalence**

UNAIDS estimated that at the end of 2001, HIV prevalence among adults ages 15 to 49 was 20.1 percent. Of infected adults, 57.4 percent were women.[4]

At the end of 2001, UNAIDS estimated that prevalence among South African women ages 15 to 24 ranged from 20.51 to 30.76 percent; the range for men in the same age cohort was 8.53 to 12.79. [4]

The U.N. Population Division estimates that South Africa's adult HIV prevalence peaked at 21.7 percent in 2002. By 2050, the division estimates that adult prevalence will have fallen to 8.6 percent. (This projection assumes that HIV/AIDS dynamics remain unchanged until 2010. Thereafter, prevalence levels are assumed to decline. By 2050, prevalence levels are lower but still substantial in the most highly affected countries.)[7]
**Transmission Patterns**

During 1982-97, 79 percent of transmission was heterosexual, 13 percent through mother-to-child transmission (MTCT), 7 percent through men who have sex with men, and 1 percent through infected blood.[17] (In southern Africa as a whole, 88 percent of new HIV infections are transmitted heterosexually, 10 percent are MTCT, and 2 percent through infected blood transfusions.[18])

A study published in 1998 noted that the HIV epidemic in South Africa represents two separate though simultaneous epidemics: a pattern I epidemic involving primarily white, homosexual or bisexual men, and a pattern II epidemic involving primarily black, heterosexual men and women.[19]

**AIDS Cases**

Dorrington, Bradshaw, and Budlender of the University of Cape Town's Center for Actuarial Research estimated the number of HIV-positive South Africans in 2002 at 6.6 million; of them, 453,352 were "AIDS sick," i.e., in stage 4 of WHO's staging system, at the end of 2002. Dorrington et al. project that this figure will rise to 1.4 million by the end of 2010.[5]

A June 2001 report from Abt Associates estimated that by 2010, 1 million South Africans would be living with AIDS. (NMG-Levy Consultants and Actuaries also puts the number of South Africans with AIDS at 1 million in 2010.[15] Abt stresses that even then AIDS cases will not have peaked.

**AIDS Mortality and Disability**

See also the Impact section below.

In September 2001, South Africa's Medical Research Council (MRC) estimated that about 40 percent of adult (ages 15-49) deaths that occurred during 2000 were due to HIV/AIDS and that about 20 percent of all adult deaths in that year were due to AIDS. It went on to estimate that AIDS accounted for about 25 percent of all deaths in 2000 and had become the leading cause of death in South Africa. The MRC's projections indicated that, absent treatment to prevent progression to AIDS, the number of AIDS deaths would grow, within the next 10 years, to over double the number of deaths due to all other causes. Under this scenario, the MRC projected 5 to 7 million cumulative AIDS deaths in South Africa by 2010.[14]

To rebut the MRC study above, the South African cabinet commissioned Statistics South Africa to undertake a study on AIDS-related mortality. The study examined causes of death in South Africa during 1997-2001 and was based on a 12 percent stratified random sample of deaths occurring during the study period. The findings, released in November 2002, indicated that the five leading underlying causes of death among South Africans between 1997 and 2001 were:

1. unspecified unnatural causes (e.g., suicide, drowning, motor accidents)
2. ill-defined causes
3. TB
4. HIV
5. influenza & pneumonia[8]

According to Statistics South Africa, the proportion of deaths due to HIV nearly doubled, from 4.6 percent in 1997 to 8.7 percent in 2001, whereas the proportion of deaths due to unspecified unnatural causes declined from 15.3 to 8.2 percent during the same period. The study also found:[8]

- The highest prevalence of HIV deaths was among African females (13.5 percent), females ages 15-29 (24.3 percent), and females ages 30-39 (20.5 percent). The lowest prevalence of HIV deaths was among white females (0.7 percent).[8]

- HIV is the leading cause of death among African females. Males ages 15-39 experienced the highest mortality attributable to unspecified unnatural causes, whereas females in the same age group died primarily as a result of HIV. For both males and females, there was a sharp decline in deaths due to unspecified unnatural causes. By contrast, the proportion dying from TB, HIV, and influenza & pneumonia increased significantly. However, the proportion of deaths due to HIV was about three times higher among females ages 15-29 than among males in the same age group, 22.5 vs. 8.5 percent, respectively. In the age group 40-49, the two leading underlying causes of death among males were unspecified unnatural causes and TB, whereas ill-defined causes and HIV were the two leading causes among females.[8]

- Between 1997 and 2001, the proportion of children dying from HIV and influenza & pneumonia increased, whereas deaths due to unspecified unnatural causes declined. [8]

- The main causes of death among Africans and coloureds were TB, HIV, influenza & pneumonia, and unspecified unnatural causes, whereas whites and Indians tended to die because of diabetes, ischemic heart disease, and cerebrovascular diseases. Cerebrovascular disease was the leading cause of death among coloured females and ischemic heart disease the leading cause among Indian and white females.[8]

In March 2003, the MRC released initial estimates from the South African National Burden of Disease Study 2000. It found that HIV/AIDS was the single leading cause of death in the country, accounting for 30 percent of all deaths, followed by cardiovascular disease (17 percent), infectious and parasitic excluding HIV (10 percent), malignant neoplasms (7 percent), and intentional (7 percent) and unintentional injuries (5 percent). HIV/AIDS accounted for 34 percent of female deaths and 26 percent of male deaths.[9]

The MRC study also examined premature mortality (years of life lost [YLLs], which consider not only the number of deaths, but also the age at which death occurred). It found that HIV/AIDS is by far the largest single cause of YLLs in both males and females (38 percent). Forty-seven percent of all YLLs for females were attributed to HIV/AIDS; the comparable figure for males was 33 percent. Examination of age distribution indicated that it is particularly young female adults who are dying.[9]
Disability adjusted life years (DALYs) include YLLs due to premature mortality as well as "years lived with a disability" (YLDs), weighted according to severity of the disability. The MRC found that in terms of DALYs, HIV/AIDS is the major contributor, followed by other infectious and parasitic diseases, and unintentional and intentional injuries. Without interventions aimed at reducing AIDS mortality, HIV/AIDS will more than double the burden of premature mortality (YLLs) experienced in 2000. By 2010, HIV/AIDS will account for 75 percent of premature mortality, compared to 39 percent in 2000.[9]

Data Quality Issues

See also box 1.

ANC data currently serve as South Africa's primary sentinel surveillance of HIV/AIDS. The South African government is developing new surveillance methods in collaboration with the U.S. Centers for Disease Control and Prevention (CDC).[2]

Because ANC surveys are the only national source of information on the growth of the epidemic, many assumptions regarding them are based on computer simulation models calibrated to antenatal data.[6, 10] Though ANC prevalence is widely used, they are imperfect. Children and the elderly—who are at substantially lower risk of HIV—are not captured by antenatal surveys. Even among adults in sexually active groups, the antenatal survey prevalence figures do not reflect the lower overall risk of men, people who are less sexually active, and those who use private sector health facilities.[6][1]

Yet, these antenatal data may underestimate HIV prevalence in women of reproductive age as recent studies indicate that fertility among HIV-positive women is substantially lower than among uninfected women. Zaba et al. have found 25 to 40 percent lower fertility in women with HIV in high-prevalence African countries; they attribute about half of this "subfertility" directly to HIV infection.[11]

The South African Government's interpretation of the 2000 HSS data varied greatly from that of many South African and international researchers. The government noted that it was "encouraged to see that the trend observed between 1990 and 1998—an exponential rise—has begun to slow down between 1998 and 2000. As the antenatal survey is a proxy indicator for the development of the HIV epidemic in the general population, the findings for HIV and syphilis in the last three years suggest a slower progression of the pace of epidemic."[9] However, the first sentence of a June 2001 Abt report stated, "During the period 1994 to 2001, there has been an exponential growth of HIV infections in South Africa....Experts agree that South Africa now faces one of the world's most severe HIV/AIDS epidemics."[6]

The South African Government posited that the 2001 HSS data demonstrated that the HIV epidemic was stabilizing, as the government had maintained when the 2000 ANC data were released in 2001. It cited the decline in HIV prevalence among women under age 20 (from 16.1 percent in 2000 to 15.4 percent in 2001), although this was not significant, (Note that from 2000 to 2001, prevalence among women ages 30 to 34 rose from 23.3 to 25.6 percent; for women ages 35 to 39, the comparable increase was 15.8 to 19.3 percent.) The government also cited the
HIV/AIDS in South Africa

Following release of the 2001 ANC data, Prof. Salim Abdool Karim, an epidemiologist who serves as deputy vice chancellor for research at the University of Natal, stressed that because more people are dying from HIV/AIDS-related causes, the rate of new HIV infections must be increasing to keep the prevalence rate stable. He stated that "a lack of change in prevalence data hides the situation where a large number of new infections are taking place."[12]

The Treatment Action Campaign noted that:

In particular we are concerned that although there are signs of declining (but still high) levels of infection among young women under 20, HIV prevalence rises again as women get older. This trend was also noted in the 2000 survey. It suggests that prevention programs that target youth, but are not complemented by equally strident messages targeting older people (and particularly married people), lose their benefits as people enter relationships where they have less sexual autonomy and control....Legitimate questions have been raised about the continued delays in publication of the survey results and denying researchers access to the raw data.[13]

With regard to the 2002 HSS, the government again appears to be focusing solely on declines in prevalence among those under age 20, regardless of whether they are significant, to make the leap to demonstrating slowing incidence. Moreover, the government does not discuss that even if the epidemic is stabilizing (as yet unproven), it is doing so at very high levels:

"When the prevalence rates are examined on a year on year basis, in other words comparing 2001 and 2002 prevalence rates, the observed increase does not raise concern from the perspective of escalation of the epidemic. It is expected during a stabilization phase that there may be minor spiking. Overall, the rate of increase between the two years is very low. It is particularly encouraging to observe what may be the beginnings of a decline in HIV rates among women aged below 20 years. This group is considered the most important to watch with respect to new infections taking place. The increases observed among other age groups need closer examination but may suggest a cohort effect, or less ability/empowerment for women in these age groups to respond to prevention messages."[1]

And rather than investigate possible provincial dynamics, the government downplayed prevalence increases observed in Western Cape and other provinces:

"In terms of provincial comparisons, KwaZulu-Natal is still the province with the highest HIV prevalence rate among pregnant women and has shown an increase between 2001 and 2002. Western Cape province has for the first time since the beginning of the antenatal surveys, recorded a prevalence rate above 10%. Two provinces, namely Free State and Northern Cape have shown slight declines in HIV prevalence between 2001 and 2002, whilst Mpumalanga shows a decline between 2000 and 2002. All other provinces are showing increases in HIV prevalence between 2001 and 2002. The reasons
for this may be difficult to decipher as the survey gives an indication of existing infections and not new infections (incidence)."[1]

Box 1. HIV Sentinel Surveillance: Evaluating Data from Antenatal Clinics

In many developing countries, estimates on the magnitude of and trends in the HIV epidemic are obtained through HIV seroprevalence surveys. These surveys are primarily conducted using sentinel populations. The most frequently used sentinel populations are women attending antenatal clinics and persons attending clinics for diagnosis and treatment of sexually transmitted infections. The objectives of sentinel seroprevalence surveys include:

1. obtaining information on the prevalence of HIV infection in the sentinel population
2. monitoring trends in HIV prevalence in the sentinel population
3. providing information for estimating future number of AIDS cases
4. providing information for program planning and evaluation of interventions

Seroprevalence surveys are usually conducted annually at preselected clinics or hospitals. Surveys of women attending antenatal clinics can provide a reasonable estimate of HIV prevalence within the general population. The surveys are conducted among women ages 15 to 49 years attending the antenatal clinic for the first time during a current pregnancy. Surveys are usually conducted in an unlinked manner, in which serum remaining from routine syphilis screening is tested for HIV infection after all personal identifying information is removed from the specimen. Sampling is usually conducted during an 8- to 12-week period, and all eligible women are sampled consecutively until the desired sample size is achieved. In general, samples of 250 and 400 women are usually sufficiently large as to provide reasonable estimates of HIV prevalence over time.

Although these surveys are extremely useful, there are several limitations to consider when interpreting the survey results. The surveys are not based upon a probability sample and therefore may not be representative of the population as a whole. True population-based surveys have found antenatal clinic data may overestimate or underestimate HIV prevalence.

Moreover, the ANC studies do not provide information on mortality or HIV-associated morbidity. In addition, although monitoring trends in HIV prevalence provide information on the magnitude of the HIV epidemic, trends in prevalence cannot be relied upon to indicate trends in HIV incidence. However, examining trends in HIV prevalence in younger populations, particularly 15- to 19-year-olds, may provide some indication of trends in recently acquired HIV infection, as this group is unlikely to have been infected for a long period of time.

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Political Economy and Sociobehavioral Context

At a Glance Summary Bullets

- Many of the factors discussed in this section exist in countries that, unlike South Africa, have low HIV prevalence; these include wide income disparities, history of colonialism and political and economic disenfranchisement, and gender inequality.

- The relationship between HIV prevalence and socioeconomic markers is highly complex. Risk of HIV infection is related, inter alia, to individual behavior and socioeconomic characteristics as well as to the socioeconomic profile of the community in which one is situated. Moreover, since 1994, the social divisions within South African society have themselves become more complex.

- This section does not seek to demonstrate causality. Rather, it analyzes key political economy and sociobehavioral contextual elements to highlight the range of sectoral policies and interventions that may affect or be affected by HIV/AIDS.

Legacy of Colonialism and Apartheid

- Black South Africans have been subject to a long history of systematic social disruption and dislocation.

- Apartheid disenfranchised black South Africans politically, socially, and economically. Human rights abuses—including those perpetrated within the health sector—were common. The apartheid government routinely used violence to exert power. A study conducted by South Africa’s Medical Research Council and the London School of Hygiene and Tropical Medicine found that violence remains common in daily life in South Africa.

Race

- Even when adjusting for socioeconomic factors, race remains a significant determinant of HIV risk. HIV risk is highest among black South Africans, substantially lower among coloureds and Asians, and lowest among whites.

Socioeconomic Disparities

- South Africa’s 2001 GNI per capita was US$2,820, the second-highest in sub-Saharan Africa, masks wide income disparities. Thirty-five percent of South Africa’s population lives on less than US$2 a day.

- Postapartheid economic growth in South Africa has been slow, and efforts to increase employment have stalled. Unemployment among women greatly exceeds that among men. There is a high rate of unemployment among unskilled workers, who have the highest HIV infection rate and the highest AIDS-related death rate.
Poverty

- Sixty-one percent of Africans, 38 percent of coloreds, 5 percent of Indians, and 1 percent of whites were poor in 1995. A disproportionate number of the chronically poor are Africans and coloreds living in rural areas; the elderly and female-headed are most likely to be chronically poor.

Population Mobility

- Mass resettlements of populations under apartheid, seasonal labor migration, movements along major trade routes, refugees fleeing war in other parts of Africa, and, since 1990, return of political exiles and liberation armies have all contributed to the spread of HIV.

- There is high mobility among urban, rural, mining, and port areas, much of it dominated by men. Migrant labor separates men from their families, places them in close proximity to "high-risk" sexual networks, and may result in their having an increased number of sexual contacts. Migration is an independent risk factor for HIV infection among South African men. Concurrently, it may also lead to women's reliance on sex to supplement their incomes while their male partners are away for long periods.

Mining

- Men are not allowed to bring their families with them to the mines. Miners live in single-sex hostels or barracks, far from their spouses or regular partners. Commercial sex and access to alcohol are common features of life in hostel compounds. Migrant labor and hazardous physical work—relieved primarily by alcohol and sex—create an environment that may be considered conducive to rapid HIV transmission.

Crime

- According to the U.N. Office on Drugs and Crime, overall levels of crime began to increase in the mid-1980s and rose throughout the 1990s. Although there are some indications that the steep increase in crime has abated, South Africa remains among the most crime-ridden and crime-concerned societies in the world. Violent crimes, such as attempted murder, aggravated robbery, serious and common assault, and in particular violence against women and children, has increased since 1994.

Stigma and Discrimination

- Stigma around HIV/AIDS remains strong and is likely to influence personal decisionmaking with regard to HIV testing and disclosure.

Health System

- There are one national and nine provincial health departments, with provinces responsible for implementation of AIDS programs. The national government is primarily responsible for collecting and distributing revenue equitably among provinces, formulating broad policy
frameworks, and defining norms and standards for service provision.

- Despite redistributive policies in the early postapartheid period, South Africa's health care infrastructure remains highly inequitable.

- WHO ranks South Africa a "high TB burden" country, with the world's seventh-highest burden of TB (by number of cases). There is a lack of effective integration between TB and HIV policies and programs.

**STIs**

- The 2002 ANC survey found that an estimated 3.2 percent of ANC attendees had active syphilis. This figure is an increase over the 2001 figure of 2.8 percent in 2001.

- A study in Carletonville found that infection with herpes simplex virus type-2 was the most significant factor associated with HIV status for both men and women.[39]

**Gender**

- HIV prevalence among South African women tends to peak between ages 25 and 29, whereas among men, it peaks several years later (usually between ages of 30 and 35) and at lower levels. Women tend to become infected at younger ages than men for both biological and behavioral reasons. High male-to-female transmissibility of HIV is considered likely to play a significant role. Age mixing is another crucial factor.

- Women's subordinate economic status affects their vulnerability to acquiring HIV and, once infected, accessing care and support services. Even among married South African women, there is a high level of economic maltreatment.

- Women are commonly viewed as "being inferior to men, as possessions, and as needing to be led and controlled." Many women are unable to insist on condom use and negotiate the timing of sex and the conditions under which it occurs.

- Many women also face abuse and/or abandonment if they disclose their HIV-positive status. Lobola, a long-standing tradition whereby men purchase a wife by paying her family a dowry, also renders it difficult for women to leave their husbands, as this would require fathers to repay the dowry.

**Sexual Violence**

- In most presentations of police rape statistics, South Africa is near or at the top.

- Household surveys represent another method of obtaining information on the extent of sexual violence. The last South African Demographic & Health Survey found a national rape prevalence of 7 percent, ranging from 3 to 12 percent across provinces.

- Both police statistics and household studies reveal that young women—the demographic group most at risk for HIV/AIDS—are also at highest risk of being raped.
South Africa is a destination country for women trafficked from other parts of Africa, Eastern Europe, Asia, and the former Soviet Union for commercial sexual exploitation. South African women and children are also trafficked internally for labor and commercial sexual exploitation.

Rape, sexual violence, sexual harassment, aggressivity toward and physical and verbal degradation of female students by male school teachers and male classmates are widespread and largely normalized and tolerated. Girls who report sexual abuse are often further victimized and stigmatized by teachers and students. School authorities rarely ensure a sense of security at school nor counsel and discipline male perpetrators.

**Sexual Behavior**

Several South African researchers underscore that individual risk of HIV infection is determined by individual as well as community factors. Thus, individual sexual behavior may be less important than the community from which sexual partners are chosen, i.e., social context may be a stronger predictor of disease than individual behavior.

In South Africa, sexual debut is generally early, usually beginning during the mid-teens; for girls, often shortly after menarche.

The 2002 HSRC survey found that sexual experience among youth was significantly higher in urban informal areas than in any other types of localities.

A high number of sexual partners, especially among men, is socially acceptable and encouraged. Given the country's economic situation and high unemployment, as well as lack of affordable recreational opportunities, sexual relationships provide one of the few opportunities wherein young South Africans may obtain success, respect, and self-esteem.

Multiple sexual partners, as well as ability to control girlfriends, are key to notions of "masculinity." Masculinity among miners signifies bravery, fearlessness, and the willingness to take risks; "real" men have enormous sex drives that lead them to have sex with an unlimited number of women. Given this scenario, many miners do not use condoms.

Among 2002 HSRC respondents, a higher proportion of Africans and male or female respondents living in urban informal areas had multiple partners.

The 2002 HSRC survey found that youth had significantly higher rates of condom use than adults. Single respondents were considerably more likely to use a condom than those who were married.

**Transactional Sex**

Sex is also often used as a commodity in exchange for money or other forms of payment. Transactional sex involves nonmarital sexual relationships, often with multiple partners, that are a result of men's superior economic position and access to resources, the value placed on men's having multiple sexual partners, and women's desire to access power and resources such as gifts or cash.
Awareness and Knowledge of HIV/AIDS

- There are some areas of weak knowledge among South Africans. For example, knowledge about breastfeeding is poor.

Alcohol and Drug Use

- Much sex work in South Africa is initiated in shebeens (informal liquor stores or bars), and alcohol consumption is likely to result in inconsistent condom use and other unsafe sex behaviors. Alcohol consumption is more likely to be a risk factor for HIV if associated with an "unsettled lifestyle and migrancy." This is because migrants are less likely to have a regular partner living with them and are thus more likely to acquire sexual partners through visits to shebeens.

- Data from surveys of young South Africans convey that their drug and alcohol use during sex is a concern.

- Since 2000, heroin use has increased significantly in major urban areas, particularly in Gauteng and Cape Town. Injecting drug use is not common in South Africa, although recent evidence indicates that the injecting of heroin is increasing.

Male Circumcision

- Some observational studies from sub-Saharan Africa have indicated that male circumcision may reduce the risk of HIV acquisition, though circumcision does not appear to affect transmission from HIV-positive men to their partners.

- The 2002 HSRC study found that 35 percent of all adult and young males had been circumcised.

In a paper prepared for the WHO Commission on Macroeconomics & Health, David Bloom of Harvard and his colleagues note that:

Existing data provide some indication that the relationship between poverty and HIV is growing stronger over time, both between and within continents. But it is not possible to infer causality from these data. That is, it is difficult to tell whether poverty causes AIDS or vice versa—or whether another variable, such as war, inadequate health, or poor education, explains the relationship....In sum, the link between economic status and AIDS is complex. While many micro level studies point to a significant link between poverty and HIV prevalence rates, macro data is unconvincing, particularly in terms of the causality of the link. Some risk factors for HIV, such as a high level of disposable income, are more prevalent amongst the rich than the poor. Others, such as lack of education, are more prevalent among the poor than the rich. Both groups exhibit the kind of mobility that appears to be associated with HIV transmission. On balance, it seems plausible that the rich are more at risk in the early stages of an epidemic, and that a combination of factors, including lack of education and other economic exigencies, put
HIV/AIDS is not strictly speaking a "disease of poverty" as it affects people at all income levels. But evidence from some countries at advanced states of the epidemic shows that new HIV infections disproportionately affect poor people, unskilled workers, and those lacking literacy skills—esp. young women in each of these categories. The relationship among poverty, gender, and HIV vulnerability has important policy implications.[11]

Many of the factors discussed in this section exist in countries that, unlike South Africa, have low HIV prevalence; these include wide income disparities, history of colonialism and political and economic disenfranchisement, and gender inequality. The relationship between HIV prevalence and socioeconomic markers is highly complex. Risk of HIV infection is related, inter alia, to individual behavior and socioeconomic characteristics as well as to the socioeconomic profile of the community in which one is situated. Moreover, since 1994, the social divisions within South African society have themselves become more complex.[3]

This section does not seek to demonstrate causality. Rather, it analyzes key political economy and sociobehavioral contextual elements to highlight the range of sectoral policies and interventions that may affect or be affected by HIV/AIDS. In addition to the table of key HIV/AIDS and socioeconomic indicators that accompanies this analysis, readers may also want to consult the 2003 indicators related to South Africa's progress on achieving the Millennium Development Goals, which are published by UNDP <http://www.undp.org/hdr2003/indicator/index_indicators.html>.

**Legacy of Colonialism and Apartheid**

Black South Africans have been subject to a long history of systematic social disruption and dislocation.[20] Through dispossession of land by whites, African farmers were forced to retreat to other areas or to become sharecroppers or farm laborers. In the latter half of the 19th century, the discovery of diamonds and then of gold led to a rapidly growing demand for black mineworkers.[12] During the 19th century, southern African mining industries had a legally enforced migratory black labor system under which many African men were separated from their homes. The 1913 Native Land Act spurred vast resettlement schemes that dispossessed blacks of their land and sought to ensure a steady supply of male labor to mines and other industries.[20] The act formalized the distinction between African "reserves" and white farming areas, and prohibited Africans from acquiring, owning, or renting land in the latter. This scenario limited their economic options so severely such that many Africans sold their labor to the mines and white farms.[12]

Apartheid disenfranchised black South Africans politically, socially, and economically.[21]
Human rights abuses—including those perpetrated within the health sector—were common.[22] The apartheid government routinely used violence to exert power. A study conducted by South Africa's Medical Research Council and the London School of Hygiene and Tropical Medicine found that violence remains common in daily life in South Africa and that beating is perceived as normal way of exacting punishment and exerting control.[23] A recent study in the mining town of Carletonville found an everyday environment characterized by "chaos and danger," as well as high levels of alcohol consumption, poverty, and gang conflict.[21] KwaZulu-Natal has been particularly affected by violence and political conflict between African National Congress and Inkatha Freedom Party supporters, which may play some role in the province's high HIV prevalence.[3] Violence in schools has long been and continues to remain prevalent.[24] (See "Sexual Violence in Schools" box below.) Sixty-five percent of young South Africans indicate that they are worried about their personal safety and cite crime, violence, and abuse as major concerns.[25]

Race

According to Fassin and Schneider:

"Inequality, mobility, and violence are partly the legacy of centuries of colonial exploitation and racial segregation, culminating in the institution of apartheid in the second half of the 20th century. Epidemiologically this segregation translates as differential HIV seroprevalence between black and white groups and between social classes."[13]

Researchers from the University of Cape Towns' Center for Actuarial Research have found that even when adjusting for socioeconomic factors, race remains a significant determinant of HIV risk. HIV risk is highest among black South Africans, substantially lower among coloureds and Asians, and lowest among whites. The proportion of the population that is black is relatively low in the Western Cape and the Northern Cape, partially explaining why prevalence is relatively low in these provinces.[1, 3] Further, rates of AIDS orphanhood are likely to be highest among black Africans and among poorer socioeconomic groups.[26]

The 2002 HRSC study found that Africans had higher estimated HIV prevalence [12.9% (CI=11.2–14.5%)] than whites [6.2% (CI=3.1–9.2%)] and coloureds [6.1% (CI=4.5–7.8%)]. The interplay of historical inequities, labor migration, mobility, and relocation are likely important factors, as Africans are more likely than any other race to live in informal settlements, where HIV prevalence is highest.[3] (Note caveats to HSRC study above.)

Socioeconomic Disparities

South Africa's 2001 GNI per capita was US$2,820, the second-highest in sub-Saharan Africa (following that of Botswana).[14] Manufacturing, much of it based on mining, is the largest contributor to South Africa's GNI.[28] Yet South Africa's GNI masks wide income disparities. Thirty-five percent of South Africa's population lives on less than US$2 a day.[27] According to the World Bank, about 13 percent of the population lives in "first world" conditions, whereas 53 percent lives in "third world" conditions. Among this latter group, 25 percent of households
have access to electricity and running water; half have a primary school education; and over one-third of children suffer from chronic malnutrition.[28]

As the accompanying indicator table demonstrates, South Africa's human development and socioeconomic indicators are often higher than those for the sub-Saharan Africa region. Yet again, these data mask high inequality. One way of measuring such inequality is with the Gini index, which measures the extent to which the distribution of income (or consumption) among individuals or households within a country deviates from a perfectly equal distribution. A value of 0 represents perfect equality, a value of 100 perfect inequality. South Africa's 2001 Gini index of 59.3 connotes a high level of inequality.[15]

Schneider underscores that although poverty is still strongly correlated with race, the social divisions within South African society have become more complex--the result of postapartheid era changes and the opening up of opportunities to historically disadvantaged groups. She quotes a 2001 paper by Nattrass and Seekings:

"In postapartheid South Africa, inequality is driven by two income gaps: between an increasingly multiracial upper middle class and everyone else; and between a middle class of mostly urban, industrial, or white-collar workers, and a marginalized class of black unemployed and rural poor."[20]

A June 2001 Abt Associates report notes that less than 60 percent of the population lives in formal housing and that 17 percent of households obtain their water supply directly from dams, rivers, streams and boreholes; less 30 percent have telephones; and approximately half have no flush or chemical toilets. A Kaiser Family Foundation survey of young South Africans, undertaken in September 2000, found that one-third live in households with monthly income of less than R1,000 (about US$145).[25] Schneider also notes that despite redistributive policies in the early post-1994 period, South Africa's health care infrastructure remains highly inequitable.[20] (See Health System section below.)

Postapartheid economic growth in South Africa has been slow, and efforts to increase employment have stalled.[28] South Africa's unemployment rate is about 34 percent.[6] The 1999 October Household Survey found that 73 percent of those presently unemployed have never had a job.[12] Unemployment among women greatly exceeds that among men.[16][12]

Of those employed, there are large wage differentials: 26 percent earn R500 (US$73) or less each month, and only 11 percent earn over R4,500 (US$653). There are no unemployment benefits for those who have never been formally employed or those who have been unemployed for over one year.[6] One-half of those unemployed are classified as marginalized, with few prospects of formal sector employment.[28] There is a high rate of unemployment among unskilled workers, who have the highest HIV infection rate and the highest AIDS-related death rate.[30]

Nattrass of the Center for Social Science Research at the University of Cape Town: Cape Town has found that there appears to be little difference in HIV prevalence between men and women who are employed. HIV prevalences among those who are unemployed are often 30 to 50 percent higher than among the employed, in part reflecting the large share of young people (and
females) among the unemployed. These data suggest that unemployed women are particularly vulnerable to HIV infection.[31]

(NB: The 2002 HRSC survey found that there was no significant difference in HIV prevalence between those who reported that they were working (14.2 percent) and those not working (12.1 percent) (p=0.7). See study caveats above.[3])

Employment opportunities for unskilled women with low educational attainment are particularly poor.[21] Sectors in which female employees predominate (e.g., garment industry) have been especially vulnerable to job losses. Wages in these sectors have fallen and are as low as R260 (US$38) per month. This scenario weakens women's economic status, thereby exacerbating gender inequalities and thus vulnerability to HIV.[32] Moreover, the most impoverished women are the least likely to seek out or have access to sexual and reproductive health services.[33]

**Poverty**

Aliber of the Human Sciences Research Council notes that using a national poverty line of R352 (US$51) per month, 61 percent of Africans, 38 percent of coloreds, 5 percent of Indians, and 1 percent of whites were poor in 1995. Based on the same data set, 72 percent of the poor lived in rural areas. The poorest provinces were those encompassing the most populous former homeland areas, e.g., KwaZulu-Natal, Limpopo, and Eastern Cape. A disproportionate number of the chronically poor are Africans and coloreds living in rural areas; the elderly and female-headed are most likely to be chronically poor. Aliber estimates that at least 18 to 24 percent of households nationwide are in chronic poverty or are highly susceptible to chronic poverty. [12]

The 2002 HRSC survey found that when socioeconomic status of the home is categorized on a scale ranging from "not having enough money for food and clothes" through "having disposable income for luxuries," there was a decrease in HIV prevalence moving from poorer to richer homes when all participants were included. However, this trend disappeared when African-only data were analyzed.[3] (See study caveats above.)

**Human Development**

One method of tracking human development in South Africa is to analyze trends in its Human Development Index. The HDI was created by UNDP to measures average achievements in life expectancy at birth; adult literacy and combined primary, secondary, and tertiary gross enrollment ratios; and GDP per capita (most UN agencies are now calling this gross national income [GNI]; details on its calculation can be obtained from the World Bank). An HDI of 0.800 or above = high human development; 0.500 - 0.799 = medium human development; less than 0.500 = low human development. In 2001, South Africa's HDI value was 0.684, ranking it 111 out of 175 countries for which UNDP calculated an HDI. [15]

Although South Africa's HDI value is higher than that of the sub-Saharan African region (0.468), it is worrying that it has declined markedly since the mid-1990s, when it stood at 0.741.[15] Part of this decline is likely due to the enormous impact of AIDS mortality (see Impact section), which has drastically reduced the life expectancy component of the HDI value. This phenomenon is also seen in UNDP's data on probability at birth of surviving to age 65: among newborn South Africa females, only 37.4 percent are likely to survive to age 65 (compare the
The decline in human development may also be partly attributable to the reduction in public expenditure on education. Public spending on education rose from 6.1 percent of GNP during 1985-87 to 7.6 percent during 1995-97,[16] yet fell to 5.5 percent in 1990.[15] The South African government has increased its spending on health, from 3.1 percent of GDP in 1990 to 3.7 percent in 2000. During the 1990s, military expenditures decreased dramatically, from 4.1 percent of GNI in 1989 to 1.5 percent in 1990.[15]

Population Mobility

Fassin and Schneider discuss how mass resettlements of populations under apartheid, seasonal labor migration, movements along major trade routes, refugees fleeing war in other parts of Africa, and, since 1990, return of political exiles and liberation armies have all contributed to the spread of HIV.[13]

As mentioned above, mobility has been closely intertwined with colonial and apartheid rule. Through most of the 20th century, control of Africans' mobility remained a high priority of the government. Since at least the late-19th century, a pattern emerged wherein Africans and coloreds were relegated to townships adjacent to white towns. The Natives (Urban Areas) Act of 1923 formalized local authorities' power to delineate urban settlements according to race. In 1950, the Urban Labor Preference Policy was introduced, which strengthened the discriminatory system of labor and pass controls.[12]

Currently, there is high mobility among urban, rural, mining, and port areas, within South Africa as well as within the southern Africa subregion. Much of this movement is dominated by men [3, 34] and has been facilitated by a well-developed transport infrastructure.[18] Migrant labor separates men from their families, places them in close proximity to "high-risk" sexual networks, and may result in their having an increased number of sexual contacts. Concurrently, it may also lead to women's reliance on sex to supplement their incomes while their male partners are away for long periods.[3]

Many of the antiapartheid forces were based north of South Africa's borders, in countries with high HIV prevalence; after 1994, these former revolutionary cadres were incorporated into the country's national defense force. The return of these cadres from areas of high HIV prevalence to military bases throughout South Africa may be a factor in the country's high HIV prevalence as well as the prevalence levels found in the military[3] (see the "Impact" section below).

Given the migrant labor system, apartheid-era forced population dislocations, and the transport system, South African rural communities are not as static nor as geographically isolated as those in the rest of sub-Saharan Africa. These factors have facilitated HIV's rapid spread to rural areas.[3] Many poor rural households depend on cash transfers through migrant remittances.[20] The return of HIV-infected migrants to their home areas ends the flow of remittances just as care costs become necessary. Moreover, a shift of the care burden may result, moving from the relatively better-off areas from which migrants are returning to their poorer home areas.[16]
Lurie of the South African Medical Research Council and his colleagues found that migration is an independent risk factor for HIV infection among South African men. They investigated the association between migration and HIV infection among migrant and nonmigrant men and their rural partners. They used a cross-sectional study of 196 migrant men and 130 of their rural partners, as well as 64 nonmigrant men and 98 rural women whose partners are nonmigrant. Male migrants were recruited at work in two urban centers, 100 km and 700 km from their rural homes. Rural partners were traced and invited to participate. Nonmigrant couples were recruited for comparison. The study involved administration of a detailed questionnaire and blood collection for HIV testing. The researchers found that 25.9 percent of migrant men and 12.7 percent of nonmigrant men were infected with HIV (P = 0.029; odds ratio = 2.4; 95% CI = 1.1-5.3). In multivariate analysis, main risk factors for male HIV infection were being a migrant, ever having used a condom, and having lived in four or more places during a lifetime. Among women, being the partner of a migrant was not a significant risk factor for HIV infection; significant risk factors for women were reporting more than one current regular partner, being younger than 35 years, and having STI symptoms during the previous four months.[17]

Lurie et al. also examined HIV-1 discordance among migrant and nonmigrant men and their rural partners. Using a cross-sectional behavioral and HIV-1 seroprevalence survey among 168 couples, they found that 70 percent (117 of 168) of couples were negatively concordant for HIV, 9 percent (16 of 168) were positively concordant, and 21 percent (35 of 168) were discordant. Migrant couples were more likely than nonmigrant couples to have one or both partners infected (35 versus 19 percent; P = 0.026; odds ratio (OR) = 2.28) and to be HIV-1 discordant (27 versus 15 percent; P = 0.066; OR = 2.06). In 71.4 percent of discordant couples, the male was the infected partner; this finding did not differ by migration status. In a mathematical model developed by the researchers, migrant men were 26 times more likely to be infected from outside their regular relationships than from inside [relative risk (RR) = 26.3; P = 0.000]; nonmigrant men were 10 times more likely to be infected from outside their regular relationships than inside (RR = 10.5; P = 0.00003).[18]

Numerous studies have been undertaken within mining communities and among truck drivers. In a study of truckers in KwaZulu-Natal, of whom all traversed more than one province and 67 percent neighboring countries, investigators from South Africa's Medical Research Council found that 37 percent reported always stopping for sex along their route. Twenty-nine percent reported never using condoms with sex workers, 13 percent used condoms with their wives, 42 percent practiced anal sex, and 66 percent had an STI in the previous six months. The overall HIV prevalence among truck drivers and sex workers located at truck stops surveyed in the study was 56 percent.[35] (Note that most trucking routes from the north terminate in Durban, which is located in KwaZulu-Natal, the province with the highest HIV prevalence, as per HSS findings.[3])

In November 1999, Family Health International undertook research in four towns along the Durban-Lusaka highway. The study found high HIV/STI vulnerability in border towns, whose character has been altered by trucking routes. Thousands of truckers—sometimes exceeding the stable adult population of border towns—pass through each month, and their incomes are far greater than those of local residents. Acute female poverty and high male and female mobility
were found in all sites, as were poor STI treatment facilities and inadequate condom availability.[36]

**Mining**

The removal of black male labor force from villages to work in mines has been the driving force of the South African economy since the end of the 19th century. Generally, men are not allowed to bring their families with them to the mines. Miners live in single-sex hostels or barracks, far from their spouses or regular partners. Commercial sex and access to alcohol are common features of live in hostel compounds. Migrant labor and hazardous physical work—relieved primarily by alcohol and sex—create an environment that may be considered conducive to rapid HIV transmission. Mining areas illustrate how social context can have a greater effect on risk of infection than individual sexual behavior. For example, in the mining town of Carletonville, even adults with a single lifetime sexual partner face an extraordinarily high prevalence of HIV. [37][13]

Mining is South Africa's major source of foreign exchange, and many of the country's rural areas, as well as many parts of southern Africa, depend on mine workers' remittances.[21] Carletonville, in Gauteng Province, epitomizes how HIV is spread via population mobility. The town has a population of about 200,000 people, including 70,000 migrant miners.[38] often hundreds of miles from their families. The town is a center of sex and recreational drug trades. A recent study in the Carletonville district found that the prevalence of HIV among women and men ages 14 to 24 was 34.4 and 9.4 percent, respectively. Among women 24 years of age, HIV prevalence was 66.7 percent.[39]

There has been much research undertaken on sex work in mining communities, where many impoverished women live in informal shack settlements on mine perimeters and work as prostitutes.[21] Sex workers and their clients are important "bridge" populations in the sexual networks linking sex worker, mobile, and residential communities.[36]

Sex workers in Carletonville have high awareness of HIV/AIDS and prefer to use condoms, but their clients almost always refuse. Because of poverty and the fear of violence, they usually accede to their clients' demands. Most Carletonville sex workers feel it would be difficult to present a united front against men demanding unprotected sex as there is "fierce competition" for clients. For many of these women, early life experiences have reduced their confidence in their ability to take control of their lives, rendering them less willing to insist on condom use.[38]

For mine workers, who face high risk of death or injury from their work, the possibility of dying from a slow, chronic infection seems remote. And studies conducted by South Africa's Council for Scientific and Industrial Research show that many Carletonville miners do not wear condoms or even perceive themselves to be at risk of contracting HIV.[40]

**Crime**

According to the U.N. Office on Drugs and Crime, overall levels of crime began to increase in the mid-1980s and rose throughout the 1990s. Although there are some indications that the steep
increase in crime has abated, South Africa remains among the most crime-ridden and crime-concerned societies in the world.[19]

The two most developed provinces, Gauteng and Western Cape, with high concentrations of business, public administration, and urban centers (Johannesburg, Pretoria, and Cape Town), are the two most crime-ridden, with the highest rates for violent, property, and commercial crime. Among rural crimes, livestock theft is high in the remaining seven provinces.[19]

Crime does not affect all people uniformly, and the risk of being a crime victim is strongly influenced by gender, ethnicity, age, income, and place of residence. For example, whereas blacks/Africans are at a higher risk for individual violent crimes, nonblacks/Africans are at higher risk for property-related household crimes. Property and violent crimes pose the greatest risk for urban residents.[19]

Violent crimes, such as attempted murder, aggravated robbery, serious and common assault, and in particular violence against women and children, has increased since 1994 (with a slight downturn in 2001-2002). Murder rates, however, have been declining since 1994, by almost 30 percent. Much of the violence is attributed to the proliferation of firearms, both as a cross-border organized crime trafficking problem and as they are illegally appropriated for domestic criminal purposes.[19]

Organized crime has been increasing and comprises a range of criminal activities from trafficking in drugs, firearms, persons and stolen vehicles, to smuggling of precious materials and endangered species. Recently instituted organized crime countermeasures, including a new strategy, laws, asset forfeiture operations, and investigative and prosecutorial structures, have made considerable achievements in dismantling certain organized crime groups and monitoring trends in syndicate activities and targets.[19]

**Stigma and Discrimination**

Stigma around HIV/AIDS remains strong in South Africa[64] and is likely to influence personal decisionmaking with regard to HIV testing and disclosure. In 2002, Health Systems Trust noted that only 0.5 percent of South Africans believed that there was someone infected with HIV in their families. Up to 92 percent of persons who tested positive for HIV were not able to tell their partners their serostatus.[9] Given pervasive stigma, many affected South African households face numerous psychosocial difficulties in responding to HIV/AIDS, both within the household and in the community. This can lead to ostracism, loss of social support, and reduced income-generating opportunities. The grief, depression, and stress that result from HIV/AIDS morbidity and mortality can also lead to reduced productivity and risk-taking behavior.[6]

**Health System**

There are one national and nine provincial health departments, with provinces responsible for implementation of AIDS programs. The national government is primarily responsible for collecting and distributing revenue equitably among provinces, formulating broad policy frameworks, and defining norms and standards for service provision.[76] As mentioned, despite
redistributive policies in the early postapartheid period, South Africa's health care infrastructure remains highly inequitable.[20]

South Africa's health care system comprises:

1. **public sector**, with government the largest source of health care finance. Government allocates to the health sector a portion of the finances it raises from taxes such as income tax, company tax, and sales tax (VAT); licences; sales of utilities such as electricity and water; and other sources of income. In 1998/99, of the amount raised by government, 94 percent was contributed by central government; provincial and local governments provided only 2.7 and 3.3 percent, respectively, of total government health care finances from their own revenue. Although government as a whole increased its contributions to health care between 1992/93 and 1997/98, there have been signs that government financing began to stagnate in 1997/98. Government financing per capita increased by 4.3 percent between 1996/97 and 1997/98, but declined by 2.5 percent between 1997/98 and 1998/99.[20]

2. **households**, the second largest source health care expenditures. Households either pay contributions to medical schemes and other forms of private insurance, or pay directly ("out-of-pocket") for services provided by health workers and facilities, as well as for medicines. Households with private insurance make out-of-pocket payments for services that are not covered—or are not fully covered—by their benefit packages. In 1998/99, households contributed over one-third of total, national health care expenditures. The increasing burden borne households is mainly the results of increased out-of-pocket expenditures. [20]

3. **employers**, which include private firms as well as government-owned entities, fund health care for their employees either directly through health services provided at the workplace, or indirectly through contributions to various forms of private insurance on behalf of their employees. The proportion of health care expenditures financed by employers grew at a slightly lower rate than that of households, and represented a smaller percentage (about one-fifth) of total expenditures. Employers' cost of providing health care benefits to their employees appears to be rising rapidly. Concurrently, the value of direct health care services provided by employers to their employees declined at an annual average rate of 5 percent between 1996/97 and 1998/99, likely the results of the rapid contraction over this period in the size of the mining sector, which provided extensive health care services to its employees. (See also the Impact section)

4. **donors and NGOs** are the fourth source of health care financing. Unlike most countries in Africa, donor contributions represent only a miniscule proportion of overall health care expenditures in South Africa (0.10 percent in 1998/99). This scenario is the result of the self-sufficiency of the South African health care system, as well as the international isolation South Africa experienced under apartheid. However, donor financing of health interventions appears to be growing, with donors interested in the government’s policies to extend health care services to the disadvantaged. However, this growth has not diminished the financing burden shouldered by households.[20]
With regard to the private health sector, Health Systems Trust notes:

"Despite the growing dominance of the private sector, it is estimated that less than 20% of the total population made regular use of the full range of services in the private sector in 1998/99. The low coverage of the private sector in South Africa was apparent even in the 1980s. Moreover, private sector coverage declined as a proportion of the total population between 1996/97 and 1998/99, suggesting that an increasing proportion of the population became reliant on public services even as the public sector received a declining share of health care finances (and even as the HIV/AIDS epidemic began to impact on health care needs). This probably reflected the increasing unaffordability of scheme membership as costs escalated in the private sector. In addition, there was a substantial decline in the number of employees covered by on-site health services, especially in the mining industry. This is attributable to falling levels of employment, most notably on the mines. These trends obviously had implications for equity, as will be discussed in a later section.[20]

**Tuberculosis**

WHO ranks South Africa a "high TB burden" country, with the world's seventh-highest burden of TB (by number of cases). In 2001, the TB incidence rate was 556 cases per 100,000 population. An estimated 1.5 percent of new cases are multidrug-resistant. An estimated 60 percent of adult (ages 15-49) TB cases are HIV-positive.[21] However, the country's TB control program is poorly equipped to respond.[6] WHO notes that there is a lack of effective integration between TB and HIV policies and programs. Other constraints include underfunding, high rates of treatment interruption, overcrowding at treatment facilities, inadequate staff training, and managerial and organizational weaknesses. [21]

**Prevalence of Other STIs**

In 2003, Health Systems Trust reported that:

"In South Africa, it's estimated that 11 million STI cases occur annually. For example in Hlabisa, a rural area in KwaZulu-Natal, among 321 women attending district antenatal clinics, 52% were found to have at least one STI (gonorrhea, chlamydial infection, trichomoniasis, or syphilis), and 18% had more than one infection. Modeling indicates that around 25% of all women in the reproductive age group residing in that district have at least one STI on any given day, of which about half are asymptomatic. Routine HIV and syphilis surveillance also indicates high rates of these infections countrywide."[20]

- The 2002 ANC survey found that an estimated 3.2 percent of ANC attendees had active syphilis. This figure is an increase over the 2001 figure of 2.8 percent in 2001. In 2002, the province with the highest syphilis prevalence was Gauteng, with an estimated 6.0 percent of ANC attendees testing positive. The Northern Cape and Free State provinces followed, with rates of 5.2 and 5.0 percent, respectively. KwaZulu-Natal recorded the lowest prevalence, 1.5 percent.[1]

- A study in Carletonville found that infection with herpes simplex virus type-2 was the most
significant factor associated with HIV status for both men and women.[39]

- The 2002 HSRC survey found that 165 participants (out of 7,084 who completed questionnaires), or 2.3 percent reported having been diagnosed with at least one STI during the last three months. When weighted data were used, 2.6 percent of participants had at least one STI during the last three months, with prevalence among men at 3.9 percent (95% CI=2.8–5.4%) and among women, 1.7 percent (95% CI=1.2–2.4%). Despite relatively low reporting levels, there was a strong association between HIV and STIs. STI prevalence was highest among Africans, followed by coloureds and whites (however, the differences were not statistically significant). No major differences were observed in prevalence of self-reported STIs among people living in tribal areas, farms, or urban formal areas; however, there was a significantly higher prevalence of STIs among those living in informal areas.[3]

**Gender**

See also the Epidemiology section above for gender-disaggregated data on prevalence and mortality.

HIV prevalence among South African women tends to peak between ages 25 and 29, whereas among men, it peaks several years later (usually between ages of 30 and 35) and at lower levels.[3] Women tend to become infected at younger ages than men for both biological and behavioral reasons. High male-to-female transmissibility of HIV is considered likely to play a significant role.[39] Age mixing is another crucial factor. Many young girls have sex with older men, who have been sexually active for many years and are thus more likely to be infected. The U.S. Census Bureau projects that by 2020 there will be more men of reproductive age than women in the most severely affected countries of sub-Saharan Africa; this imbalance could lead men to seek even younger women.[33] Also, fear of HIV drives some men to seek very young partners believing that these younger girls are more likely to be uninfected.(88)[41] Finally, men's sexual "buying power" is low at young ages, but increases as they enter the labor force and acquire greater socioeconomic status; most of this "buying power" is directed at women who are economically vulnerable, and most of these women are relatively young.[3]

Other factors that may render women vulnerable to HIV infection include:

- sex work
- situations such as food insecurity, in which women may trade sex for food or other necessities
- transactional sex, in which sex may be exchanged for gifts or money (see below)
- asymptomatic infection with other STIs
- coerced sex in dating scenarios, including forced sexual initiation, which occurs frequently[42]
- lack of/inadequate female-controlled preventive methods
- a resulting sense of fatalism that may reduce women's motivation to protect their sexual health[38]
(With regard to polygyny, the 2002 HSRC survey found that only 3.4 percent of married respondents (both male and female) (n=3,594) reported that they were in a polygynous union. [3])

Women's subordinate economic status affects their vulnerability to acquiring HIV and, once infected, accessing care and support services. A recent study found that even among married South African women, there is a high level of economic maltreatment: the partners of one in five married women regularly withheld money for essential living expenses, such as food or rent.[16]

Women are commonly viewed as "being inferior to men, as possessions, and as needing to be led and controlled."[43] "Some men view women as sexually "out of control."

Many women are unable to insist on condom use and negotiate the timing of sex and the conditions under which it occurs.[45, 46] Even when women know that their husbands are at high risk of HIV, many do not raise the issue of condoms as to do so might be perceived as accusing their husbands of infidelity or depriving them of sexual pleasure. Women who do suggest condom use may be at increased risk of physical violence and/or economic abandonment. One study, for example, found that 57 percent of women living in the Eastern Cape believed that they could not refuse sex with their partner.[47] The same study notes that in South Africa, a common form of spousal emotional abuse involves a husband's boasting about his other sex partners and/or bringing them home for sex in the marital bed; 10 percent of women in one province reported that their spouse had done this in the previous year. The study also found that HIV prevention was discussed significantly less often in relationships with physical violence.

Many women also face abuse and/or abandonment if they disclose their HIV-positive status.[16] Lobola, a long-standing tradition whereby men purchase a wife by paying her family a dowry, also renders it difficult for women to leave their husbands, as this would require fathers to repay the dowry. The 2002 HRSC study found that 50.2 percent of married respondents (both male and female) (n=3,374) reported that lobola or dowry had been paid at the time of their marriage.[3]

**Sexual Violence**

**Rape Statistics**

Watts and Zimmerman note that cross-country and cross-study comparisons of sexual violence are difficult, given differences in study populations and context-specific variations in respondents' willingness to disclose experiences of violence.[48] The South Africa figures presented below, therefore, should be viewed with this caveat in mind.

In 1996, there were 44,222 reported rape cases in South Africa, equivalent to 210 incidents per 100,000 women. In comparison, in 1990, there were 102,555 reported rape cases in the U.S., an incidence of 80 per 100,000 women. In most presentations of police rape statistics, South Africa is near or at the top.[41] Household surveys represent another method of obtaining information on the extent of sexual violence. The last South African Demographic & Health Survey found a national rape prevalence of 7 percent, ranging from 3 to 12 percent across provinces.[41] Gang rape is common.[48]

Between 20 and 33 percent of all rapes are reported to the police.[49] Reasons for low reporting
of rape include women's reluctance to report rapes, lack of access to police stations (particularly in rural areas), police resistance to filing a report, inefficiency, red tape, or corruption. Police turn only a small proportion of reported rapes into cases. Few cases are referred to court, and of these, a tiny fraction end in convictions.[50] (Julia Kim of Wits notes a paucity of data concerning rape committed against men, probably because of the related stigma.[41])

Both police statistics and household studies reveal that young women—the demographic group most at risk for HIV/AIDS(108)[6]—are also at highest risk of being raped.[41] For example, using a nationally representative sample of 11,735 women ages 15 to 49, the Gender and Health Research Unit of South Africa's Medical Research Council found that 1.6 percent of these women had been raped (forced or persuaded to have sex against their will) before the age of 15. They found that younger women were significantly more likely to report rape than older women. The largest group of perpetrators (33 percent) were school teachers, followed by relatives (21 percent), strangers or recent acquaintances (21 percent), and boyfriends (10 percent). Educational status and type of residence were not associated with child rape, but ethnic origin (based on apartheid-defined population categories), province, and age-cohort were. Recently, there has been increased attention on infant and child rape.[42, 43, 51]

### Box 2. Sexual Violence in Schools

In 2000, Human Rights Watch (HRW) investigated cases of alleged rape, sexual abuse, and harassment involving schoolgirls in South Africa; the study also involved examining government's response to gender violence in schools. HRW researchers worked with South African NGOs and researchers in KwaZulu-Natal, Gauteng, and Western Cape provinces. Published in March 2001, HRW's report Scared at School: Sexual Violence Against Girls in South African Schools <http://www.hrw.org/reports/2001/safrica/> found that rape, sexual violence, sexual harassment, aggressivity toward and physical and verbal degradation of female students by male school teachers and male classmates are widespread and largely normalized and tolerated. HRW found that girls who report sexual abuse are often further victimized and stigmatized by teachers and students. School authorities rarely ensure a sense of security at school nor counsel and discipline male perpetrators. HRW reported much confusion regarding responsibility for this issue.

### Trafficking

According to a recent report from the U.S. State Department, South Africa is a destination country for women trafficked from other parts of Africa, Eastern Europe, Asia, and the former Soviet Union for commercial sexual exploitation. South African women and children are also trafficked internally for labor and commercial sexual exploitation. Powerful trafficking syndicates from Russia, Thailand, China, and Nigeria control much of the sex trade. Sex tourism is also increasing. South Africa is a country of transit for trafficking operations between developing countries and Europe, the United States, and Canada. [22]

### Sexual Behavior

Several South African researchers underscore that individual risk of HIV infection is determined by individual as well as community factors. Thus, individual sexual behavior may be less important than the community from which sexual partners are chosen, i.e., social context may be a stronger predictor of disease than individual behavior.[3, 20] Thus, the data below should be
viewed against this backdrop.

**Age at First Sexual Intercourse**

In South Africa, sexual debut is generally early.[9, 16] It usually begins during the mid-teens; for girls, often shortly after menarche.[52] The 2002 HSRC survey found that the median age at first sex for respondents 25 years and older was 18 years. However, earlier median ages at first sex were noted among younger age groups. The median age of sexual début among 25- to 34-year-olds was 17 years; among 35- to 44-year-olds, it was 18 years. Among sexually active 15- to 24-year-olds, the median age was 16 years (but this figure applies only to the 56.8 percent of respondents in this age group who were sexually active). Analysis found a trend toward earlier sexual début among younger respondents.[3]

**Sexual Experience**

The HSRC survey found that sexual experience among youth was significantly higher in urban informal areas than in any other types of localities. [3]

**Multiple Partners**

A high number of sexual partners, especially among men, is socially acceptable and encouraged.[6] Given the country's economic situation and high unemployment, as well as lack of affordable recreational opportunities, Jewkes et al. posit that sexual relationships provide one of the few opportunities wherein young South Africans may obtain success, respect, and self-esteem. Thus, they spend much time and effort on acquiring and keeping the "right" sexual partners.[52]

Multiple sexual partners, as well as ability to control girlfriends, are key to notions of "masculinity."[23] Masculinity among miners signifies bravery, fearlessness, and the willingness to take risks; "real" men have enormous sex drives that lead them to have sex with an unlimited number of women. Given this scenario, many miners do not use condoms.[21]

Among 2002 HSRC respondents who had sex in the past 12 months, most indicated that they had a single partner during the past 12 months; the proportion of those with more than one partner was lower for females (3.9 percent) than for males (13.5 percent) (p<0.001). For both sexes, youth were more likely to have had more than one partner in the past year, whereas most older respondents had only one partner. A higher proportion of Africans and male or female respondents living in urban informal areas had multiple partners.[3]

**Self-reported Behavior Change**

Participants in the 2002 HSRC study were asked whether they had changed their behavior in the last few years and how they had done so. Altogether, 40.2 percent of adults and youth indicated that they had changed their behavior. Significantly more males reported that they had changed their behavior than did females (p<0.001). When asked to specify in what way they had changed their behavior, a similar majority of both sexes indicated that they had only one partner
and were faithful to their partner. The second most frequent behavioral strategy reported was that they always used condoms, with significantly more males doing so than females (p<0.001). This was followed by abstaining from sex, which significantly more females than males reported having done (p<0.001).[3]

**Condoms**

The 2002 HSRC survey found that among respondents who had sex in the last year 24.7 percent of females and 30.3 percent of males reported using a condom at last sexual intercourse. Youth had significantly higher rates of condom use (57.1 percent for males and 46.1 percent for females) than adults, especially those who were over 50 years of age (less than 10 percent) (p<0.001). Similarly, almost half of respondents who had more than one sexual partner over the past 12 months had used a condom, compared to less than 30 percent of respondents with only one partner (p<0.001). [3]

Condom use among Africans of both sexes was significantly higher in informal urban areas than in other locality types (p<0.001). Condom use at last intercourse was also linked with other prevention behaviors such as discussing prevention with partners and individual perception of HIV risk. In addition, respondents who knew someone who was HIV-positive were also more likely to use a condom than others (p< 0.001).[3]

Single respondents were considerably more likely to use a condom than those who were married (p<0.001). When adults who had had an HIV test were compared to those who had not been tested, 25.1 percent of the former (n=1,659) used a condom at last sex, compared to 20.2 percent of the latter (n=5,364).[3]

A Kaiser Family Foundation-funded survey of South Africa youth published in 2001 found that 41 percent of sexually experienced youth did not always use a condom when having sex, and 50 percent reported not always using contraception. When buying condoms, 70 percent of youth reported embarrassment. Of sexually experienced boys, 39 percent tried to avoid sex with a condom, and 32 percent did not use a condom because they consider protection the responsibility of their partner.[25] Young women who carry condoms are often considered to be "loose," and young men who use them often subject to ridicule from their peers.[38]

The 2002 HSRC survey also examined perceived ability to obtain condoms. The highest levels of perceived access to condoms were found in the Free State, among both youth and adults. Overall, public clinics and hospitals were the most common source of condoms for both males (35.2 percent) and females (45.3 percent). Most respondents (80.9 percent) across provinces and localities accessed free condoms.[3]

**Youth**

Thirty-four percent of South Africa's population is under age 15.[23] In 2000, the median age in the country was 22.6.[7] Compulsory sexual health education ("life skills") has been introduced in schools, but implementation has been extremely slow or nonexistent. Consequently, young people are often misinformed on sexual health issues.[52] Generally, open discussion of sexual matters is avoided.[6, 46]
The Transitions to Adulthood in the Context of AIDS in South Africa study investigates factors that may influence the lives and sexual behavior of young people in KwaZulu-Natal. This longitudinal study is a collaboration among the Population Council, Tulane University, the University of Natal-Durban, and Development Research Africa (a South African research organization). Researchers assessed the association between risk-taking behavior and opportunities for schooling, work, and other activities. They examined information collected from a representative sample of 2,992 young people ages 14-22 who live in Durban Metro and Mtunzini districts of KwaZulu-Natal. The population of KwaZulu-Natal comprises four main population groups: African (80 percent), Indian (10 percent), white (7 percent), and a coloured (3 percent). [24]

The study revealed that gender is far more important than population group in predicting adolescent risk taking. For example, girls who live in communities where there is a high level of sports activity or who live where schooling is easily obtained tended to report that they had not had sex in the past year. These factors did not significantly influence whether boys reported having had sex in the past year. One factor, the prospect of employment, was correlated with less risk-taking behavior among both boys and girls. Girls in areas where earning potential was high were almost two and a half times more likely to report having used a condom at last sex than were girls living in communities where fewer adolescents were working. Boys from higher-wage communities were about 50 percent more likely to report having used a condom at last sex than were boys from lower-wage areas. Because this analysis was based on a single round of data collection, it was not possible to determine causality. However, the authors did posit that when young people have greater opportunities for education or work, they may be more likely to forgo sexual activity or to engage in safer sex practices when they do have sex.[24]

**Adolescent Pregnancy**

South Africa has a high adolescent pregnancy rate, with 73 births per 1,000 women ages 15 to 19.[23] This rate signifies a high level of unprotected sexual intercourse. Moreover, a study by Jewkes et al. published in March 2001 found that pregnant teenagers were significantly more likely to have experienced forced sexual initiation and were beaten more often.[52]

Though South African schoolgirls who become pregnant are not expelled and are allowed to return to school after childbirth, early pregnancy and childbearing can have myriad negative effects on these girls' health and economic and educational attainment (as well as those of their children).[55] To address the persistently high teenage pregnancy rate, health providers tend to stress use of the contraceptive pill.[55] This might lead to a downplaying of the importance of condoms, a less reliable method of family planning, though, if used properly and consistently, highly effective in preventing transmission of HIV.

Using the first wave of Transitions to Adulthood data discussed above, researchers examined the association between fertility/pregnancy preferences and behavioral and perceptual measures of HIV risk among adolescents in KwaZulu-Natal. They found that educational and employment opportunities affect fertility preferences; moreover, adults’ perception of HIV risk vis-à-vis young in their community as well as peer opinions about HIV risk also affect fertility preferences. The analysis suggests that although individual and structural factors remain
important, for some adolescents—and for girls more so than for boys—the risk of HIV infection is becoming part of their decisionmaking regarding the desirability of pregnancy.[25]

**Transactional Sex**

Poverty is not always a motivating factor in exchanging sex for money; exchanges also occur to acquire "extras" or luxuries. The Kaiser survey of South African youth mentioned above found that sex is also often used as a commodity in exchange for money or other forms of payment. Twenty-eight percent of young South Africans indicated they know people their age who have sex for money. Of sexually experienced girls, 16 percent have had sex for money, drinks, food, or other gifts. In some cases, this exchange involves older men however, 20 percent of sexually experienced boys report having given a girlfriend pocket money, or having bought her drinks or food in return for sex.[26]

Hunter has examined this phenomenon in South Africa and describes it as "transactional sex": nonmarital sexual relationships, often involving multiple partners, that are a result of men's superior economic position and access to resources, the value placed on men's having multiple sexual partners, and women's desire to access power and resources such as gifts or cash.[57]

Using focus group discussions collected in the Durban metropolitan area between September and December 1999 among youth ages 14 to 22, the Population Council examined the economic context of gift giving or receiving and its relationship to patterns of risky sexual behavior. They found that gift giving among same-age adolescents is common and important to shaping sexual relationships. Adolescents associate money or cash with prostitution, but do not consider gifts as such.[27]

The researchers also found that force or coercion are often a part of sexual relationships in South Africa, especially among youth. This coercion is also often centered on an economic exchange: gifts or favors in exchange for sex. The authors highlight that although there has much emphasis on age mixing, gift giving in same-age relationships also may be associated with sexual leverage, involving the ceding physical and sexual rights.[27]

**Awareness and Knowledge of HIV/AIDS**

The 2002 HSRC survey found that although most respondents had correct knowledge of HIV/AIDS, some areas of knowledge were significantly weaker. Knowledge deficit is reflected in two ways: incorrect responses and "don’t know" responses. Generally, the oldest age group (50 and older) had the highest levels of incorrect responses, followed by the 12-14 age group.[3]

Knowledge about breastfeeding is poor; 46.8 percent of respondents provided an incorrect response or were uncertain. The item with the fewest number of incorrect responses was "AIDS can be cured by sex with a virgin." However, relatively high percentages (10.1 percent of those 15 years or older and 23 percent of those ages 12-14) responded "don’t know," signifying a high degree of uncertainty around this myth. The belief that HIV causes AIDS has a relatively high proportion of "don’t know" responses (20.3 percent), again implying a high level of uncertainty.[3]
The HSRC found that there was no significant gender differential with regard to HIV/AIDS knowledge. However, respondents who were younger, more educated, lived in urban rather than rural areas, were employed and had higher household socioeconomic status had better HIV/AIDS knowledge. Whites had the most correct HIV/AIDS knowledge, followed by Indians, Africans, and coloureds.[3]

Educational attainment was strongly associated with knowledge. For example, only 59.9 percent of respondents with no education believed that HIV transmission is not possible by touching an HIV-infected person; among those with primary school level education, this figure rose to 81.3 percent, and was 90 percent among those with high school level or higher educational attainment.[3]

Other survey data:

- The Second Kaiser Family Foundation National Household Survey on Health Care in South Africa, published in August 1999, found that over 71 percent of South Africans ranked HIV/AIDS as their most important health concern, followed by cancer (11 percent). Levels of concern varied significantly among racial groups, with the majority of Africans (79 percent), Indians (57 percent), and coloureds (53 percent) naming HIV/AIDS their main concern and 39 percent of whites naming cancer.[63]

- With regard to HIV/AIDS awareness, the Kaiser survey found that overall, 76 percent of South Africans received at least some information on HIV/AIDS in the past year. There were substantial differences, however, among racial groups. Whereas 80 percent of Africans had received HIV information, only 55 percent of whites had. In general, urban Africans and urban coloureds were more likely than their rural counterparts to have received HIV information.[63]

- In the Kaiser youth survey undertaken in September 2000, 70 percent of respondents name HIV/AIDS one of their five greatest concerns. Over half (54 percent) indicate that they are afraid they may contract HIV. Of those who had heard of HIV/AIDS (91 percent), 66 percent agree with the statement, "I could die of AIDS." The majority of youth who have heard of HIV/AIDS (74 percent) are worried that AIDS will be costly and strain the national economy. Forty-four percent believe that AIDS will have a financial impact on their own families.[26]

- However, the 2000 Kaiser youth survey found that a significant minority of young South African (9 percent) remained unaware of HIV/AIDS. Awareness varied by age group, province, and locale. Among 12- to 13-year-olds, 20 percent indicated they have not heard of HIV/AIDS, compared to only 7 percent of 14- to 15-year-olds and 2 percent of 16- to 17-year-olds. About one in ten (11 percent) Africans and one in four (26 percent) young people from the Northern Province responded that they had never heard of HIV/AIDS. Other groups less likely to have heard of HIV/AIDS were those from the North West Province (18 percent), those who live in informal settlements (12 percent), and those from rural areas (14 percent).[26]
Of youth who had heard of HIV/AIDS, 39 percent believed that one can contract HIV from condoms. Fifty percent of those who had heard of HIV/AIDS did not know that men can be infected with HIV through sex with other men. Many young people were also unaware of nonsexual modes of transmission.[26]

Forty percent of respondents who had heard of HIV/AIDS believed that traditional African medicine provides a cure for AIDS; 42 percent believed that Western medicine has a cure for AIDS. African youth (44 percent) were more likely to have these misperceptions than coloureds (30 percent), Indians (27 percent), or whites (19 percent). One-quarter of young South Africans believed that having sex with a virgin will cure one of AIDS.[26]

Alcohol and Drug Use

Much sex work in South Africa is initiated in shebeens (informal liquor stores or bars), and alcohol consumption is likely to result in inconsistent condom use and other unsafe sex behaviors. Analysis by researchers from the University of Cape Town suggests that alcohol consumption is more likely to be a risk factor for HIV if associated with an "unsettled lifestyle and migrancy." This is because migrants are less likely to have a regular partner living with them and are thus more likely to acquire sexual partners through visits to shebeens.[3]

Data from surveys of young South Africans convey that their drug and alcohol use during sex is a concern. A Population Council report found that of participants who ever drank alcohol, 5 percent had sex the last time they had alcohol. Of those who used drugs, 12 percent had sex the last time they took drugs. This study also noted that one-third of urban respondents and 12 percent of rural respondents report that drug dealing occurs in their schools.[56] Another survey of South African youth found that drugs were among their top concerns.[25]

Researchers from the Department of Community Health, Nelson R. Mandela School of Medicine, University of Natal, analyzed data from 901 rural learners (X age 16.1, SD = 2.4) at 10 randomly selected high schools in KwaZulu-Natal. They found that those living with a parent were less likely to drink alcohol (P < 0.0001) or use drugs (P = 0.006). Thirty percent (95% CI 26.9, 33.1) were sexually active, and 53.1 percent used a condom in the past 30 days. The odds of males being sexually active was 7.27 the likelihood of females (95% CI 5.2, 10.1). Only one-third of male respondents always used condoms. Of sexually active respondents, 46.5 percent had experienced coercive sex. More males (14.1 percent) than females (3.6 percent) smoked cigarettes (P < 0.0001). The odds of males drinking alcohol was 4.5 times that of females (P < 0.0001). Smoking (OR 2.42, 95% CI 1.32, 4.44) and drinking, (OR 2.67, 95% CI 1.71, 4.19) among learners increased the likelihood of sexual activity. [28]

In a 2002 profile of South Africa, the U.N. Office on Drugs and Crime reports that the country is the largest market for illicit drugs entering southern Africa. Drug trafficking and abuse have escalated in recent years. The drug trafficking activities of organized crime groups are linked to numerous other criminal acts, ranging from car hijackings and robberies, to the smuggling of firearms, stolen cars, endangered species and precious metals. South Africa now features prominently in international drug trafficking networks. [19]
Cannabis is the most prevalent illicit drug used in South Africa, followed by mandrax (methaqualone). Although the use of heroin, cocaine, and ecstasy is less prevalent, it has increased since the mid-1990s. Since 2000, heroin use has also increased significantly in major urban areas, particularly in Gauteng and Cape Town. Injecting drug use is not common in South Africa, although recent evidence indicates that the injecting of heroin is increasing. [19]

Public funding for both prevention and treatment is very limited. There is currently no national program for primary prevention or awareness campaign.[19]

**Male Circumcision**

Some observational studies from sub-Saharan Africa have indicated that male circumcision may reduce the risk of HIV acquisition,[59] though circumcision does not appear to affect transmission from HIV-positive men to their partners.[60] The limitations of these studies have been highlighted, and further study is needed on both biomedical and sociobehavioral issues before promoting male circumcision as a public health intervention.

The 2002 HSRC study found that 35 percent of all adult and young males had been circumcised. The mean age of circumcision was 15 years (median age: 17 years).[3]

There have been few studies of male circumcision and HIV/AIDS in South Africa. A study conducted in Carletonville (a major mining center) in 1998 by South Africa's Council on Scientific and Industrial Research found that the prevalence and mean age of circumcision varies widely among migrant and nonmigrant men.[61] The study found that rates of circumcision in adult males vary substantially among different ethnic groups, for example, less than 50 percent among the Sotho and Shangaan, about 66 percent among the Xhosa, and about 75 percent among the Pedi. Although, the Tswana, Zulu, and Swazi traditionally do not circumcise, about 15 percent of adult men in these groups were circumcised.[62] Researchers from the University of Cape Town posit that circumcision may explain the high prevalence of HIV in KwaZulu-Natal (inhabited mostly by Zulus) relative to that in the Eastern Cape (inhabited mostly by Xhosas) and the Northern Province (inhabited largely by the Pedi). They also note that the possible protective effect of circumcision may to some extent explain high HIV prevalence in the urbanized black population, in which circumcision is becoming less common.[3]

Researchers from France and South Africa examined the feasibility of MC as an HIV prevention tool in South Africa. They carried out a community-based, cross-sectional study among a random sample of 482 men ages 19-29 and 302 women ages 14-25 living in Gauteng's Westonaria District. They found that HIV prevalence was 11 percent among the men and 30 percent among the women. Two-thirds of the 108 circumcised men (CM) were circumcised during a traditional ceremony and one-third in a clinical setting; the latter reported less pain and adverse outcomes. Over 70 percent of the noncircumcised men (NCM) stated that they would want to be circumcised if MC were proved to protect against STIs. Twenty-nine per cent of the CM and 22 percent of the NCM believed that MC protects against HIV and other STIs. Thirty and 18 percent, respectively, believed that CM could safely have sex with multiple partners.[29]

**Other Factors**
Several South African researchers highlight the link between overcrowding and HIV/AIDS. Carol Coombe of the University of Pretoria, for example, highlights how poor, overcrowded housing facilitates TB. She also notes that such housing conditions may facilitate sexual abuse and harassment, particularly of young girls.[64] (Compare findings from 2002 HSRC survey, which found several associations between urban, informal housing settlements and HIV.[3])

There is some evidence that suggests that members of Pentecostal and independent churches are less likely to engage in extra- and premarital sex—and are less likely to be HIV-positive—than members of other Christian churches.[3]
Impact of HIV/AIDS

At a Glance Summary Bullets

Demographic

- By 2045-50, South Africa will have the world's 10th-lowest life expectancy at birth. Between 2000 and 2050, life expectancy will be 27 to 41 lower than it would have been in a no-AIDS scenario.

- Because of AIDS, South Africa's population will be 44 percent smaller in 2050 than it would have been without the epidemic.

- There were 757,000 AIDS deaths in South Africa through 2000, with AIDS increasing mortality by 13 percent. Assuming current dynamics, between 2000 and 2015, 9.3 million AIDS deaths are projected, representing a 195 percent increase in mortality.

Macroeconomic

- According to a June 2003 report from the World Bank, previous studies have grossly seriously underestimated the economic impact of the AIDS epidemic, failing to factor in the impact of education and parenting on the economy. The authors underscore that by killing primarily young adults, AIDS does more than destroy the human capital embodied in them; it also deprives their children of the requirements to become economically productive adults: their parents’ care, knowledge, and capacity to finance education.

- Applying the model to South Africa, they found that in the absence of AIDS, South Africa would have enjoyed modest, though accelerating growth of per capita income, with universal and complete education attained within three generations. With AIDS, however, if no efforts are put forth to combat the epidemic, they project a complete economic collapse within three generations. By 2050, per capita income per family will be half the amount it was in 1990. In about 90 years, South Africa's per capita GDP could experience a 50 percent decline.

- The International Labor Organization projects that South Africa will lose 10.8 percent of its labor force by 2005 and 24.9 by 2020 (compared to a "no-AIDS" scenario).

- South Africans without access to jobs (particularly those that require high skill levels) are likely to bear the brunt of the HIV/AIDS epidemic, whereas relatively skilled workers could benefit from greater employment opportunities (as production becomes more skill- and capital-intensive) and higher wages (as the relative demand for skilled labor increases). And as firms begin to provide these workers with greater access to antiretroviral therapies, they are likely to live longer and more productive lives. Under this scenario, South Africa's socioeconomic disparities will be further exacerbated.

Health Sector
HIV/AIDS has already forced the public health sector to incur significant expenditures.

Combined national and provincial expenditures on HIV/AIDS in 2001/2 represented 15 percent of total public health expenditures.

In 2000, there were an estimated 628,000 admissions to public hospitals for AIDS-related illnesses, accounting for 24 percent of all public hospital admissions.

In 2001/2, the cost of hospitalizing AIDS patients in public facilities equaled 12.5 percent of the total public health budget.

**Mining**

Approximately 25 percent of miners in South Africa are living with HIV/AIDS; the MRC expects this figure to increase to 30 percent by 2005.

**Agriculture**

Between 1995 and 2020, South Africa will have lost 20 percent of its agricultural labor force because of AIDS.

**Military**

At least one-fifth of the South African National Defence Force is HIV-positive.

**Prisons**

Among South Africa's 17,5000 inmates, 45.2 percent are HIV-positive.

Severe overcrowding, among other factors, may be facilitating rape and transmission of HIV/STIs, as well as TB spread.

**Households**

Traditional extended family and community coping mechanisms in South Africa were weakened by apartheid, which disrupted family and communal life and led to rapid urbanization. As family and community structures became weaker, many South Africans assumed that the state would provide health care and other support.

HIV/AIDS has further strained coping mechanisms through its enormous and complex impact on households. By 2010, AIDS may contribute to the chronic impoverishment of 26 to 33 percent more households than would have been the case in the absence of the epidemic.

AIDS-affected households spend an average 34 percent of their monthly income on health care, much higher than that spent on health care by non-AIDS-affected households.
The main caregiver in AIDS-affected households is usually a woman, and 73 percent of caregivers are women over 60.

Household food security is imperiled by HIV/AIDS. When an adult dies, food consumption of all surviving household members often declines, due to reduced family income as well as the increased number of household members that may arise from fostering orphans and hosting and caring for sick relatives.

Orphans and Other Vulnerable Children

At the end of 2001, UNAIDS estimated that there were 660,000 AIDS orphans living in South Africa. The number of maternal AIDS orphans under age 15 will peak around 2015 at roughly 2 million and the number of maternal AIDS orphans under age 18 at about 3 million. The number of paternal AIDS orphans under age 18 is expected to peak at 4.7 million in 2015, and the total number of children having lost one or both parents to AIDS will be highest around 2014, at 5.7 million.

South Africa's capacity to deal with increased numbers of orphans is limited. Awareness of foster care grants and other forms of assistance is low; moreover, foster care grants are difficult to access. The country's Child Care Act has been criticized as being limited in the placement options it offers for orphaned children. Institutional care is being provided, but to contain costs, there is a shift to models of community-based care, which assume that hard-hit communities have sufficient capacity to care for orphans.

Many of the impacts discussed below are based on modeling of the epidemic's effects and must be viewed as such. However, researchers tend to agree that HIV/AIDS has severely affected and will continue to affect South Africa. Schneider notes that the impacts/setbacks discussed below are occurring precisely when South Africa should be benefiting from the new democratic order.[20]

Demographic

Life Expectancy at Birth

The U.N. Population Division projects that by 2045-50, South Africa will have the world's 10th-lowest life expectancy at birth (55.7). Life expectancy is projected to decline from 47.7 during 2010-15 to 41.5 during 2020-25, thereafter increasing to 55.7 during 2045-50. The division projects that during 2000-05, life expectancy would have been 66.6 without AIDS. For 2010-15 and 2045-50, life expectancy would have been 69.9 and 76.0, respectively, without AIDS. These figures represent a 27 to 41 percent decrease during 2000-50 (table 3).[7]
Table 3. Life Expectancy with and without AIDS, 2000-2005, 2010-2015, and 2045-2050

<table>
<thead>
<tr>
<th>Period</th>
<th>2000-2005</th>
<th>2010-2015</th>
<th>2045-2050</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000-2005</td>
<td>47.7</td>
<td>66.6</td>
<td>19</td>
</tr>
</tbody>
</table>


**Population**

South Africa is one of 43 countries whose population is projected to decrease between 2000 and 2050; by 2050, the population will have contracted by 8.5 percent.[7] The U.N. Population Division also examined population under a "no-AIDS" scenario. Tables 4 and 5 indicate that South Africa's population will be 44 percent smaller in 2050 than it would have been in a "no-AIDS" scenario.[7]

Table 4. South Africa: Projected Population with and without AIDS, 2000, 2015 AND 2050 (Thousands)

<table>
<thead>
<tr>
<th>Period</th>
<th>2000</th>
<th>2015</th>
<th>2050</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>With AIDS</td>
<td>Without AIDS</td>
<td>With AIDS</td>
</tr>
<tr>
<td>2000-2005</td>
<td>44,000</td>
<td>44,822</td>
<td>44,266</td>
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Table 5. South Africa: Projected Population Reductions, 2000, 2015 AND 2050

<table>
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<tr>
<th>Period</th>
<th>2000</th>
<th>2015</th>
<th>2050</th>
</tr>
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<tbody>
<tr>
<td>2000-2005</td>
<td>822</td>
<td>2</td>
<td>11,755</td>
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</table>


In 2002, the U.S. Census Bureau reported that by 2020, there will be more men than women in each of the five-year-age cohorts between 15 and 44. This, along with reasons previously discussed, will likely result in men's seeking sexual partners from increasingly younger age cohorts. In turn, this will further increase HIV infection rates among young women.[70] NMG-Levy also noted that, as the epidemic greatly affects the mortality of those in their 20s, 30s, and 40s, South Africa's population pyramid will comprise a relatively large population of those 15 and under and of those 50 and above.[15]
Mortality

See also the Epidemiology section above.

Using data from the U.N. Population Division, tables 6 and 7 demonstrate that there were 757,000 AIDS deaths in South Africa through 2000, with AIDS increasing mortality by 13 percent.

The division projects that between 2000 and 2015, there will be 9.3 million AIDS deaths, representing a 195 percent increase in mortality in South Africa. The number of AIDS deaths is projected to rise to 11.7 million during 2015-50, representing a 66 percent increase in mortality during this period. [7] (NB: These projections assume that HIV/AIDS dynamics remain unchanged until 2010. Thereafter, prevalence levels are assumed to decline. By 2050, prevalence levels are lower but still substantial in the most highly affected countries.)[7]

<table>
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<tbody>
<tr>
<td>--------------------</td>
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<tr>
<td>With AIDS</td>
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<td>Without AIDS</td>
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<table>
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<tr>
<td>-------------------------------</td>
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<tr>
<td>Excess Deaths</td>
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</table>


The U.S. Census Bureau estimates that infant mortality in 2002 was 59.5 deaths per 1,000 live births; in the absence of AIDS, this figure would have been 38.9. The comparable figures for under-five mortality are 97.3 and 61.4, respectively. The bureau projects that by 2010, infant mortality will be 65.1, whereas in the absence of AIDS it would have been 31.5; the comparable figures for under-five mortality are 104.3 and 47.3, respectively.[70]

Research undertaken by UNAIDS and WHO found that for South Africa, the HIV-attributable under-5 mortality rate (per 1,000 and corrected for competing causes of mortality) was 17.6
during the 1990s. (Rates among the 39 countries studies ranged from Madagascar [0.2] to Botswana [57.7].) The HIV-related population proportional attributable risk of dying before age 5 (i.e., the proportion of all-cause under-5 mortality attributable to HIV) was 20.3 percent; the average for the 39 sub-Saharan African countries studies was 7.7 percent, ranging from 0.1 percent in Madagascar to 42.4 percent in Botswana.[30]

**Macroeconomic**

According to a June 2003 report from the World Bank, previous studies have grossly seriously underestimated the economic impact of the AIDS epidemic, failing to factor in the impact of education and parenting on the economy. The authors underscore that by killing primarily young adults, AIDS does more than destroy the human capital embodied in them; it also deprives their children of the requirements to become economically productive adults: their parents’ care, knowledge, and capacity to finance education. This weakening of the mechanism through which human capital is transmitted and accumulated across generations becomes apparent only after a long time lag, and it is progressively cumulative in its effects. Thus, the authors posit, the epidemic will peak far in advance of the economic damage it will ultimately inflict. Even if measures designed to combat HIV/AIDS and ensure the education of orphans are well chosen and the fiscal means employed to finance them are highly efficient, the scale of the damage—in terms of accumulated losses in GDP per capita—will be large. In the absence of such measures, economic collapse is projected.[31]

Applying the model to South Africa, they found that in the absence of AIDS, South Africa would have enjoyed modest, though accelerating growth of per capita income, with universal and complete education attained within three generations. With AIDS, however, if no efforts are put forth to combat the epidemic, they project a complete economic collapse within three generations. By 2050, per capita income per family will be half the amount it was in 1990. In about 90 years, South Africa's per capita GDP could experience a 50 percent decline [31]

Findings from earlier impact modeling:

- In 2002, Haacker of the IMF modeled the impact of HIV/AIDS on the South African economy under several scenarios. He estimates that in the medium term, South Africa will experience a 5.8 percent reduction in GDP per capita because of HIV/AIDS; of this percentage, 1.0 percent is due to total factor productivity, 1.8 percent to the capital/labor ratio, and 3.1 percent to "experience" (aggregate knowledge and skills of the workforce, lost due to AIDS mortality and to the lack of such experience among new labor force entrants). In the long term, he projects a 1.8 percent decrease in GDP per capita because of HIV/AIDS. The lower figure for the long-term reflects, partly, that the decline in experience will be somewhat reversed because of the lower growth rate of new entrants to the labor force. [32]

- Projections published by the World Bank in 2000 found that by 2010, South Africa's gross domestic product will be 17 percent lower than it would have been in a "no-AIDS" scenario. About half of this decline is attributed to shifts in current government spending toward health expenditures, thereby increasing the budget deficit and reducing total investment. About one-third of the decline is the result of slower productivity growth and about 8 percent attributed to AIDS mortality and its effect on population growth (see above). This model suggested
that, despite that AIDS affects the high-unemployment, unskilled labor category more than any other, the net effect of higher AIDS-related mortality and slower growth will leave the unemployment rate largely unchanged.[73]

**Welfare**

Crafts and Haacker of the IMF have sought to quantify the welfare losses associated with HIV/AIDS. They used estimates and projections of the impact of the epidemic on mortality and life expectancy, as well as existing studies on the value of statistical life. They estimated welfare loss as the loss in per capita income that would have the same effect on lifetime utility as the increase in mortality, expressed in percentage of GDP. They do note numerous limitations of their study. For South Africa, they found that HIV/AIDS has already resulted in welfare losses equivalent to 56.6 percent of GDP.[33]

**Pensions**

Helena Legido-Quigley of the University of Manchester has found that although the South African government's provision of a means-tested, noncontributory old age pension was meant to reduce poverty among the elderly, it is having a significant benefit on younger household members. As migration and AIDS-related mortality in the middle generation decrease family income, the old age pension has assumed a more prominent role. The pension allows elderly persons some measure of economic independence, able to provide vital support to family members across generations.[34]

**Production Costs and Labor Force Composition**

Premature adult mortality is making fewer workers available and increasing production costs. HIV/AIDS illness and death are leading to major skill gaps in the workplace. Increasingly older and younger people will have to enter or remain longer in the labor force, dramatically altering its composition. Because of health care and related HIV/AIDS expenses, savings rates (public, corporate, and personal) are falling, thereby reducing the resources available for investment by the government, the private sector, and households.[6]

According to an April 2003 report from NMG-LEVY Consultants and Actuaries, AIDS is contributing to decline of the working-age population. The decline in the economically active population, expenditures on medical and related benefits, and pensions for surviving dependants are projected to increase dramatically. Concurrently, tax revenues are projected to decrease, leaving the government with fewer resources for economic development (and HIV/AIDS interventions). NMG-LEVY projects that the predicted decline in productivity and consumer spending will likely push some companies to relocate to countries less affected by the epidemic, leading to a potential decline in foreign investment.[35]

The International Labor Organization projects that South Africa will lose 10.8 percent of its labor force by 2005 and 24.9 by 2020 (compared to a "no-AIDS" scenario). ING Barings Bank projects that by 2005, 33 percent of South Africa's semi- and unskilled workforce will be HIV-positive; the comparable figures for the skilled and highly skilled workforces are 23 and 13 percent, respectively.[74] By 2010, 15 percent of highly skilled employees will have contracted
Nattrass notes that South Africans without access to jobs (particularly those that require high skill levels) are likely to bear the brunt of the HIV/AIDS epidemic, whereas relatively skilled workers could benefit from greater employment opportunities (as production becomes more skill- and capital-intensive) and higher wages (as the relative demand for skilled labor increases). And as firms begin to provide these workers with greater access to antiretroviral therapies, they are likely to live longer and more productive lives. Under this scenario, South Africa's socioeconomic disparities will be further exacerbated.

The previously mentioned Kaiser youth survey found that although most young South Africans feel positive about the future of South Africa, 39 percent project that they will leave the country one day. Whites and Indians felt their emigration was most likely (63 percent and 59 percent, respectively).[26] The emigration of South Africa's youth, particularly from groups that did not suffer discrimination under apartheid and therefore are more likely to be well educated, will further decrease the skilled labor pool.

Industry

Numerous factors determine a company's vulnerability to HIV/AIDS, including:

- type of business and production processes
- labor- vs. capital-intensive industries
- skill level of staff
- ability to replace staff
- costs to train replacement staff
- employees' sexual behavior
- workplace prevention and care programs
- degree to which work processes have been planned to take HIV/AIDS into account
- the impact of HIV/AIDS on a the consumer base

With regard to the last bulleted item: ABI, the largest bottler and distributor of Coca-Cola and Schweppes products in South Africa,[83] has stated that AIDS morbidity and mortality may be affecting its sales. Major car manufacturers and the oil industry believe that their South African markets may shrink because of AIDS.[36]

Most African businesses with over 10 employees have already had at least one employee HIV/AIDS death or currently employ workers with HIV/AIDS.[79] When projecting the impact of HIV/AIDS on South African firms, modelers tend to assume that individuals who contract HIV live for an additional seven to ten years and that most of the debilitating illness and symptoms are manifested in the last two years of life. Findings from a late 1990s study of the impact of AIDS on a sugar mill in KwaZulu-Natal have been widely cited, though caution must be used when applying them to other industries and settings.[31] The Natal sugar mill study found that 26 percent of workers tested for HIV were infected;[79] in the two years prior to taking retirement (on grounds of ill-health), HIV-infected workers lost an average of 27.7 days each year.[31]
The Second King Report on Corporate Governance, published in 2001, warned South African companies of the potentially enormous economic impact of HIV/AIDS, which could affect the value of companies. The report recommended that boards of directors understand the socioeconomic impacts of HIV/AIDS on business activities, adopt appropriate strategies and policies to address and manage these impacts, regularly monitor and measure performance, and report to stakeholders. Though the costs of HIV/AIDS are projected to be substantial for all companies, the report found that most South African employers are not attempting to manage the impact of AIDS.[15]

Projections of the annual cost of HIV/AIDS to South African companies range between 2 and 7 percent of annual salaries.[6, 80, 81] Companies' direct HIV/AIDS costs include health care and other employee benefits. These are already rising.[15]

However, the semi- and unskilled work force is most affected by HIV/AIDS, and lower income earners tend to have fewer benefits. Companies' indirect costs are likely to be higher than direct costs. These include costs of absenteeism due to illness or funeral attendance, lost skills, increased training and recruitment costs, and reduced work performance and lower productivity. NMG-Levy notes that "AIDS exclusions in employee benefit packages just don't work," as AIDS is not a notifiable disease and is rarely given as the reason for sick leave or absenteeism. NMG-Levy also notes that some South African companies have sought to mechanize tasks, assuming that fewer employees will translate into reduced impact. Mechanization, however, tends to raise the skill levels of remaining workers, who become more valuable to the company, thus ensuring an even greater impact if these employees become infected with HIV.[15]

In 2002, the South Africa Business Coalition on HIV/AIDS commissioned a rapid assessment of workplace responses to HIV/AIDS. Data were collected for 110 companies, 31 of which had fewer than 100 employees (small), 29 had between 100 and 500 employees (medium), and 50 had over 500 employees (large). The assessment found that 71.8 percent of all businesses surveyed had a medical scheme that included a disease management program dealing with HIV/AIDS. For large employers, 84 percent had such a program; for medium and small companies, the figure was 75.9 percent and 48.4 percent, respectively.[82]

Only 9.1 percent of respondents, mostly larger employers, reported that they felt the need to budget for higher training costs due to the impact of HIV/AIDS deaths. Overall, 33.6 percent of respondents reported that staff have been encouraged to become more "multiskilled" to permit work to continue despite staff losses. Larger employers (over 100 employees) tended to be more proactive in this regard, with between 37.9 percent and 40 percent encouraging employees to be more multiskilled, compared to only 19.4 percent for those with fewer than 100 employees.[82]

Employers reported minimal overall impact on employee benefits, with 57.3 percent of respondents indicating no direct impact. Only 3.6 percent of respondents suggested that benefits had decreased, with 9.1 percent reporting that contributions to benefit plans had increased. Large employers indicated the greatest impact overall, with 16 percent reporting contribution increases and 6 percent reporting declining benefits. Smaller employers reported minimal effects.
To some extent, these impact results probably reflect that pension and medical benefits are not provided to all workers and that most HIV-positive workers are concentrated in lower-skill groups, which do not have the same level of benefit provision as skilled and managerial employees. Another factor may be that employees who are HIV-positive leave their firms before the economic costs of ill health become serious.[31] They may also reflect how employers have responded to HIV/AIDS, discussed later in this paper. Larger companies, for example, which reported greater impact of HIV/AIDS, provide more HIV/AIDS-related death and disability benefits and have been more proactive in developing HIV/AIDS policies and communicating them to their employees, who are thus better poised to access relevant programs and benefits.[82]

**Medical and Insurance Schemes**

The Center for Health Policy at the University of Witwatersrand has analyzed restructuring of workplace benefits in response to HIV. In the early 1990s, medical insurance schemes moved from defined benefit to defined contribution plans, a reaction to the perceived impact of HIV on risk benefits. There has been increasing outsourcing of tasks requiring low skills levels and decreased reliance on unskilled workers. In recent years, several companies have announced that they would provide antiretroviral treatment to semi- and unskilled employees, a response to legal and equity concerns as well as assessments of direct and indirect HIV-related costs.[81]

Many HIV-positive employees are not able to access available benefits because of the complexity of employee benefit packages, which are often not well understood even by human resource departments. Employees often must negotiate for benefits directly with insurance companies, as opposed to companies' taking responsibility for this process, thereby rendering employees more vulnerable. Although routine preemployment testing is illegal, many individuals are losing coverage through prebenefit testing (discussed below).[81]

A recent study conducted by Lifeworks, a health risk management company, examined trends in HIV/AIDS-related disability claims over a three-year period in the telecoms, clothing & textiles, food, and insurance sectors (using a cohort of approximately 85,000 employees in total). It found that for a telecoms business in Gauteng, for example, HIV cases as a percentage of total disability preclaims/claims rose from 18 percent in 2001, to 31 percent in 2002, and to 22 percent in 2003. The comparable figures for an insurance company in the Western Cape were 3, 13, and 16 percent, respectively. A clothing & textiles firm in KZN experienced in increase in HIV-related disability claims from 17 percent in 2002 to 42 percent in 2003.[37, 38]

Lifeworks warns that, "Insurance will essentially become unaffordable...Without effective medical management in reducing the number of future claims, a significant portion of South African employees will within three to five years most likely become uninsurable."[38]

Lifeworks also highlights another facet of impact, what it calls "presenteeism": an employee's progressively lower productivity concurrent with progression through the symptomatic stages of AIDS. [38]
In the long term, the insurance sector is likely to be hardest hit in financial terms. Therefore, most insurance companies are factoring in the likely increase in HIV/AIDS claims and raising premiums. As insurance becomes too expensive, employers will be unable to offer employees the same level of coverage.

**Health Sector**

Alison Hickey of the Research Unit on AIDS and Public Finance of the Institute for Democracy in South Africa notes that:

- HIV/AIDS has already forced the public health sector to incur significant expenditures.
- Combined national and provincial expenditures on HIV/AIDS in 2001/2 totaled R4.4448 billion, representing 15 percent of total public health expenditures.
- In 2000, there were an estimated 628,000 admissions to public hospitals for AIDS-related illnesses, accounting for 24 percent of all public hospital admissions.
- In 2001/2, the cost of hospitalizing AIDS patients in public facilities was at least R3.6 billion, or 12.5 percent of the total public health budget

If current levels of acute in- and outpatient HIV/AIDS care remain constant, the costs of such care will more than double in the public sector. Non-HIV health spending, in both the public and private sectors, is projected to decline or experience slower growth; these expenditures include pregnancy and birth-related expenses, given the high infection levels among women of reproductive age, as well as those targeted to older persons as fewer people enter old age. In the private sector, the impact will likely be delayed and significantly lower, partly because of lower infection rates.

South Africa has been contending with an exodus of doctors for some time. The IMF estimates that if the current number of doctors and nurses remains constant—and assuming that HIV prevalence among health sector staff is similar to those of the general population—training of doctors and nurses will have to increase by 25 to 40 percent to meet demand for health services.

Because projected expenditure requirements will outpace the available resources of the public and private sectors, rationing will be needed. Those living with HIV/AIDS will experience a greater degree of rationing than other health service users. Abt notes anecdotal reports wherein some public hospitals are refusing to admit patients if they test positive for HIV or refusing them any form of surgery, even for trauma-related injuries. Health Systems Trust notes that HIV care is being rationed in "inconsistent and often unfair ways" and placing enormous pressure on frontline health workers. It attributes this situation to the absence of a clearly defined package of HIV treatment and care and concomitant skills. As the number of people with AIDS increases, so will the costs of care. Added to this is that South Africa relies on (expensive) hospitals for care. Thus, other care and support models, including hospices and community-based initiatives, should be examined in terms of cost savings and burdens they may place on households and communities.

Haacker has examined the costs of HIV/AIDS-related health services in nine southern African countries. To provide a common indicator to compare data across countries, his analysis was based on the assumption that the coverage rate for palliative care and prevention of OIs is 30...
percent, coverage rate for clinical treatment of OIs is 20 percent, and the coverage rate for
HAART is 10 percent. In South Africa, he found that total HIV-related health services, assuming
these rates of coverage, would account for 0.3 percent of GDP in 2000 and 0.9 percent of GDP in
2010. (The HIV/AIDS-related costs were broken down as follows: Costs for palliative care and
prevention of OIs were estimated at 0.0 percent of GDP for 2000 and 0.15 percent for 2010; for
clinical treatment of OIs: 0.2 and 0.3 percent of GDP, respectively; and for HAART: 0.5 and 1.1
percent of GDP, respectively. NB: These estimates were published in February 2002.) [32]

**Education**

In seeking to redress the many inequities of the apartheid educational system, South Africa was
already contending with numerous challenges, including a shortage of teachers, limited budgets,
and underfunded teacher training colleges.[6] HIV/AIDS has exacerbated the situation.
Educators may be particularly vulnerable to HIV infection given their comparatively high
incomes, sometimes remote postings, and geographic and social mobility—all of which may
increase their number of sexual partners and contacts with different sexual networks.[64, 88]

Haacker from the IMF projects a decline in the absolute number of pupils by 2010 and a decline
in the absolute numbers of new teachers needed. However, he estimates that of new teachers who
needed to be trained in South Africa in 2000, 52.2 percent replaced teachers lost to AIDS; for
2010, he projects that 78.3 percent of newly trained teachers will replace teachers who have died
because of AIDS.[32] In August 2003, the South African Teachers Union estimated that the
country faces a shortage of 35,000 teachers because of AIDS.[40]

Carol Coombe of the HIV and Education Research Program at the University of Pretoria has
underscored the myriad effects of HIV/AIDS on South Africa's educational sector. These
include:

- lower enrollment rates, given:
  - child AIDS mortality
  - mortality of HIV-positive mothers who die young and leave fewer offspring
  - nonattendance by children who are ill, impoverished, orphaned, caring for
    younger children, and/or working (with
- disproportionate impact on girls)
- higher dropout rates
- loss of qualified teachers and administrators
- fewer tertiary students as secondary school output and quality decline
- inability of financially constrained provincial education departments to provide adequate
  formal education, given:
  - rising sick leave and death benefit costs
  - additional costs of teacher training
  - pressure to switch resources away from education to other social sectors such as
    health and welfare
  - declining contributions from parents and communities, thereby shifting more of
    the cost back to government[64]

The degree to which the government can provide adequate education will depend partly on the
dynamic between lower enrollment rates (fewer students) and concurrent loss of educators. Regardless, quality of education and the learning environment are at high risk.

Coombe also highlights the effects of HIV/AIDS-induced trauma among orphans and other vulnerable children, including:

- secrecy, silence, or denial about parental illness
- family and community strain or dissolution, separation from siblings and friends
- lack of acknowledgement or discussion of children's fears and grief, which can lead to confusion, anxiety, learning
- difficulties, behavioral changes, loneliness, and isolation
- declining school performance given illness of teachers, staff, and students; low morale; and poor concentration
- stigma and discrimination, teasing, ostracism, and insensitivity.[64]

**Mining**

According to the South African Medical Research Council, approximately 25 percent of miners in South Africa are living with HIV/AIDS; the MRC expects this figure to increase to 30 percent by 2005.[74] In mid-April 2002, AngloGold released figures showing HIV prevalence levels of between 25 and 30 percent among its 44,000 South African employees.[84] Prevalence levels among sex workers in mining communities are often higher; studies in the gold mining community of Carletonville, for example, have found that 69 percent of sex workers are HIV-positive.[85]

South Africa's second-largest gold mining firm, Gold Fields, projects that worker deaths from AIDS-related causes cost the firm US$18,500 per employee and the "full impact" of the disease will increase production costs by US$10 per ounce of gold.[41] Within the mining sector, gold mine employees have borne the brunt of the HIV epidemic, but because there is relatively little task specialization, production has not been seriously affected. Coal mining, however, employs small numbers of machine operators each performing specialized tasks, and loss of a few operators can lead to substantial production decline.[6]

**Agriculture**

In South Africa, most poor rural households depend on cash transfers through migrant remittances or state pensions; a rural subsistence economy, based on the traditional extended family, does not exist on a large scale.[20] Thus, the impact of HIV/AIDS on rural areas will be greatly intertwined with that found in mining and other industries. Nevertheless, significant impacts on agriculture are already occurring. According to FAO, between 1995 and 2020, South Africa will have lost 20 percent of its agricultural labor force because of AIDS. [42]

**Military**

At a media briefing on July 16, 2002, Defence Minister Mosiuoa Lekota reported that 22 percent of the South African National Defence Force (SANDF) was HIV-positive, based on the most
recent statistics submitted by the South African Military Health Service to the Defence Department. The minister noted that the figure was based on testing of new recruits and of all defence force members.[91]

On October 7, 2003, Minister Lekota announced that at least one-fifth of the SANDF was infected with HIV. During this press conference, he downplayed the impact of HIV/AIDS within the SANDF as well as the country as a whole. [43]

Some researchers have estimated that although overall HIV infection rates in the SANDF appear to be comparable to those of the general public, HIV prevalence among 23- to 29-year-old soldiers may be as high as 50 percent. Illness and turnover among the ranks of the SANDF will lead to a loss of skills and break in the continuity of command, with implications for morale, discipline, and cohesion. The epidemic also poses challenges for recruitment and for dealing with personnel who are no longer able to participate in active duty. It also raises issues regarding peacekeeper and other special deployments.[44]

**Prisons**

According to a 2002 report on South Africa undertaken by the U.N. Office on Drugs and Crime:

> The problems of severe overcrowding, a very high number of suspects awaiting trial in prison, and a high incidence of HIV/AIDS, pose a major challenge for the Department of Correctional Services (DCS) in South Africa. They also undermine the rights of those accused convicted of crime who are held in custody, and they have serious negative effects on the implementation of the rehabilitation programs.[19]

Another major challenge facing the Department of Correctional Services is the control of communicable diseases and viruses, particularly HIV/AIDS and tuberculosis (TB). The current problem of overcrowding facilitates the spread of communicable diseases among the inmates. This problem is highlighted by the substantial increase in the number of “natural” deaths in prisons since 1995. Between 1995 and 2000, the number of natural deaths increased by 484%. According to post-mortems conducted, most of these deaths are believed to have been the result of HIV/AIDS.[19]

The increase in the prisoner population since 1996 is largely attributable to a rise in the number of unsentenced prisoners held in correctional facilities. Between 1996 and June 2001, the total number of prisoners increased by 34 percent. The number of sentenced prisoners increased by 27 percent, compared to unsentenced prisoners, whose numbers increased by 54 percent.[19]

According to South Africa's Institute for Security Studies (ISS), in South Africa, over 40 percent of prisoners are incarcerated for less than a year, with only two percent serving life sentences. On average, 25,000 people are released from South African prisons and jails each month. [45]

ISS estimates that 45.2 percent of South Africa's 17,5000 inmates are HIV-positive.[46] ISS believes that the large increase in mortality observed in the second half of the 1990s in South Africa's prisons is largely the result of AIDS and the increase in the number of HIV-positive prisoners; between January 1998 and December 1999, the recorded number of HIV/AIDS prisoners increased by 108 percent. ISS also believes that both these increases are linked to
severe prison overcrowding, which may be facilitating rape and transmission of STIs, as well as TB spread.[92]

The extent of sexual activity in prisons is difficult to determine because studies must rely on self-reporting, which is distorted by embarrassment or fear of reprisal. Sex is prohibited in most prison systems, leading inmates to deny their involvement in sexual activity. Sex in prison usually takes place in situations of violence or intimidation, thus both perpetrators and victims are disinclined to discuss its occurrence.[45]

South African laws protect the rights of prisoners living with HIV/AIDS, and the Department of Correctional Services, which oversees all prison facilities in South Africa, introduced its AIDS policy in September 2002. Unlike in other southern African countries, homosexuality is not illegal in South Africa. Government policy states that condoms are to be distributed to prisoners "on the same basis as condoms are provided in the community." However, implementation of these policies is highly inadequate.[46]

**Households**

Traditional extended family and community coping mechanisms in South Africa were weakened by apartheid, which disrupted family and communal life and led to rapid urbanization. As family and community structures became weaker, many South Africans assumed that the state would provide health care and other support.[6]

HIV/AIDS has further strained coping mechanisms through its enormous and complex impact on households. As AIDS severely affects the most economically active members of the household, income and consumption patterns are changing dramatically, reducing or depleting income, savings, and remittances, and increasing expenditures on care and funerals. Aliber projects that by 2010, AIDS may contribute to the chronic impoverishment of 26 to 33 percent more households than would have been the case in the absence of the epidemic.[12]

A survey commissioned by the Kaiser Family Foundation and supervised by Health Systems Trust among 728 AIDS-affected households in four South African provinces was undertaken during 2001-02. Households were sampled randomly from lists of households provided by organizations that work with people with AIDS and their households. Findings include:

- Households spent an average 34 percent of their monthly income on health care. This percentage is much higher than that spent on health care by non-AIDS-affected households.
- Almost half of respondents interviewed required assistance with walking, whereas 10 to 20 percent required assistance with other daily tasks such as dressing and washing.
- The most common symptoms reported by households were weight loss and pain; however, chronic diarrhea was the symptom with which households found most difficult to deal.
- Most households reported that there was someone to provide full-time care for the ill member; however, in 32 percent of households, there was either no or only part-time care.
- The main caregiver was usually a woman, and 73 percent of caregivers were women over 60. In 7 percent of households, the caregiver was under age 18.
Utilization of public clinics was high, and satisfaction with these services was also high. This is in contrast to the use of public hospitals, which was much lower than clinics. There was also a greater level of dissatisfaction with the treatment provided at public hospitals.

There was a high level of dissatisfaction with traditional healers.[20]

Families may have to sell assets or increase their labor to pay for care; transport to reach care providers; burials; and household necessities. Household income often declines though (1) illness and death of the breadwinner, (2) wages lost by other household members who stop (or reduce) working to care for the sick, and/or (3) wages lost by (or opportunity cost of) attending funerals. Lost employment may be accompanied by loss of insurance and medical benefits. Many families are unable to repay obligations, such as student loans. Household members—including its oldest and youngest members—may have to enter or remain in the workforce longer to compensate for the loss of the main breadwinner’s earnings. Exacerbating this scenario is that more than one household member is often infected with HIV/AIDS.[74]

Nattrass examined several economic models of the impact of AIDS and reflected that if firms react to AIDS by continuing to decrease their reliance on unskilled labor (a trend begun before the rapid growth of South Africa’s HIV/AIDS epidemic) and by moving out of economic sectors with customer bases comprising lower-income consumers, then poor households will find themselves "doubly disadvantaged": not only will their access to the labor market be imperiled, but the products they purchase may become more costly.[31]

Household food security is imperiled by HIV/AIDS. When an adult dies, food consumption of all surviving household members often declines, due to reduced family income as well as the increased number of household members that may arise from fostering orphans and hosting and caring for sick relatives.[87]

A recent household survey in the Free State indicates that AIDS-affected households are particularly vulnerable, given their higher rates of unemployment and increased dependence on nonemployment income, such as pensions. This may suggest that (1) members of households with limited (if any) access to wage employment are more vulnerable to HIV/AIDS infection, (2) AIDS-affected households have experienced disproportionate employment losses because of AIDS, and/or (3) people living with AIDS migrate to households with pensioners to obtain care.[31]

Households that are headed by a single parent, have only one breadwinner, and/or have more than one HIV-infected member are also vulnerable to economic (and psychosocial) shocks. Female-headed households in South Africa tend to be poorer than those headed by men and thus have fewer resources with which to respond to HIV/AIDS. Moreover, women are traditional caregivers and thus take on additional responsibilities when family members become ill. And in single-parent households or those in which one parent has already died, girls are more likely than boys to provide care.[16] When family breadwinners become ill or die, girls are often the first to be taken out of school[93]—to help care for those who are ill, carry out household chores, and/or undertake income-generating activities. Impacts on rural households may include:

- reduction in land under cultivation
- inability to cultivate all available land
dependence on outside labor land left fallow
delayed or poorly timed tillage, planting, and weeding
declining yields
less attention to conservation measures and resultant soil erosion decline in crop variety
changes in cropping patterns
switch to less labor-intensive crops
abandonment of cash crops
decline in nutritional quality of food
decline in livestock production
loss of agricultural skills and knowledge
selling off of assets such as livestock[94]

Orphans and Other Vulnerable Children

(See also the section on Education above.)

At the end of 2001, UNAIDS estimated that there were 660,000 AIDS orphans living in South Africa.[95] The CDC estimates that this number will rise to 1.6 million by 2008.[96] Children on the Brink 2002, a report on AIDS orphans commissioned by USAID, estimated that the percent of South Africa's orphans that could be attributed to AIDS rose from 0.1 percent in 1990 to 43.3 percent in 2001 and would reach 73.8 percent by 2010.[97]

Johnson and Dorrington of the Center for Actuarial Research at the University of Cape Town project that the number of maternal AIDS orphans under age 15 will peak around 2015 at roughly 2 million and that the number of maternal AIDS orphans under age 18 at about 3 million. The number of paternal AIDS orphans under age 18 is expected to peak at 4.7 million in 2015, and the total number of children having lost one or both parents to AIDS will be highest around 2014, at 5.7 million. Johnson and Dorrington note, however, that their projections may underestimate the true number of children without paternal care, as their projections did not consider fathers who are alive but absent. Their analysis also found that rates of orphanhood are likely to be highest among black Africans and among poorer socioeconomic groups. Relatively few orphaned children are likely to be HIV-positive, as most HIV-positive orphans do not survive long enough to constitute a significant proportion of the orphan population.[26]

Orphans are particularly vulnerable to:

- being recruited into crime, or becoming targets of criminal activity
- becoming street children
- heading households to avoid separation from siblings
- being raised by grandparents, who may not have the socioeconomic means to do so
- being traumatized by the illness and death of parents and often by separation from siblings
- being subject to stigma and discrimination around HIV/AIDS, within the community and sometimes within their extended families
- being subject to physical and sexual abuse, sex work, or risk taking (sexual and drug), rendering them more vulnerable to HIV.[6, 80]
South Africa's capacity to deal with increased numbers of orphans is limited. Awareness of foster care grants and other forms of assistance is low; moreover, foster care grants are difficult to access. The country's Child Care Act has been criticized as being limited in the placement options it offers for orphaned children. Institutional care is being provided, but to contain costs, there is a shift to models of community-based care, which assume that hard-hit communities have sufficient capacity to care for orphans.[26]
Response

At a Glance Summary Bullets

South African Government

- As it was being unbanned, the African National Congress (ANC) played a major role in development of national HIV/AIDS policies. In October 1992, the ANC and the apartheid government's National Department of Health jointly convened a conference on AIDS, which led to creation of the National AIDS Committee of South Africa (NACOSA).

- After a peaceful transition, the ANC won the country's first fully democratic elections. Numerous initiatives aimed at redressing inequalities were launched in the immediate postapartheid period under the Reconstruction and Development Program, the ANC's election platform.

- The ANC adopted NACOSA's AIDS plan. Along with 20 other social priorities, AIDS was declared a "Presidential Lead Project," giving it special status and early access to resources set aside for reconstruction and development.

- The AIDS plan, however, greatly overestimated the implementation capacity of the new government, not least because of the numerous challenges the ANC faced upon assuming office and the enormity of postapartheid reconstruction.

- In 1994, President Nelson Mandela inherited intact the apartheid administration. The legacy of the apartheid civil service, coupled with the transition period, led to uncoordinated planning within and across government, weak financial and information systems, and lack of managerial skills. Consequently, coordination of a national response was constrained.

- Given public sector capacity constraints, multiple sources of special AIDS allocations, and complex disbursement procedures, the national government underspent AIDS funds. Some of the projects on which funds were spent—and lack of transparency in granting them—were heavily criticized. As in many countries, the national AIDS program was housed in the Department of Health, thereby impeding a multisectoral response.

- In 1997, the Department of Health commissioned the MRC to undertake a review of the 1994 AIDS plan, which led to a reformulation of policy priorities at the national level.

- In January 2000, the National Department of Health launched the HIV/AIDS and STD Strategic Plan for South Africa 2000-2005. However, the plan has been deemed vague in terms of action and resource prioritization as well as provision of ART.

- In January 2000, the South African National AIDS Council (SANAC) was formed, bringing together government and civil society, although medical researchers and key were excluded from SANAC.
In the late 1990s, South Africa's Health Minister announced that she would not permit AZT nor NVP to be provided to pregnant, HIV-positive women nor rape survivors in public health facilities, citing "cost, toxicity, and efficacy, particularly for the 'African' setting."

During 2000, President Thabo Mbeki, who had succeeded Nelson Mandela as South Africa's president in 1999, had begun to publicly question the link between HIV and AIDS. In May 2000, he convened a panel of international AIDS experts—including AIDS dissidents—charged with reexamining the causes of AIDS and determining African solutions to the pandemic. The panel and its report were met with widespread criticism by South African and international scientists.

Prior to the XIII International AIDS Conference, held in Durban in July 2000, there was growing international discussion of access to ARVs and PMTCT. Data from a South African study of NVP, which highlighted its ease of administration and greater cost-effectiveness were presented at the Durban conference.

The Durban meeting marked the first time that the international AIDS conference had been held in the South. This, coupled with the increasing international coverage of President Mbeki and Minister Tshabalala-Msimang's HIV/AIDS policies, brought enormous attention to South Africa, much of it highly critical. The controversies had reached a point such that over 5,000 scientists worldwide signed the Durban Declaration, in which they reaffirmed that HIV was the cause of AIDS.

**Access to Antiretrovirals**

After Durban, several medical and advocacy groups, such as TAC, petitioned the government to approve and provide NVP in the public health system for PMTCT. In late 2000, the government announced 18 pilot PMTCT sites, which were launched between May and December 2001.

In February 1998, the Pharmaceutical Manufacturers Association and 39 drug makers brought legal action against the South African Medicines and Related Substances Control Amendment Act (90) of 1997, specifically Section 15C allowing for measures (compulsory licenses and parallel imports) that would allow the government to procure essential drugs at cheaper prices. In April 2001, under national and international pressure, the case against the act was withdrawn. However, the government immediately announced that ARVs were still not a feasible option in the public sector and therefore did not move to issue a compulsory license for generic manufacture of ARVs.

Minister Tshabalala-Msimang continued to stress South Africa's inability to provide and monitor ARVs, citing toxicity, financial constraints, inadequate health infrastructure, and competing health demands. Many South African researchers acknowledged the major role that poverty plays in HIV transmission and ability to access and provide care, as well as the high cost (even at subsidized prices) of ARVs. However, they did not believe that these constraints merited rejection of ARVs.
The South African Government released a statement in April 2002 that appeared to open the door to public provision of ART. However, no concrete actions were taken until mid-2003.

**Human Rights and the Role of the South African Courts**

- The South African courts have played a major role in HIV policy. Their actions have been underpinned by the South African Constitution, finalized in 1996. The Constitution is the highest law in the land; its Bill of Rights lists protected human rights.

- For example, the action that TAC and others brought against the government on PMTCT was viewed as a test of the extent to which the Constitution can define social policy for the executive level.

- Apart from the Bill of Rights, numerous other policy and legal instruments protect the rights of persons infected with and affected by HIV/AIDS with regard to education, the workplace, testing and counseling, and patient management. For example, the Labor Relations Act of 1995 protects employees from being dismissed because they are HIV-positive and from being discriminated against with regard to staff training, employee benefits, and other work-related opportunities.

- Under the Employment Equity Act of 1998, "no person may unfairly discriminate, directly or indirectly, against an employee, in any employment policy or practice, on one or more grounds, including...HIV status..." The act also prohibited testing of an employee to determine his/her HIV status unless the Labor Court justifies such testing.

- However, many of the policies and laws mentioned above have been inadequately implemented and have not had significant impact on the ground. Poverty, stigma, and poor access to legal resources deter many South Africans from seeking redress for human rights violations. Women's low socioeconomic status, coupled with lack of support services and shelters, often prevents them from taking steps to protect themselves from HIV.

**Donors**

- Unlike almost all other sub-Saharan African countries, South Africa is not dependent on donor aid to fund its health and social services. However, the country's national AIDS program has received significant foreign aid and technical assistance.

**Global Fund to Fight AIDS, Tuberculosis & Malaria**

- In the first round, South Africa submitted two proposals, both of which were funded in April 2002.

2. CCM South Africa (South Africa National AIDS Council [SANAC]): Strengthening national capacity for treatment, care, and support related to HIV and TB, building on successful behavior change: US$93,310,000

- The federal government was angered that the KZN grant was not submitted through SANAC. After much delay, the South African and KZN governments reached resolution with the GFATM, and in August 2003 they signed agreements for US$41 million over the next two years. Included in this amount was US$27 million for the Enhanced Care Initiative in KZN, a consortium of government, private, and civil society partners to promote continuum of care by implementing key interventions including VCT, ART, and care for patients and their families. SANAC has also signed agreements for:

  1. two-year US$12 million grant to enable expansion and acceleration of National Adolescent Friendly Clinic Initiative, formal partnership between loveLife and SA government, to improve access and quality of services to adolescents in public clinics dealing with teen sexuality and reproductive health.

  2. one-year US$2 million grant to support ongoing development and implementation of Soul City and Soul Buddyz, awareness-raising and mobilization tools among youth

- For the second round of the GFATM, SANAC submitted three proposals, of which one (HIV/AIDS-TB) was approved to receive US$25 million, pending clarifications.

Civil Society

- Numerous nongovernmental organizations—including community-based organizations, academic institutes, and trade unions—have played major, galvanizing roles in initiating and strengthening South Africa's response to HIV/AIDS.

Postexposure Prophylaxis for Sexual Assault Survivors

- Health Minister Tshabalala-Msimang had not permitted provision of ARVs in public clinics for postexposure prophylaxis after rape. In a major policy shift, the government announced in April 2002 that it would seek to provide a comprehensive package of care for sexual assault survivors, including counseling and testing for HIV, pregnancy and STIs. This package would also include provision of ARVs, with a related standardized national protocol.

- However in July 2003, a cabinet decision led to the removal of a clause from the Sexual Offences Bill that would have compelled the government to provide rape survivors with drugs to reduce the risk of HIV infection.

Female-controlled Prevention Technologies

- South Africa's Medical Research Council has launched the country's first microbicide research initiative. At least five clinical trials are planned/under way.
Female condoms are available free of charge at selected national sites that form part of a adolescent health collaborative. They are also distributed through pharmacies at a subsidized price (R5 [US$0.73]) for two.

The FC does not appear to be popular among youth ages 15-21; however, it is apparently popular and is used more regularly by older women in stable relationships.

**VCT**

The government launched a voluntary counseling and testing (VCT) program in 2000. Success in implementing VCT varies greatly among provinces.

In most provinces, over half of respondents knew where to access VCT services. Mpumalanga and Limpopo have the lowest percentages of respondents who knew where to obtain VCT services. About 40 percent of those ages 15-24, as well as one-third of those ages 25-49, do not know where to find these services. Urban respondents are more likely to know about VCT services than those in rural areas ones.

**PMTCT**

According to WHO, 38,168 clients received PMTCT services (i.e., basic counseling, testing, and AZT or NVP treatment) at South Africa's 20 public/NGO PMTCT sites during 2001. An estimated 13 percent of the population in need of PMTCT services was receiving them.

As mentioned, 18 pilot PMTCT sites began operating in 2001. A February 2002 review of them, commissioned by the government, strongly advocated expansion of them.

In 2001, the Treatment Access Campaign brought a lawsuit against the Government of South Africa to compel it to (1) make NVP immediately accessible in the public sector outside pilot sites if medical personnel deemed NVP necessary and (2) institute a comprehensive PMTCT program nationwide. In December 2001, the Pretoria High Court ruled that the South African Government must provide NVP to all HIV-positive pregnant women through its public health facilities. After various government appeals, the Constitutional Court ruled in July 2002 that the government must abide by the High Court's ruling.

Western Cape was the first province to defy South African government policy by providing NVP to HIV-positive pregnant women in the public health sector. In March 2003, the province announced that all HIV-positive pregnant women could access NVP at their nearest clinic. The province has achieved universal PMTCT coverage of pregnant women.

In January 2002, KwaZulu-Natal became the second provincial government to defy government policy by making NVP available to HIV-positive pregnant women in state hospitals.

The Perinatal HIV Research Unit at Chris Hani Baragwanath Hospital provides HAART and monitoring for adults and children.
In July 2002, the MTCT Plus Initiative, managed by Columbia University's Mailman School of Public Health, announced grants to several sites in South Africa: clinics operated by Médecins sans Frontières in Khayelitsha, Cape Town, and programs within the universities of the Witwatersrand and Natal. The initiative includes ART, care, and support services for mothers.

In early August 2002, South Africa's MCC announced that it was considering reversing its approval of NVP to prevent mother-to-child transmission of HIV. The MCC stated that it had concerns about NVP's effectiveness and toxicity, despite continued recommendation of NVP by UNAIDS, WHO, NIH, and others.

**ART**

- WHO reported that during 2001, there were no sites in South Africa providing ART. As of July 2003, about 21,000 South Africans were receiving ART; of them, about 1,500 were receiving treatment in the public sector, the remainder through NGO, university, and private company programs.
- Apart from postexposure prophylaxis and nevirapine for PMTCT pilot sites, ART is not purchased by the public sector health service.
- In 2003, the South African Cabinet formed a Health/Treasury Task Team to analyze ART roll out. The Task Team recommended the establishment of a "fast track" national price negotiating team and a strategy to obtain drugs at optimal prices. It also recommended encouraging the granting of voluntary licenses by patent holders for local manufacture.
- The Task Team found that the total cost of providing ART to everyone in need of it would be between US$1 billion and US$1.09 billion by 2005.
- The Task Team estimated that 1.7 million lives could be saved by 2010 if ART were provided to all in need of it. If ART were not provided, the team projected that 1.8 million more children would be orphaned by 2010. The team estimated that this number would be reduced by 860,000 with 100 percent ART coverage, and by 350,000 with 50 percent ART coverage.
- In August 2003, the Cabinet approved the provision of AIDS drugs to HIV-positive citizens through the public health system.
- The Cabinet instructed the Health Department to develop a detailed operational plan for ART rollout and to act "with urgency." The department is now working on a plan, including a procurement strategy, which was due by the end September 2003.

**Cost**

- Over the past four years, South Africa has seen large reductions in the prices of patented ARVs. MSF reports that by importing generic ARVs manufactured by the Brazilian National STD/AIDS Program—under the South Africa Medicines Control Council "Section 21" permit—the prices of triple therapy used in Khayelitsha have fallen by 50 percent, with a triple-therapy regimen provided for R10/day.
- Aspen Pharmacare was granted a voluntary license by Bristol-Myers Squibb to produce a generic version of Zerit. Under the terms of the agreement, Aspen Pharmacare can sell its version to both public and private patients across Africa. In July 2003, Aspen announced that
it is selling one month's supply of Aspen-Stavudine for between US$3 and US$4.50, about 41 percent less expensive than original.

- In early 2003, 19 projects providing ART established the Generic Antiretroviral Procurement Project (GARPP) to improve access to ART through promotion of cheaper generic drugs. The initiative sources generics approved by the MCC and supplies members throughout the country. In August 2003, GARPP was selling triple-combination therapy at US$40 a month.

**Vaccines**

- In June 2003, South Africa's Medicines Control Council approved the country's first HIV vaccine trial, which is also the first trial of a vaccine targeting the C strain of the virus, the most prevalent strain in southern Africa.

**Industry**

- Within South Africa, approximately 12 million people are employed directly, with a further 20 million dependants. Consequently, workplace HIV/AIDS initiatives can have far-reaching impact.

- In 2002, the South Africa Business Coalition on HIV/AIDS commissioned a rapid assessment of workplace responses to HIV/AIDS. The survey found that 82 percent of large companies surveyed had formal HIV/AIDS policies. Among medium and small companies, 51.7 percent and 6.5 percent, respectively, had such policies. Overall, 41.8 percent of business surveyed had communicated their HIV/AIDS policy to their employees. Only 6.5 percent of small and 34.5 percent of medium companies indicated that any HIV/AIDS communication had been made to employees.

- Overall, 70.9 percent of all respondents in the SABCHA survey had not commissioned an HIV/AIDS risk assessment; the majority of companies that had commissioned such an assessment had over 500 employees.

- Many large South African companies view HIV/AIDS as their main strategic challenge and have formulated and implemented substantial HIV/AIDS policies that address, inter alia, confidentiality and stigma.

- All major mining companies have HIV/AIDS programs, which have been based largely on prevention, condom distribution, treatment of STIs and OIs, and wellness programs for HIV-positive employees. Many utilize peer educators. Several home-based care initiatives for HIV-positive miners are also beginning.

- Recently, several mining companies in South Africa have been taking small steps toward reformulating living arrangements for their male workers as an HIV prevention tool—permitting miners' families to live with them at the worksite.

- Numerous firms, including mining companies, have announced pilot plans to offer ART. In
some cases, ART will also be available to employees' dependents. Most companies are offering cost-sharing arrangements for ART, which may impede uptake.

**South African Government**

**Development of AIDS Policy: 1990-1997**

As it was being unbanned, the African National Congress (ANC) played a major role in development of national HIV/AIDS policies. At the Maputo Conference on Health in Transition in Southern Africa, held in early 1990, the ANC helped draft the "Maputo Statement on HIV and AIDS in Southern Africa." This statement endorsed a multisectoral response to AIDS and located it within the "broader struggle for sociopolitical change."[100]

In October 1992, the ANC and the apartheid government's National Department of Health jointly convened a conference on AIDS, which led to creation of the National AIDS Committee of South Africa (NACOSA), an umbrella group charged with coordinating the national AIDS response.[76] Using a participatory process, NACOSA created a detailed AIDS plan, which was notable for formalizing a response to HIV/AIDS based on human rights principles.[100]

After a peaceful transition, the ANC won the country's first fully democratic elections. Numerous initiatives aimed at redressing inequalities were launched in the immediate postapartheid period under the Reconstruction and Development Program, the ANC's election platform. These included:

- deracializing state old-age pension benefits, thereby increasing transfers to poor, black households
- emphasizing the needs of the poor in state social sector spending
- initiating a school feeding program
- providing free maternal and child health care in the public sector
- building 400 primary health care clinics and extending a further 152
- enacting abortion reform
- creating an essential drugs list
- regulating private sector medical schemes
- enacting drug legislation[20]

The ANC adopted NACOSA's AIDS plan. Along with 20 other social priorities, AIDS was declared a "Presidential Lead Project," giving it special status and early access to resources set aside for reconstruction and development.[76] The AIDS plan, however, greatly overestimated the implementation capacity of the new government,[100] not least because of the numerous challenges the ANC faced upon assuming office and the enormity of postapartheid reconstruction. In 1994, President Nelson Mandela inherited intact the apartheid administration. The legacy of the apartheid civil service, coupled with the transition period, led to uncoordinated planning within and across government, weak financial and information systems, and lack of managerial skills.[20] Consequently, coordination of a national response was constrained. Given public sector capacity constraints, multiple sources of special AIDS allocations, and complex disbursement procedures, the national government underspent AIDS funds. (Note that
underspending of funds was not unique to AIDS, but rather occurred throughout public social sectors.)[20] Some of the projects on which funds were spent--and lack of transparency in granting them--were heavily criticized.[76, 100] As in many countries, the national AIDS program was housed in the Department of Health, thereby impeding a multisectoral response.[76] Despite that the AIDS plan had been created in a consultative fashion, there was a lack of consultation with nongovernmental actors on the plan's implementation.[100] Schneider also underscores how:

"...numerous presidential and ministerial state interventions on HIV/AIDS may be viewed as countering attempts by activist and scientific communities to influence the policy terrain, despite the historical affiliation of the latter to the mass democratic movement of the pre-1994 period."[100]

Another crucial factor is that the larger policy framework was changing: by 1996, the Reconstruction and Development Program was replaced with a new macroeconomic framework, the Growth, Employment and Redistributive Strategy (GEAR), which adopted a "trickle down" approach to development through export-led economic growth. In 1997, the government introduced a system of fiscal federalism, in which provinces received global budgets (referred to as "equitable shares") rather than the sectoral allocations of previous years. Budgetary negotiations henceforth occurred at provincial level, and the ability of individual provincial health departments to leverage funds determined allocation size. Schneider notes that historically marginalized provincial health departments tended to remain so and that the trend toward a decline in health expenditure may be the effect of a general weakening of health sector bargaining capacity. Moreover, the redistributive process that was feasible when funds were under greater national control appears to have diminished under fiscal federalism.[20]

In 1997, the Department of Health commissioned the Medical Research Council to undertake a review of the 1994 AIDS plan. The review identified the following strengths of the plan:
- general availability of treatments for syndromic STI management
- improved national TB program
- highly motivated community service organizations (CSOs) operating with limited resources

The main constraints were identified as:
- delayed employment of personnel due to restructuring at national and provincial levels
- limited human and financial resources at all levels
- lack of adequate referral mechanisms and continuity of care, including hospital and home-based care
- lack of integration of TB and HIV/AIDS programs
- lack of a multisectoral approach outside the Department of Health[101]

The review also found "widespread and systematic abuse of the basic human rights of people with HIV/AIDS in all 9 Provinces."[102] This review led to a reformulation of policy priorities at the national level: these included strengthening support among public and private leaders, building capacity, mobilizing intersectoral action, and reducing the stigma associated with HIV. Also during this period, AIDS planning and budgeting were "recentralized" to national level through earmarked conditional grants to provinces.[103]
HIV/AIDS and STD Strategic Plan for South Africa: 2000-2005

On January 14, 2000, the National Department of Health launched the HIV/AIDS and STD Strategic Plan for South Africa 2000-2005.[104] Some guiding principles of the plan include:

- involvement of PLWHAs in prevention
- intervention and care strategies nondiscrimination of PLWHAs, their partners, families, and friends
- women's vulnerability
- confidentiality and informed consent with regard to HIV testing

The Strategic Plan has four priority areas: prevention; treatment, care, and support; research; and human and legal rights. However, it has been deemed vague in terms of action and resource prioritization as well as provision of antiretroviral therapies.[47]

In January 2000, when the 2000-2005 strategic plan was launched, the South African National AIDS Council (SANAC) was formed, bringing together government and civil society. The council is supported by technical task teams, comprising five expert groupings whose mandate is to assist and advise the council. The work of these teams is facilitated by the HIV/AIDS and STD Directorate in the National Department of Health. There are numerous other governmental entities that assist in implementing the strategic plan, though their effectiveness in doing so has been questioned.[7] Moreover, medical researchers and key NGOs such as the National Association of People Living with AIDS, Treatment Action Campaign, and the AIDS Consortium were excluded from SANAC.[100]

Health Department Actions: 1999-2002

During this period, South Africa's Health Minister, Dr. Manto Tshabalala-Msimang announced that she would not permit AZT nor nevirapine (NVP) to be provided to pregnant, HIV-positive women nor rape survivors in public health facilities; she stated that she had based her decision on ARVs' "cost, toxicity, and efficacy, particularly for the 'African' setting."[7]

With regard to AZT, Minister Tshabalala-Msimang rejected several reports from the Medicines Controls Council (South Africa's statutory licensing authority for medicines and drugs) in favor of AZT. Her decision also contradicted the international medical consensus that the benefits of AZT outweigh its risks. Glaxo Wellcome's (as it was then called) offer to provide AIDS therapies for HIV-positive pregnant women at a 75 percent price reduction was rejected by the government. Against this backdrop, critics of the government noted that members of South Africa' Parliament could (and still can) access ARVs through their health insurance.[7]

During 2000, President Thabo Mbeki, who had succeeded Nelson Mandela as South Africa's president in 1999, had begun to publicly question the link between HIV and AIDS. In May 2000, he convened a panel of international AIDS experts--including AIDS dissidents--charged with reexamining the causes of AIDS and determining African solutions to the pandemic. The panel and its report[105] were met with widespread criticism by South African and international scientists.[9]
Prior to the XIII International AIDS Conference, held in Durban, July 9-14, 2000, there was growing international discussion of access to ARVs and prevention of mother-to-child transmission of HIV (PMTCT).[106] Data from a South African study of NVP, which highlighted its ease of administration and greater cost-effectiveness (in comparison with the ZDV+3TC regimen), were presented at the Durban conference.[107] During the conference, Boehringer Ingelheim offered to donate a five-year supply of NVP to developing countries creating a national PMTCT program.[108]

The Durban meeting marked the first time that the international AIDS conference had been held in the South. This, coupled with the increasing international coverage of President Mbeki and Minister Tshabalala-Msimang's HIV/AIDS policies, brought enormous attention to South Africa, much of it highly critical.[109] The controversies had reached a point such that over 5,000 scientists worldwide signed the Durban Declaration, in which they reaffirmed that HIV was the cause of AIDS.

**Access to Antiretrovirals**

Despite the findings on NVP presented during the Durban conference by South African researchers, as well as international and South African bodies recommending NVP to prevent MTCT,[110] President Mbeki and Minister Tshabalala-Msimang rejected it, stating that its toxicity and the expense of its provision justified their decision. After the Durban conference, several medical and advocacy groups, such as the Treatment Action Campaign (TAC), petitioned the government to approve and provide NVP in the public health system for PMTCT. In late 2000, the government announced 18 pilot PMTCT sites (two in each province), which were launched between May and December 2001.

In February 1998, the Pharmaceutical Manufacturers Association and 39 drug makers brought legal action against the South African Medicines and Related Substances Control Amendment Act (90) of 1997, specifically Section 15C allowing for measures (compulsory licenses and parallel imports) that would allow the government to procure essential drugs at cheaper prices. In April 2001, under national and international pressure, the case against the act was withdrawn. However, the government immediately announced that ARVs were still not a feasible option in the public sector and therefore did not move to issue a compulsory license for generic manufacture of ARVs. (The government does not itself produce drugs, but there is a domestic generic manufacturing industry.)[103]

Minister Tshabalala-Msimang continued to stress South Africa's inability to provide and monitor ARVs, citing toxicity, financial constraints, inadequate health infrastructure, and competing health demands. Many South African researchers acknowledged the major role that poverty plays in HIV transmission and ability to access and provide care, as well as the high cost (even at subsidized prices) of ARVs. However, they did not believe that these constraints merited rejection of ARVs.

Many prominent researchers voiced concern about the human rights issues inherent in not providing women access to NVP, as well as the effect of such action on the pattern of the
epidemic.[7] In addition, many were disturbed by the continued questioning of the link between HIV and AIDS by some ANC members. Also during this period, SANAC was criticized for ineffectiveness and inactivity.[111]

In March 2002, researchers from the University of Natal, Chris Hani Baragwanath Hospital, Stellenbosch University, University of the Witwatersrand, University of the Western Cape, University of Cape Town, and the Southern African HIV Clinicians Society underscored that the:

"...operational capacity to implement use of nevirapine already exists in several health-care facilities. It is ethically and morally unacceptable for government policy to preclude them from providing nevirapine in the best interests of their patients or instructing them to hold back until research at pilot sites is completed, since these pilot studies merely add to the substantial South African data already available on the experience of implementing antiretroviral prophylaxis to reduce vertical transmission. In settings with less capacity, less resource-intensive alternatives could be considered while resources and training are provided to address operational inadequacies."[112]

In the January 26, 2002, issue of the British Medical Journal, Drs. James McIntyre and Glenda Gray, of the Perinatal HIV Research Unit at Wits, wrote:

"While the challenges to implementation remain, and additional research issues exist, one thing is certain: effective options to prevent mother to child transmission of HIV do exist, and we have a responsibility to implement them as soon as possible."[113]

Some provinces, such as the Western Cape, began to provide NVP to HIV-positive pregnant women in defiance of the government; in January 2002, KwaZulu-Natal and Gauteng provinces announced that they would make NVP widely available.[112]

**Announcement of ARV Policy Shift**

The South African Government released a statement on April 17, 2002. The statement noted that government policy on HIV/AIDS would henceforth be based on the "premise that HIV causes AIDS." It outlined the government's emphasis on prevention—including a new awareness-raising campaign, strengthened STI services, and vaccine research. The government also stated that it would strengthen treatment of OIs. However, the statement sharply deviated from past government rejection of ARVs by stating:

"On anti-retroviral treatments in general, Cabinet noted that they could help improve the conditions of PLWHA's if administered at certain stages in the progression of the condition, in accordance with international standards. However, because these drugs are too costly for universal access and, because they can cause harm if incorrectly used and if the health systems are inadequate, government will continue to work for the lowering of the cost of these drugs, and intensify the campaign to ensure that patients observe treatment advice given to them by doctors."[114]

The government also stated that it would encourage investigation into alternative
In analyzing the government's response to HIV/AIDS, Fassin and Schneider note:

"In all these arguments, as well as in the virus versus poverty controversy from 2000, two closely linked features appear. The first is the racialisation of the issues, with the government accusing its opponents, whether activists or politicians, of racism. The second is the theme of conspiracy against Africans, either from the country's white conservatives or from the pharmaceutical industry. Both features combine in the somewhat contradictory notion that the AIDS epidemic and its treatments are part of a plot to eradicate the black population."[13]

"In South Africa racialisation and conspiracy are rooted in history, and the realm of public health is not exempt from their effects. Epidemics have often been used to enforce racial segregation. The bubonic plague of 1900 in Capetown was used to justify the mass removal of Africans from their homes to the first "native locations" under the first segregationist law, passed in 1883 and called, significantly, the Public Health Act. When AIDS appeared in South Africa it was immediately interpreted in racist terms: some white leaders evoked a supposed African "promiscuity;" they denounced the danger that infected black people posed to the nation; and they even publicly rejoiced over the possible elimination of black people by the disease, as one member of parliament did in 1992. As has recently been shown, in the last years of apartheid government laboratories were developing chemical and biological weapons (including anthrax, intended to eliminate black leaders), were researching contraceptive methods to induce sterility in the African population, and were allegedly attempting to spread HIV through a network of infected prostitutes."[13]

"So, what could be seen elsewhere as unfounded suspicion was in South Africa plain reality, historically attested. Remarkably overlooked for purposes of national reconciliation, this history still remains deeply present to many South Africans and explains much of the mistrust towards Western science, medicine, and public health."[13]

"An understandable defiance is thus an important element of what is usually termed denial. In fact, denial—a common response among people facing an intolerable situation—has two facets. One is a denial of reality: a reaction that something can't be true, that it is not possible. The other is a denial of the unacceptable: a reaction that something is not normal, that although it exists it should not. Both facets are involved in the denial of the reality of HIV/AIDS. It is difficult for anybody—even a state leader—to fully comprehend the magnitude of the epidemic and its demographic consequences, such as the loss of 20 years of life expectancy within two decades. Also, it is seen as morally unacceptable that a plague can affect the population so massively and so unequally precisely at the point when democracy has at last been achieved—in what seems a remorseless prolongation of the suffering of the weakest people in society."[13]
On April 17, 2002, the government stated that it was allocating the following overall amounts to HIV/AIDS, mainly through the departments of Health, Social Development, and Education: R350 million FY2001/02, R1 billion FY2002/03, R1.3 billion FY2003/04, and R1.8 billion FY2004/5.[115]

In May 2003, South African Health Minister Manto Tshabalala-Msimang announced that the government plans to spend an additional US$87 million on HIV/AIDS and tuberculosis programs "in the coming years."[48]

**Human Rights and the Role of the South African Courts**

The South African courts have played a major role in HIV policy. Their actions have been underpinned by the South African Constitution, finalized in 1996. The Constitution is the highest law in the land; its Bill of Rights lists protected human rights. (See the AIDS Law Project at Wits for detailed analysis).

For example, the action that TAC and others brought against the government on PMTCT, discussed above, was viewed as a test of the extent to which the Constitution can define social policy for the executive level.[103] The Constitutional Court ruling of July 5, 2002, noted that because the government was not providing nevirapine in public facilities outside the pilot sites, its PMTCT program:

"...imposes restrictions on the availability of nevirapine in the public health sector. The applicants contended that these restrictions are unreasonable when measured against the Constitution, which commands the state and all its organs to give effect to the rights guaranteed by the Bill of Rights. This duty is put thus by sections 7(2) and 8(1) of the Constitution respectively:

7(2) The state must respect, protect, promote and fulfil the rights in the Bill of Rights.

...8(1) The Bill of Rights applies to all law, and binds the legislature, the executive, the judiciary and all organs of state. At issue here is the right given to everyone to have access to public health care services and the right of children to be afforded special protection. These rights are expressed in the following terms in the Bill of Rights:

27(1) Everyone has the right to have access to (a) health care services, including reproductive health care;

... (2) The state must take reasonable legislative and other measures, within its available resources, to achieve the progressive realisation of each of these rights.

... 28(1) Every child has the right

... (c) to basic nutrition, shelter, basic health care services and social services.

The second main issue also arises out of the provisions of sections 27 and 28 of the Constitution. It is whether government is constitutionally obliged and had to be ordered
forthwith to plan and implement an effective, comprehensive and progressive programme for the prevention of mother-to-child transmission of HIV throughout the country."[120]

Among the key points raised by the court:

"The question in the present case, therefore, is not whether socio-economic rights are justifiable. Clearly they are. The question is whether the applicants have shown that the measures adopted by the government to provide access to health care services for HIV-positive mothers and their newborn babies fall short of its obligations under the Constitution.

. . . .
We thus reject the argument that the only power that this Court has in the present case is to issue a declaratory order. Where a breach of any right has taken place, including a socio-economic right, a court is under a duty to ensure that effective relief is granted.

. . . .
What must be made clear, however, is that when it is appropriate to do so, courts may--and if need be must--use their wide powers to make orders that affect policy as well as legislation.

. . . .
In the present case we have identified aspects of government policy that are inconsistent with the Constitution. The decision not to make nevirapine available at hospitals and clinics other than the research and training sites is central to the entire policy. Once that restriction is removed, government will be able to devise and implement a more comprehensive policy that will give access to health care services to HIV-positive mothers and their newborn children, and will include the administration of nevirapine where that is appropriate. The policy as reformulated must meet the constitutional requirement of providing reasonable measures within available resources for the progressive realisation of the rights of such women and newborn children. This may also require, where that is necessary, that counselors at places other than at the research and training sites be trained in counseling for the use of nevirapine."[120]

(In April 2003, the South African Human Rights Commission called on the South African government to implement the Constitutional Court's ruling.[49])

Apart from the Bill of Rights, numerous other policy and legal instruments protect the rights of persons infected with and affected by HIV/AIDS with regard to education, the workplace, testing and counseling, and patient management. (The AIDS Law Project and the Center for Health Policy, both at Wits, provide detailed analysis of these instruments.[133, 134]) For example, the Labor Relations Act of 1995 protects employees from being dismissed because they are HIV-positive and from being discriminated against with regard to staff training, employee benefits, and other work-related opportunities.[135]
Under the Employment Equity Act of 1998, "no person may unfairly discriminate, directly or indirectly, against an employee, in any employment policy or practice, on one or more grounds, including...HIV status..." The act also prohibited testing of an employee to determine his/her HIV status unless the Labor Court justifies such testing.[136] Any testing that is authorized by
the Labor Court must be voluntary and accompanied by informed consent and pre- and posttest counseling.[135, 136] (Note that the Labor Relations and Employment Equity acts do not cover members of the South African National Defence Force [SANDF], the National Intelligence Agency, or the South African Secret Service.[137])

In 2001, a case in which an individual was excluded from particular benefits due to her HIV status was settled out of court; thus, there is no legal precedent ruling prebenefit testing discriminatory.[81] HIV/AIDS is not currently defined as a protected disability in South Africa.[138] The Center for Health Policy at Wits has published a comprehensive chronology of significant policies, court rulings, and other actions related to HIV/AIDS and the workplace from 1987 to 2001.[81]

Many of the policies and laws mentioned above have been inadequately implemented and have not had significant impact on the ground. Poverty, stigma, and poor access to legal resources deter many South Africans from seeking redress for human rights violations. Women's low socioeconomic status, coupled with lack of support services and shelters, often prevents them from taking steps to protect themselves from HIV. The AIDS Law Project notes that "the majority of people with HIV or AIDS are poor and afraid—they do not know how to stand up for their rights or are afraid to be open about their HIV status." [102]

During 2002, South Africa's National Health Bill was sent to the State Law Advisors for certification; once certified the bill will be sent to Parliament for debate. According to Health Systems Trust:

"The Bill represents an opportunity to put into practice the vision set out in the White Paper and to put in place structures, mechanisms, resources and systems aimed at the progressive realisation of everyone’s rights of access to health care services and at the promotion and protection of children’s rights to basic health care services....Key provisions in relation to rights include the list of patients’ and providers’ rights and duties. Although key rights, such as the patients’ right to equality and non-discrimination and to be treated with dignity are not specifically mentioned in the Bill, they are implicitly covered in the Constitution. However, given the fact that South Africa is by most measures, a highly unequal society with a high HIV infection rate, specifying patients’ rights to equality, dignity and non-discrimination in the Act governing the national health system, is essential."[20]

**Nonhealth Departments**

**Education**

In 1996, the department formulated a national policy on HIV/AIDS for students and educators. The policy includes sections on nondiscrimination and just treatment.[141] The department also publishes guidelines for educators.[141] Life skills and HIV/AIDS education are a compulsory part of school curricula, and the government anticipates their full implementation by the end of 2003.[132] However, implementation has been extremely slow or nonexistent.
Human Rights Watch has recommended that the National Department of Education develop and widely disseminate standard procedural guidelines governing how schools address allegations of sexual violence and harassment.[58]

**Social Development**

HIV/AIDS is one of the department's priority areas.[142] The department's 1997 White Paper for Social Welfare discusses numerous aspects of HIV/AIDS, the social security system, and social marginalization. It underscores the need for programs to address the impact of HIV/AIDS on vulnerable persons and for further analysis of the impact of HIV/AIDS on social welfare and demand for social assistance.[143]

One goal of the department's Strategic Plan 2002/03-2004/05 is to mitigate the socioeconomic impacts of HIV/AIDS on poor households and children through, inter alia, rapid expansion of home- and community-based care and support to children and families affected by HIV/AIDS.[142]

**Public Service and Administration**

The department works with the POLICY Project on an HIV/AIDS Impact and Action Project. It has drafted an HIV/AIDS Implementation Strategy 2000-2005.[144] The departmental web site provides educational materials on HIV/AIDS.

**Labor**

See previous discussion of workplace-related policies. Working with the National Economic Development and Labor Council--which comprises representatives from labor, government, business, and civil society[145]--the department drafted the Code of Good Practice on HIV/AIDS and Employment, which offers guidance to employers, trade unions, and employees to reduce and manage the impact of the epidemic. The code, released in May 2000, seeks to promote the elimination of unfair discrimination in the workplace based on HIV status and the creation of a nondiscriminatory working environment.[146]

**Minerals and Energy**

In *A Minerals and Mining Policy for South Africa*, published in October 1998, the department stated that it would be developing an HIV/AIDS policy.[147] In April 2003, it met with mining companies and trade unions. The meeting committed participants to, inter alia, ensure that "by the end of 2004, every workplace in the mining industry will have HIV/AIDS policies and programs in place, which are aimed at encouraging openness about the disease and to reduce stigmatization, discrimination, and prejudice against workers who are infected and affected by HIV/AIDS."[50]

**Agriculture**

The department has an HIV/AIDS program and has produced several publications on HIV/AIDS and farmers, care, rights, nutrition, and women. Its "HIV/AIDS Pledge" involves:
establishing an employee assistant program to care for and support those infected with and affected by HIV/AIDS undertaking an intensive awareness campaign among regional staff

strengthening proposed strategies for food security and HIV/AIDS

mainstreaming these initiatives into existing programs[148]

**Defense**

The department implemented a rudimentary HIV/AIDS/Hepatitis B policy in March 1988. In April 2001, it published an expanded policy addressing prevention, care, and support of DoD members and their dependants infected and affected by HIV. The policy also provides specific guidelines on ensuring a nondiscriminatory work environment. The surgeon general is responsible for managing the DoD's HIV program, which includes:

- HIV/AIDS management courses for commanding officers
- development of a standard HIV/AIDS training manual
- health education modules
- training of all military hospital personnel in HIV/AIDS management[149]

The South Africa Civil Military Alliance, which receives technical assistance from the POLICY Project, was the first organization of its kind in southern Africa <more information: http://www.policyproject.com/2>

**Correctional Services**

See also the Prisons sections above.

The department offers the following HIV/AIDS services:

- awareness campaigns for offenders and personnel
- training of personnel and offenders
- peer education among offenders
- condom availability
- treatment of STIs and OIs
- early placement/parole of the terminally ill
- partnership with the Department of Health and other departments, CBOs, NGOs, churches, and universities[150]

**Justice and Constitutional Development**

Under South Africa's 1996 constitution, six independent institutions were created to support and promote democracy. These include the South African Law Commission (based at Wits School of Law), the Commission on Gender Equality, and the Human Rights Commission.[151] Directly or indirectly, the work of all these commissions touches on HIV/AIDS. For example, a major project of the Human Rights Commission is investigation of child sexual offences.[152] (The department's own HIV/AIDS policy is online.)
HIV/AIDS in South Africa

Transportation

In 1998, the department formed a committee to, inter alia, facilitate HIV/AIDS awareness campaigns within the sector (road freight, rail, ports and shipping, aviation, passenger transport, and road construction) and distribute related information and condoms.[153]

In November 2001, the department released Transport Sector Strategic HIV/AIDS Plan, whose overarching objective is to "establish and maintain a healthy community and a stable and comparative transportation sector by effectively preventing and managing HIV/AIDS." The plan, created with the participation of numerous stakeholders, outlines a detailed plan of action addressing prevention; treatment, care, and support; research, monitoring, and evaluation; and legal rights, training, and development.[154]

Housing

The department's Directorate of Human Settlement Policy and Integration works toward, inter alia:

- development and management of gender policy for human settlements
- promotion and integration of the needs of youth, the elderly, the disabled, and people with HIV/AIDS into human
- settlement policy
- development and management of policy on special housing needs (e.g. street children, orphans, the elderly)[155]

Information on other departments' response to HIV/AIDS may be obtained from their web sites.

South African Police Service

The SAPS has developed an HIV/AIDS workplace policy and held related training workshops for members of SAPS.[144]

Donors

Unlike almost all other sub-Saharan African countries, South Africa is not dependent on donor aid to fund its health and social services. However, the country's national AIDS program has received significant foreign aid and technical assistance.[76] In addition, donors have funded numerous NGOs and CBOs. (See the Links section for major donors.)

Global Fund to Fight AIDS, Tuberculosis & Malaria

In the first round, South Africa submitted two proposals, both of which were funded in April 2002.

3. KwaZulu-Natal Provincial Coordinating Mechanism (KZN PCM): Enhancing the Care of

4. CCM South Africa (South Africa National AIDS Council [SANAC]): Strengthening national capacity for treatment, care, and support related to HIV and TB, building on successful behavior change: US$93,310,000

The provincial award involves a collaboration among the KwaZulu-Natal Department of Health, University of Natal's Nelson R. Mandela School of Medicine, Durban Chamber of Commerce and Industry, and NGOs such as the South Coast highway hospice, National Association of People Living with HIV/AIDS, legal networks, and religious organizations. The largest portion of the grant will be used to scale up the Enhancing Care Initiative, a partnership between the University of Natal and the Durban Chamber of Commerce. Grant funds will also be used to improve voluntary counseling and testing services and the identification and treatment of opportunistic infections. The proposal stated that ARVs would be provided only in settings with sufficient resources and trained staff. The award to a provincial coordinating mechanism is unusual, as the GFATM's guidelines state that priority be given to country coordinating mechanisms.[156]

The South African Government contested the award made to KwaZulu-Natal, contending that the province should not have approached the GFATM directly and that it was unfair for KwaZulu-Natal to have secured such a large amount when other provinces lack the capacity to submit bids. Provincial authorities replied that they went directly to the GFATM because there was no country coordinating mechanism assembled at the time of proposal submission.[157] In early August 2002, South Africa's Health-e news service reported that Health Minister Tshabalala-Msimang had sent a letter to the GFATM requesting that the KwaZulu-Natal grant be channeled through SANAC and disbursed throughout the country.[158]

For the second round of the GFATM, SANAC submitted three proposals, of which one (HIV/AIDS-TB) was approved to receive US$25,110,000 pending the following clarifications:

- Operational research should be concomitant with expansion of interventions
- Guidelines and materials for monitoring seems over-budgeted
- The mechanism to select projects and support NGOs (2m) needs clarification
- Revise the consistency of GFATM amounts by category in tables V.30 and Total budget by origin of funds[51]

In its comments, the GFATM noted that one weakness of the proposal was its "excessive caution to implement lessons and start expansion from TB/HIV pilot areas to other (not pilot) districts."[51] The proposal may be viewed at:

By August 2003, the South African and KZN governments had reached resolution with the GFATM, signing agreements for US$41 million over the next two years. Included in this amount was US$27 million for the Enhanced Care Initiative in KZN, a consortium of government,
private, and civil society partners to promote continuum of care by implementing key interventions including VCT, ART, and care for patients and their families. Activities include:

1. providing PEP
2. setting up laboratory services for HAART
3. expanding management of OIs to primary health care services
4. providing DOTS-HAART
5. setting up 24-hour toll-free AIDS line
6. training occupational health nurses, peer counselors, mentors, community health workers
7. conducting survey to assess current knowledge, risk perceptions, and practices re: HIV prevention and care
8. providing VCT
9. providing HIV-related counseling for victims of physical as well as substance abuse
10. conducting awareness programs focusing on myths surrounding HIV means of infection, stigma, legal rights
11. providing home-based care, orphan care, hospice services[52]

- Expected outcomes in KZN by year 2 include:

1. number of institutions capable of delivering ARVs will increase to 10
2. number of counselors and mentors recruited and trained for VCT services will rise from 375 to 800 counselors and zero to 40 mentors
3. number of rape survivors receiving PEP will increase from 1,000 to 1,800
4. number of patients under DOTS HAART will rise from 20 to 200 patients and first functional laboratory to monitor therapy will be established
5. 11 master trainers will be trained for hospice/palliative care
6. staff in six districts will be trained in program prevention, treatment, care, and support [52]

- SANAC has also signed agreements for:

1. two-year US$12 million grant to enable expansion and acceleration of National Adolescent Friendly Clinic Initiative (NAFCI), formal partnership between loveLife and SA government, to improve access and quality of services to adolescents in public clinics dealing with teen sexuality and reproductive health.
2. one-year US$2 million grant to support ongoing development and implementation of Soul City and Soul Buddyz, awareness-raising and mobilization tools among youth[53]

**Civil Society**

Numerous nongovernmental organizations—including community-based organizations, academic institutes, and trade unions—have played major, galvanizing roles in initiating and strengthening South Africa's response to HIV/AIDS. These groups, as well as the government,
also frequently partner with many international researchers and agencies. See the Links section for more detail.

**Academic and Research Institutes**

Numerous South African universities and research institutes are undertaking crucial HIV/AIDS biomedical and social science research. See the Links section.

**Trade Unions**

- Congress of South African Trade Unions (COSATU); South Africa's largest labor federation (1.8 million members), has played a significant role in advocating for equitable HIV/AIDS policies and access to HIV/AIDS treatment. COSATU issued its first resolution on AIDS in 1989 and held a special congress on HIV/AIDS in 1991.[81] Also produces numerous educational materials and helped write the code of good practice on HIV/AIDS previously discussed. Has been advocating for a rollout of ART in public hospitals.[54]

- National Union of Mineworkers in South Africa has 250,000 members. In 1987, articulated the link among migrant labor, housing, and HIV/AIDS. Launched HIV/AIDS education campaign in the late 1980s. Advocates for, inter alia, the provision of accommodation for families of miners. In 2001, negotiated an agreement with the Chamber of Mines of South Africa under which workers who are incapacitated (including those with AIDS) will receive death benefits if they die within a year of leaving the mine.[165] With Harmony Gold Mining Co., works on project that facilitates the involvement of local sex workers in STI/HIV prevention and treatment[74]

- South African Clothing and Textile Workers' Union (SACTWU): in 1999, launched HIV/AIDS policy and program.[81]

- Transport unions have initiated HIV/AIDS prevention programs, which include the employment of peer counselors at major truck depots.[145]

**Religious Organizations**

For example:

- In May 2002, the South African Council of Churches launched a campaign to reduce the stigma associated with HIV/AIDS.
- In March 2002, the Anglican Church of the Province of Southern Africa issued a guide for HIV/AIDS planning. Has also adopted an HIV/AIDS strategic plan for 2003-06.
- The Southern African Catholic Bishops' Conference has been involved in HIV/AIDS interventions.

**Postexposure Prophylaxis for Sexual Assault Survivors**

Health Minister Tshabalala-Msimang had not permitted provision of ARVs in public clinics for postexposure prophylaxis after rape.[126] The minister cited the lack of proof on the efficacy of
such treatment. Others have contended that despite a lack of prospective trials showing the effectiveness of antiretroviral prophylaxis after sexual assault, the U.S. Centers for Disease Control and Prevention recommends it.[43] Many South African researchers, as well as the South African Law Commission, had criticized the government policy,[43] and some South African NGOs and provincial health departments had been defying the national policy (for example, the Greater Nelspruit Rape Intervention Project) and were thus subject to reprimand, job loss, and/or court action by the government.

In a major policy shift, the government announced on April 17, 2002, that it would seek to provide a comprehensive package of care for sexual assault survivors, including counseling and testing for HIV, pregnancy and STIs. This package would also include provision of ARVs, with a related standardized national protocol.[114] In May 2002, the government released the national protocol, which called for provision of AZT and 3TC to sexual assault survivors.[127]

However in July 2003, a cabinet decision led to the removal of a clause from the Sexual Offences Bill that would have compelled the government to provide rape survivors with drugs to reduce the risk of HIV infection.[55]

**Female-controlled Prevention Technologies**

South Africa's Medical Research Council has launched the country's first microbicide research initiative. Current/planned clinical trials include:

- Safety and Feasibility Study of the Diaphragm Used with ACIDFORM Gel or K-Y Jelly: Johannesburg
- Phase 1 Safety and Acceptability of Carraguard among HIV-positive Women, Men and Couples: Durban
- Expanded Safety and Acceptability (Phase 2) and Preliminary Effectiveness of Carraguard: Cape Town and Pretoria
- Safety and Effectiveness Study of the Vaginal Microbicides BufferGel and PRO 2000/5 Gel (P): Durban
- Phase 3 Effectiveness Trial of Carraguard in Preventing Heterosexual Transmission of HIV/STIs: Gugulethu, Cape Town, Ga-Rankuwa, Soshanguve.[56]

During 2002, South African distributed 1 million female condoms at 200 sites. (By comparison, 220 million free male condoms were distributed during the same period.) FCs are available free of charge at selected national sites that form part of a collaborative project among the Reproductive Health Research Unit, Planned Parenthood Association of South Africa, and Department of Health. South Africa's Society for Family Health is also working to distribute the female condom through pharmacies at a subsidized price. Selected pharmacies sell the FC under the brand name *Care*, at about R5 (US$0.73) for two.
The FC does not appear to be popular among youth ages 15-21; however, the Planned Parenthood Association of South Africa states that it is popular and is used more regularly by older women in stable relationships, as they are able to better negotiate its use.[57]

**HIV Prevention Trials Network**

Current trials include:

- **HPTN 046**: Phase III Trial to Determine the Efficacy and Safety of an Extended Regimen of Nevirapine in Infants Born to HIV Infected Women to Prevent Vertical HIV Transmission During Breastfeeding

- **HPTN 039**: A Phase III, randomized, double-blind, placebo-controlled trial of acyclovir for the reduction of HIV acquisition among high risk HSV-2 seropositive, HIV-seronegative individuals

- **HPTN 055**: HIV Prevention Preparedness Study: to prepare for implementation of HPTN 035, A Phase II/III Safety and Effectiveness Study of the Vaginal Microbicides BufferGel and PRO 2000/5 Gel (P) for the Prevention of HIV Infection in Women

- **HPTN 035**: Phase II/Ilb Safety and Effectiveness Study of the Vaginal Microbicides BufferGel and 0.5% PRO2000/5 Gel (P) for the Prevention of HIV Infection in Women (in development)[58]

**VCT**

The government launched a voluntary counseling and testing (VCT) program in 2000.[9] According to WHO, during 2001, 39,553 clients were seen at South Africa's 466 publicly funded/NGO VCT centers. (There were no VCT services offered in the commercial sector.) During 2001, WHO estimates that 2 percent of the population in need of VCT services in South Africa was receiving them. (WHO notes that its quick and inexpensive method of utilizing service statistics and expert consensus opinions is less accurate than national surveys.) [59]

Success in implementing VCT varies greatly among provinces. In most provinces, many counselors have been trained and four to six sites per district selected for rapid testing. However, VCT is not being adequately promoted by health workers, and few patients with TB or STIs are being offered VCT.[9]

The 2002 HSRC survey found that among respondents age 15 and above who agreed to be tested for HIV, 18.9 percent stated that they had previously been tested and that they were aware of their HIV serostatus. This figure was 23.1 percent among HIV-positive respondents and 18.2 percent among HIV-negative respondents (p=0.06), respectively.[3]

Among those who were HIV-positive and aware of their status, 47.3 percent underwent HIV testing for personal reasons, 22.5 percent during pregnancy, 14.8 percent following an external request (from employers, insurance companies, banks), and the remaining 15.4 percent were referred under other circumstances.[3]
For both HIV-positive and -negative respondents, previous access to HIV testing, and consequently, awareness of serostatus, was significantly associated with the following characteristics: respondents ages 25 to 49, living in urban areas, with a higher level of education, and strong religious background were more likely to have been tested for HIV. No effect of race on previous access to testing and personal knowledge of HIV diagnosis was observed among HIV-positive respondents. In contrast, among HIV-negative respondents, Africans were significantly underrepresented in the group of individuals who were aware of their serostatus. Overall, respondents who were HIV-negative and who had access to testing were members of higher socioeconomic groups.[3]

Although most people knew about VCT service availability, the majority of respondents did not make use of VCT services. Only 19.8 percent of respondents who knew about VCT services made use of these services. Respondents who had not had an HIV test were asked whether they would consider taking an HIV test. Among those who replied in the affirmative, 59.4 percent reported that they would consider a test if confidentiality were maintained; 28.5 percent stated that they would consider HIV testing based on accessibility, cost, and quality of services. Among those who would not consider taking an HIV test, 71.7 percent reported that they felt that they were at low risk of being infected.[3]

In most provinces, over half of respondents knew where to access VCT services. Mpumalanga and Limpopo had the lowest percentages of respondents who knew where to obtain VCT services. Also, about 40 percent of those ages 15-24, as well as one-third of those ages 25-49, did not know where to find these services. Urban respondents were more likely to know about VCT services than rural ones. Finally, respondents with higher educational attainment were more likely to know about VCT services than those with lower educational attainment.[3]

**PMTCT**

According to WHO, 38,168 clients received PMTCT services (i.e., basic counseling, testing, and AZT or NVP treatment) at South Africa's 20 public/NGO PMTCT sites during 2001. An estimated 13 percent of the population in need of PMTCT services was receiving them.[59]

As mentioned, 18 pilot PMTCT sites began operating in 2001. A February 2002 review of them, commissioned by the government, found that implementation has varied tremendously across provinces, attributable to the large inequities in health care infrastructure within the country. It underscored the complexity of scaling up and expanding the PMTCT program and recommended a phased approach to ensure better sustainability and coverage, strengthen the overall health care system, and stimulate the broader HIV/AIDS program. The reviewers, however, strongly asserted that the challenges should not be cited as reasons for nonexpansion of the program.[116]

In 2001, the Treatment Access Campaign brought a lawsuit against the Government of South Africa to compel it to (1) make nevirapine immediately accessible in the public sector outside pilot sites if medical personnel deemed NVP necessary and (2) institute a comprehensive PMTCT program nationwide.[117] In December 2001, the Pretoria High Court ruled that the South African Government must provide NVP to all HIV-positive pregnant women through its
public health facilities. After various government appeals, the Constitutional Court ruled in April 2002 that the government must provide NVP, along with counseling and testing, to HIV-positive pregnant women while the court considers the government's appeal of the Pretoria High Court's decision.[118]

On April 17, 2002, the South African Government released a statement in which it said that the PMTCT pilot sites would continue and be expanded "where demands of research dictate and where there is capacity." It stated that it would implement the temporary ruling of the Constitutional Court (i.e., that the government must provide NVP, along with counseling and testing, to HIV-positive pregnant women). The statement said that the Department of Health is working on a Universal Rollout Plan for provision of NVP to all HIV-positive mothers "to be completed as soon as possible," with implementation planned after December 2002.[114] To expedite this process, a PMTCT Task Team will be created. (The government stated that although it was complying with the temporary ruling of the Constitutional Court, it was still appealing the Pretoria High Court decision, contending that the judge acted beyond his scope in attempting to use the legal system to determine national health policy.[119])

On July 5, 2002, the Constitutional Court issued its ruling on the government's appeal of the Pretoria High Court's NVP decision. The court ordered the government without delay to:

"(a) Remove the restrictions that prevent nevirapine from being made available for the purpose of reducing the risk of mother-to-child transmission of HIV at public hospitals and clinics that are not research and training sites.
(b) Permit and facilitate the use of nevirapine for the purpose of reducing the risk of mother-to-child transmission of HIV and to make it available for this purpose at hospitals and clinics when in the judgment of the attending medical practitioner acting in consultation with the medical superintendent of the facility concerned this is medically indicated, which shall if necessary include that the mother concerned has been appropriately tested and counseled.
(c) Make provision if necessary for counselors based at public hospitals and clinics other than the research and training sites to be trained for the counseling necessary for the use of nevirapine to reduce the risk of mother-to-child transmission of HIV.
(d) Take reasonable measures to extend the testing and counseling facilities at hospitals and clinics throughout the public health sector to facilitate and expedite the use of nevirapine for the purpose of reducing the risk of mother-to-child transmission of HIV."[120]

(The July 5, 2002, Constitutional Court ruling provides highly useful background on and analysis of PMTCT in South Africa.)

- Western Cape was the first province to defy South African government policy by providing NVP to HIV-positive pregnant women in the public health sector. In March 2003, the province announced that all HIV-positive pregnant women could access NVP at their nearest clinic. The province has achieved universal PMTCT coverage of pregnant women.[60]
In January 2002, KwaZulu-Natal became the second provincial government to defy government policy by making NVP available to HIV-positive pregnant women in state hospitals.[60]

Other PMTCT, Pediatric, and MTCT+ Programs

- The Perinatal HIV Research Unit at Chris Hani Baragwanath Hospital provides HAART and monitoring for adults and children. [20]
- In July 2002, the MTCT Plus Initiative, managed by Columbia University's Mailman School of Public Health, announced grants to several sites in South Africa: clinics operated by Médecins sans Frontières in Khayelitsha, Cape Town, and programs within the universities of the Witwatersrand and Natal. The initiative includes ART, care, and support services for mothers.[121]
- The USAID-funded EQUITY Project, implemented by Management Sciences for Health, has facilitated the rapid expansion of VCT and PMTCT services in the most disadvantaged areas of the Eastern Cape. The province currently has 220 VCT sites and 92 PMTCT sites <http://www.equityproject.co.za>

Nevirapine

In early August 2002, South Africa's Medicines Control Council—the regulatory authority responsible for the registration of medicines—announced that it was considering reversing its approval of NVP to prevent mother-to-child transmission of HIV. The MCC stated that it had concerns about NVP's effectiveness and toxicity.[122, 123]

The MCC's concerns appear to be related, in part, to a March 2002 statement released by the U.S. National Institute of Allergy and Infectious Diseases (NIAID) regarding HIVNET 012, a trial conducted in Uganda that examined the effectiveness of NVP in PMTCT. NIAID reported that "Although no evidence has been found that the conclusions of HIVNET 012 are invalid or that any trial participants were placed at an increased risk of harm, certain aspects of the collection of the primary data may not conform to FDA regulatory requirements." NIAID went on to state that "The reduction in perinatal transmission by the use of NVP, an accessible, inexpensive regimen, represents a major public health advance in resource-poor settings and NIAID believes there is no reason for programs implementing this life-saving regimen to change their practices."[124]

In March 2002, UNAIDS and WHO also reaffirmed their recommendation of NVP in PMTCT:

"The NIH statement emphasized that, according to available information, there has been no evidence the scientific data from the HIVNET012 study demonstrating the safety and effectiveness of nevirapine is invalid. Each year, more than 600 000 infants become infected with HIV, mainly through mother-to-child transmission. WHO and the UNAIDS Secretariat recommend that the prevention of mother-to-child transmission of HIV, including antiretroviral regimens such as nevirapine, should be included in the minimum standard package of care for HIV-positive women and their children. We are aware of no information that would cause the WHO and UNAIDS to change its
In late July 2003, the MCC announced that supporting documentation used in HIVNET 012 was inadequate. If improved information was not forthcoming from the manufacturer within 90 days, the MCC would de-register NVP. In mid-September 2003, the MCC announced that it was allowing Boehringer-Ingelheim a further six months to provide new data to avoid the de-registration of NVP.

**Treatment of OIs**

According to WHO, 10,000 HIV-positive South African children received cotrimoxazole prophylaxis during 2001, representing 4 percent of the population in need of such a service. Among HIV-positive adults, 20,000 received cotrimoxazole prophylaxis and 10,000 received isoniazid prophylaxis during 2001, representing 3 and 1 percent, respectively, of the population in need of such services. Access to OI treatment was deemed minimal in rural areas.

**Antiretroviral Therapy (ART)**

WHO reported that during 2001, there were no sites in South Africa providing ART. As of July 2003, about 21,000 South Africans were receiving ART; of them, about 1,500 were receiving treatment in the public sector, the remainder through NGO, university, and private company programs.

**Public Health Sector**

- Apart from post exposure prophylaxis (for rape survivors and needle stick injuries) and nevirapine for PMTCT pilot sites, ART is not purchased by the public sector health service. (Public sector doctors do provide clinical support, including monitoring laboratory tests, to patients who make out-of-pocket payments for ART, though the number of patients treated in this manner is minute compared to the number of patients clinically eligible for HAART attending public sector hospitals.)
- The Western Cape is planning to provide ART to 30,000 HIV-positive people by 2010.

**NGO/University ART Programs**

- About 18 NGO/university projects are reaching about 1,000 people: 10 urban/periurban areas in Western Cape; 5 in KZN; 3 in Gauteng.
- In April 2000, in collaboration with the provincial government of the Western Cape, Médecins Sans Frontières established three HIV/AIDS clinics within Khayelitsha's primary health centers, and in May 2001, began providing ART. It is currently treating 500 people, primarily with generics from Brazilian and Indian manufacturers.
- In July 2003, MSF launched an HIV/AIDS care and treatment program in Lusikisiki, a rural area located in former Transkei. This project is also supported by the Nelson Mandela Foundation and will include ART.
- Ithembabalabantu Clinic in Umlazi, KZN, is treating 72 people with HAART and providing monitoring for a further 49.
UK-based charities Hannan Crusaid and AIDS Ark are providing ART in Gugulethu, Cape Town.[20]

In January 2003, the Department of Health released proceedings of an August 2002 conference that had sought to reach consensus on an HIV/AIDS research and policy agenda. The draft recommendations from that conference stressed the need to increase ART access for adults and children, to scale up provision of ART for PMTCT, and OI treatment. In October 2002, the April 2002 cabinet statement was updated, suggesting that the government was actively engaged in lowering the cost of ART and creating conditions that would make it feasible and effective to use ART in the public sector. However, according to a Health Systems Trust mid-2003 report:

"Despite the cabinet statement, it appears there has been little change in the attitude of government officials to implementing ARVs in the public sector. Government intransigence has been cited as the biggest obstacle in implementing a universal access programme in SA. The Treatment Action Campaign (TAC), in conjunction with trade union federations; COSATU, FEDUSA and NACTU, started negotiations within NEDLAC (a statutory body involving labor, government, business and community representatives) in September 2002 to provide universal access to HAART."[20]

Among the numerous critics of the South African government's HIV/AIDS policy, the new WHO director general, Dr. Lee Jong-wook, openly criticized South Africa's policy of omitting HIV/AIDS drugs from the national treatment program in August 2003.[65]

**August 2003 Cabinet Decision**

- In 2003, the South African Cabinet formed a Health/Treasury Task Team to analyze ART roll out. The Task Team recommended the establishment of a "fast track" national price negotiating team and a strategy to obtain drugs at optimal prices. It also recommended encouraging the granting of voluntary licenses by patent holders for local manufacture. [66]
- The Task Team found that the total cost of providing ART to everyone in need of it would be between US$1 billion and US$1.09 billion by 2005. [67]
- The Task Team estimated that 1.7 million lives could be saved by 2010 if ART were provided to all in need of it. If ART were not provided, the team projected that 1.8 million more children would be orphaned by 2010. The team estimated that this number would be reduced by 860,000 with 100 percent ART coverage, and by 350,000 with 50 percent ART coverage.[67]
- On August 8, 2003, the Cabinet approved the provision of AIDS drugs to HIV-positive citizens through the public health system.[66]
- On that date, the Cabinet instructed the Health Department to develop a detailed operational plan for ART rollout and to act "with urgency." The department is now working on a plan, including a procurement strategy, which was due by the end September 2003. [66]

**Cost**

Over the past four years, South Africa has seen large reductions in the prices of patented ARVs.

- GlaxoSmithKline offers a dual pricing mechanism that provides patented ARVs at reduced prices to NGOs, employers, and governments at savings of approximately 50 percent. In mid-2003, the retail cost in South Africa of an adult triple-therapy regimen was about R860 per
patient per month; pediatric HAART preparations were approximately R1,500 per patient per month.[20]

- MSF reports that by importing generic ARVs manufactured by the Brazilian National STD/AIDS Program—under the South Africa Medicines Control Council "Section 21" permit—the prices of triple therapy used in Khayelitsha have fallen by 50 percent, with a triple-therapy regimen provided for R10/day.[20]

- In some neighboring countries, ARVs are not patented and generics are freely available. A limited list of generic ARVs can be obtained by presenting a prescription to retail pharmacies in Lesotho, Swaziland, or Namibia. The prices of generics obtained in this manner are about one-third that of patented drugs purchased in South Africa. [20]

- Aspen Pharmacare was granted a voluntary license by Bristol-Myers Squibb to produce a generic version of Zerit. Under the terms of the agreement, Aspen Pharmacare can sell its version to both public and private patients across Africa. In July 2003, Aspen announced that it is selling one month's supply of Aspen-Stavudine for between US$3 and US$4.50, about 41 percent less expensive than original. [68]

- Aspen is also developing generic versions of GSK's combivir, 3TC, and AZT, as well as BI's NVP. It is aiming to offer standard triple-combination therapy for less than US$1 a day. [68]

- In early 2003, 19 projects providing ART established the Generic Antiretroviral Procurement Project (GARPP) to improve access to ART through promotion of cheaper generic drugs. The initiative sources generics approved by the MCC and supplies members throughout the country. In August 2003, GARPP was selling triple-combination therapy at US$40 a month.[20, 68]

**Clinical Criteria for Starting ART**


  "The WHO, the SA HIV Clinicians Society, and Masa (the National Antiretroviral Therapy Programme of Botswana) recommend similar criteria to initiate HAART using either symptomatic disease or a CD4 count of less than 200 cells/mm. However, like US guidelines, South Africa's Aid for AIDS [medical scheme] recommends a CD4 count threshold for initiating HAART of 350 cells/mm, and the Anglo American initiative uses a threshold of 250 cells/mm."[20]

**Monitoring**

- In October 2002, the price of a CD4 count in South Africa's private sector was R393. A less expensive, recently validated method of performing CD4 counts has been developed. Panleucogating or AffordCD4 method has reduced the price of CD4 counts by over 50 percent to R116 and is used by South Africa's National Health Laboratory Service.[20]

- Toga, a private sector laboratory, offers CD4 count for R500 (excluding VAT). The Toga offer has resulted in at least two other private South African laboratories matching it. Toga predicts that it could provide the test at an even greater discount if the number of tests performed increases. [20]
A new technology will soon become available that will reduce the price to about R20 per CD4 count.[20]

**Vaccines**

In June 2003, South Africa's Medicines Control Council approved the country's first HIV vaccine trial, which is also the first trial of a vaccine targeting the C strain of the virus, the most prevalent strain in southern Africa. The technology used in the vaccine, which is manufactured by Durham, N.C.-based biotechnology company AlphaVax, was initially developed by researchers at the University of North Carolina Chapel Hill and the U.S. Army Medical Research Institute of Infectious Diseases and was applied to HIV by a team of researchers from the University of Cape Town, the Medical Research Council of South Africa and AlphaVax. During the Phase I clinical trial, which tests the safety and dosage of the vaccine, 80 volunteers will receive the vaccine and 16 will receive a placebo. Volunteers will be monitored for one year at the Perinatal HIV Research Unit at Chris Hani-Baragwanath Hospital in Soweto and the South African AIDS Vaccine Initiative Vaccine Research Unit at the Medical Research Council in Durban. The U.S. arm of the trials will be conducted at Johns Hopkins University, Columbia University, the University of Rochester and Vanderbilt University.[69]

**Industry**

In 2002, the South Africa Business Coalition on HIV/AIDS commissioned a rapid assessment of workplace responses to HIV/AIDS. Data were collected for 110 companies, 31 of which had fewer than 100 employees (small), 29 between 100 and 500 employees (medium), and 50 had over 500 employees (large). The survey found that 82 percent of large companies surveyed had formal HIV/AIDS policies. Among medium and small companies, 51.7 percent and 6.5 percent, respectively, had such policies. A significant number of respondents indicated developing an HIV/AIDS policy only within the past two years. Overall, 41.8 percent of business surveyed had communicated their HIV/AIDS policy to their employees. Only 6.5 percent of small and 34.5 percent of medium companies indicated that any HIV/AIDS communication had been made to employees.[82]

The SABCHA rapid assessment also found that 36.4 percent of all respondents reported that managers/supervisors had been trained on managing HIV/AIDS in the workplace. The breakdown by company size was as follows: over 500 employees: 54 percent; 100-500 employees: 27.6 percent; fewer than 100 employees: 16.1 percent. With regard to HIV/AIDS awareness/education programs, there were again large discrepancies according to company size. Moreover, only a small number of respondents indicated that they have extended their HIV/AIDS awareness programs to employees' dependants.[82]

Overall, 70.9 percent of all respondents in the SABCHA survey had not commissioned an HIV/AIDS risk assessment; the majority of companies that had commissioned such an assessment had over 500 employees.[82] Nattrass notes that South African firms either have not collected or are not using existing information on HIV/AIDS, and when they have collected it, they have not used it fully to estimate economic impacts.[31] (UNDP and WHO are operating a pilot program entitled "The Greater Involvement of People Living with or Affected by HIV/AIDS (GIPA) Workplace Model"; more detail is found in a July 2002 report from the U.N.)
Smaller companies (i.e., with fewer than 100 employees) report having few substantive HIV/AIDS interventions. And, generally, responsibility for workplace HIV/AIDS programs is still delegated to human resource departments, rather than being viewed as a core management issue. A report published in 2001 by Wits' Center for Health Policy noted a strategic failure in managing HIV/AIDS in the workplace given the lack of centralized responsibility and commitment within organizations.

Long-term lenders and insurers have already begun adapting products to reduce their exposure to AIDS-related morbidity and mortality. Capital Alliance, for example, has produced the country's first insurance product (LifeAid) that allows employers to obtain insurance against the risk of their employees contracting HIV; this policy provides HIV-positive employees a monthly cash benefit for life. Aid for AIDS is a private sector insurance supplement that provides ARVs. Several South African insurance companies now offer "rape survivor policies." These policies typically cover medical and psychiatric treatment for the survivor, including the provision of ARVs.

**Individual Company Actions**

Within South Africa, approximately 12 million people are employed directly, with a further 20 million dependants. Consequently, workplace HIV/AIDS initiatives can have far-reaching impact. Many large South African companies view HIV/AIDS as their main strategic challenge and have formulated and implemented substantial HIV/AIDS policies that address, inter alia, confidentiality and stigma. These companies include Anglo American (see below), Levi-Strauss, MTV International, Debswana Diamond, and Eskom (a South African utility). Ford's HIV/AIDS program is often cited as a best practice. HIV/AIDS education is mandatory for all Ford employees and contract workers. Ford reports that use of company-supplied condoms has increased 20-fold. Ford is also working with CBOs and educational districts to pilot a life skills project in 40 schools in the Port Elizabeth area; it is also working with CBOs on a project focusing on care and support of PLWHA, AIDS orphans, and OVC in Mamelodi.

- In July 2002, Volkswagen South Africa announced a program to fight HIV/AIDS among its employees. The program seeks to help prevent HIV transmission and provide support for workers already infected. The initiative, which will involve voluntary testing of employees, was created with assistance from GTZ, the German cooperation and development agency.

- In May 2002, transport company Transnet, which employs 72,793 workers, announced that it would provide ART to its employees.

- In August 2003, the Road Freight Association announced a program to offer truck drivers VCT, with "the possibility of treatment."
Coca-Cola, employs 1,500 Africans directly, but 100,000 African workers bottle and distribute Coke products under independent licensing agreements. In September 2002, Coke, in partnerships with GSK, PharmAccess International, and PSI, announced that it would launch an HIV/AIDS prevention and treatment program at 40 bottling companies in Africa. Through existing employee health benefits programs, participating bottlers will offer workers and their spouses access to prevention materials, voluntary counseling, HIV testing, and antiretroviral drug treatment. The program will be implemented over the next 12 months in 19 countries and will be expanded to 37 other countries in its second year. Coke estimates that the program will cost between US$4 million and US$5 million per year. Coke will pay half of the cost of the plan, and the local bottlers will cover about 40 percent of the cost of the program. Employees will contribute 10 percent toward the cost of any treatment provided under the program. Coke has been sharply criticized for slow rollout of the plan, in addition to its proposed cost-sharing arrangements with bottlers and employees, which some fear will prohibit adequate uptake.

In January 2003, Heineken announced that it would "guarantee antiretroviral drug coverage to its African workforce of 6,000 and their immediate dependents" through a partnership with PharmAccess International.

Eskom, Africa's largest electric utility has committed over US$9 million to the South African AIDS Vaccine Initiative. In February 2003, Eskom committed US$725,000 over three years to provide start-up funding to focus on health care practitioners who serve rural communities and the public sector to ensure that they are trained in effective treatment of HIV/AIDS patients. Partners include the Foundation for Professional Development, the Southern African HIV Clinicians Society, and Development Communication.

**Mining**

All major mining companies have HIV/AIDS programs, which have been based largely on prevention, condom distribution, treatment of STIs and OIs, and wellness programs for HIV-positive employees. Many utilize peer educators. Several home-based care initiatives for HIV-positive miners are also beginning.

The prevention programs of, inter alia, Gold Fields, Harmony Gold Mining, and Joel Mine, also target communities around the mines, particularly sex workers. Both employ periodic presumptive treatment, in which miners and their female sexual contacts are treated monthly with antibiotics for STIs, regardless of whether they have shown symptoms.

Recently, several mining companies in South Africa have been reformulating living arrangements for their male workers as an HIV prevention tool—permitting miners' families to live with them at the worksite. Lonmin Platinum, for example, with 16,000 employees, has constructed 1,000 housing units for employees and their families. The National Union of Mineworkers, however, does not believe that current efforts are sufficient.

Anglo American, one of the world's largest mining and natural resource groups, has 130,000 employees in South Africa. Anglo has estimated that 23 percent of its workforce is HIV-
positive. The company has provided treatment for STIs and care and support for HIV-positive employees.[145] [77]

Anglo American had begun a study on the feasibility of providing ARVs to its employees[165] but later asked the Chamber of Mines to undertake such a study on behalf of all mining companies.[86] In August 2002, however, Anglo American announced that it would cover the cost of ARVs for any employee who did not qualify for treatment under other medical aid programs:[77]

"[o]perating companies will now be encouraged to enhance their HIV/AIDS wellness programmes by making ART [antiretroviral therapy] available at company expense to HIV positive employees who do not have an ART benefit through a medical aid scheme and who have progressed to a stage of HIV infection where ART is clinically indicated. These companies will consult with both trade unions and government on issues relating to implementation....The progressive rollout will be coordinated across the group using available health care facilities and according to well-defined protocols with rigorous monitoring and evaluation. The pace of the rollout will vary at company level depending, inter alia, on the availability of suitable company health infrastructure....The costs to individual operating companies will depend on the level of HIV prevalence, the rate of uptake by employees meeting the clinical criteria for ART and on the prices and types of drugs prescribed."[166]

- AngloGold, a subsidiary of Anglo American, has 45,000 employees in South Africa. It has instituted training to better equip managers to deal with employees who are incapacitated by illness, including HIV/AIDS. The company's response includes HIV/AIDS education, condom promotion, STI treatment, voluntary counseling and testing, wellness clinics, OI treatment, and an ill health retirement system for those no longer able to work.[84]

In July 2002, AngloGold signed an agreement with five trade unions (National Union of Mineworkers, Mine Workers Union-Solidarity, National Employees Trade Union, South African Equity Workers' Association, and United Association of South Africa) to strengthen its efforts to combat HIV/AIDS. Under the agreement, AngloGold will improve HIV/AIDS education among its employees. It will encourage them to participate in the company's voluntary HIV testing and counseling programs and--if they test positive--utilize the company's wellness centers. The company will monitor HIV incidence rates at its mines and is conducting a feasibility study on providing its workers with ARVs.[167]

- The De Beers Group is the world's largest diamond mining company, with its own mines in South Africa as well as mining partnerships with the governments of Botswana, Namibia, and Tanzania. The company's HIV/AIDS interventions include:

  → an employee assistance program
  → HIV/AIDS education and awareness programs, including the training of peer educators
  → free VCT
  → wellness programs
  → occupational health programs
disease surveillance and management programs, e.g., relating to TB

In August 2002, De Beers announced that in January 2003, it will launch a two-year pilot program offering ARVs to all its permanent employees (as well as a spouse or life partner). At the end of the pilot phase, "...De Beers will review its position. This is with a view to the dynamic environment of continuing drug development and possible Government intervention." The company also announced that:

"To encourage compliance with treatment regimes, participants in the drug treatment programme will be expected to make a ten per cent contribution towards the costs. This is in line with best practice established by De Beers' partner company, Debswana in Botswana over the last year of providing drugs to employees."[168]

- In August 2002, Gold Fields, which employs 48,000 South Africans, launched a "Wellness Management Program," wherein employees would receive prevention services such as VCT as well as some limited access to ART. Employees who test positive for HIV would have access to "close and regular monitoring, counseling and treatment" through the testing and care centers established at all Gold Fields sites. The program is a joint effort between the company and several labor unions. In April 2003, the company announced that it was expanding the program to offer HAART to all its HIV-positive South African workers through a pilot program. Although Gold Fields estimates that one-third of its South African employees are HIV-positive, only 1,000 will initially qualify for antiretroviral therapy. [78]
Links

Queries concerning links may be sent to the project director: Lgarbus@psg.ucsf.edu
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