

AIDS and the Disability Grant: Further Reasons for Introducing a Basic Income Grant in South Africa

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1. Introduction: AIDS and Poverty in South Africa

AIDS is a very serious problem in South Africa. Over a quarter of pregnant women who attend antenatal government clinics are HIV-positive. Using this and other demographic data such as deaths by age, gender and race, South Africa's premier demographic model (ASSA2002)¹ estimates that 18.7% of adults (between the ages of 20-64) and 10.8% of all South Africans were HIV-positive in 2004. These estimates are consistent with the results of a national survey of HIV prevalence conducted in 2001 (Shisana and Simbayi, 2002). The ASSA2002 model predicts that half a million new HIV infections will occur in 2004, and that 46% of deaths that year will be from AIDS. Figure 1 plots trends in the raw HIV prevalence data from government clinics as well as key outputs from the ASSA2002 model.

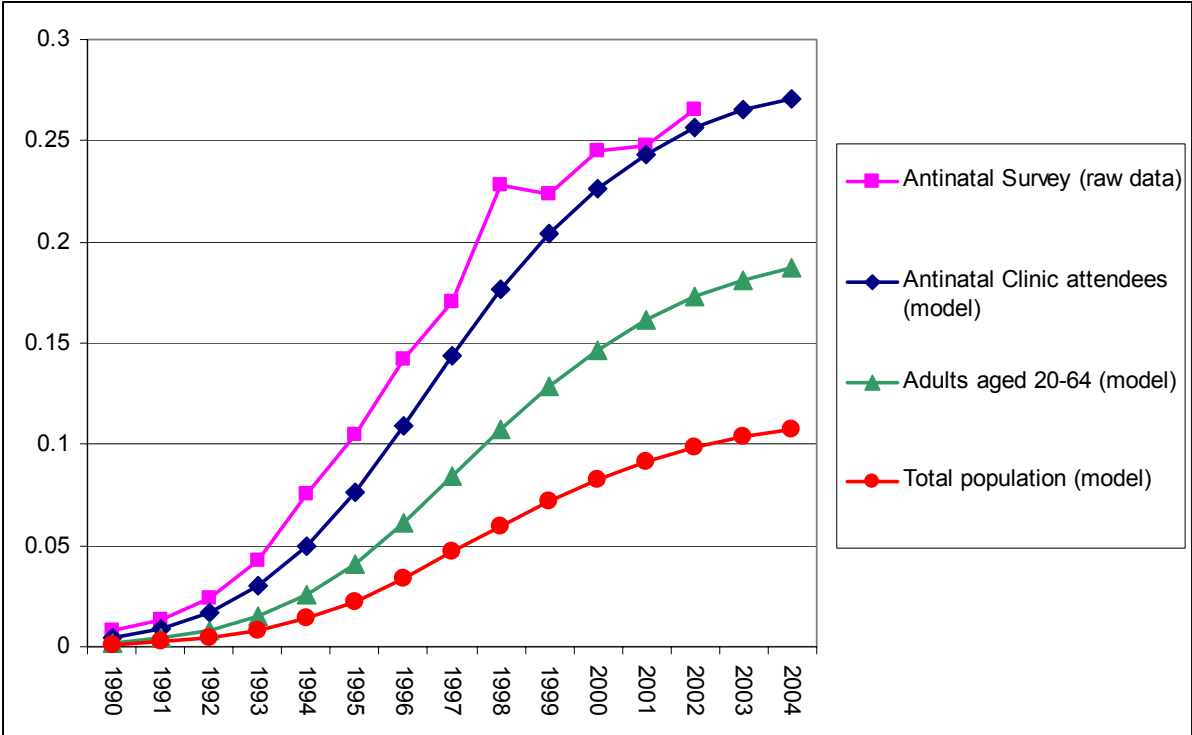
The AIDS pandemic amounts to a significant socio-economic crisis. AIDS undermines the economic security of households by reducing the productivity of (and eventually killing) mainly prime-age adults whilst simultaneously diverting scarce household resources towards medical expenditure. This has been especially problematic for poor African households in South Africa (see e.g. Cross, 2001; Desmond *et al.*, 2000; Steinberg *et al.*, 2002; Booysen, 2002b).

In most of Sub-Saharan Africa, where agriculture accounts for a significant portion of employment and output, AIDS has affected the poor mainly through its negative impact on productivity in peasant agriculture (IFAD, 2001; De Waal and Tumushabe, 2003). De Waal

¹ The ASSA2002 model was developed by Rob Dorrington, Leigh Johnson and others for the Actuarial Society of South Africa. It is available on www.assa.org.za.

and Whiteside suggest that Africa’s food crisis is HIV-induced, rather than drought induced, describing the situation as a ‘new variant famine’ (2003). By contrast, South Africa’s history of de-agrarianisation and the destruction of peasant farming under apartheid have left the vast majority of households dependent on wage labour. Under these conditions, the negative impact of AIDS is experienced directly through illness-induced retirement from wage-labour, and indirectly through the contraction of employment opportunities (especially unskilled jobs) by firms trying to avoid AIDS-related costs (see Rosen and Simon, 2002; Natrass, 2003).

Figure 1. HIV Prevalence in South Africa



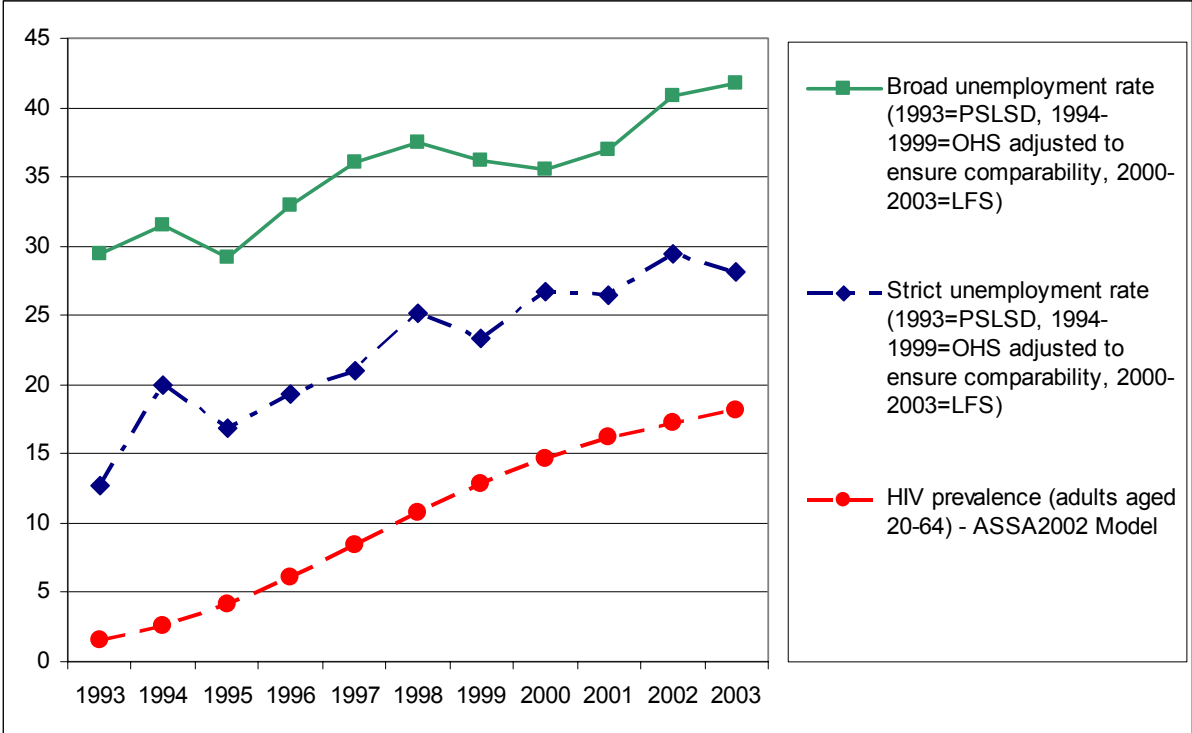
Source: ASSA2002 Demographic Model (available on www.assa.org.za)

It is particularly tragic that South Africa’s AIDS epidemic took off at a time when the unemployment rate was high and rising by any measure (see Figure 2). According to the most recent Labour Force Survey (September 2003), the official (strict) rate of unemployment (which includes only those without work who are also actively seeking it), was 28.2%. If those who say they want work but are not looking for it are also included amongst the ranks of the measured unemployed (the broad definition), then the rate rises to 41.8%. As there is no significant social insurance available for unemployed adults of working age,² loss of

² Workers who contribute to the Unemployment Insurance Fund (UIF) can draw income support for up to 36 weeks. However, less than 10% of workers are covered by this fund.

employment (or failure to find it) has a major impact on household living standards (Leibbrandt *et al*, 2000; Seekings 2000). Households without wage-earners are thus forced to rely on remittances from friends and relatives living elsewhere, and on social transfers to elderly people (the old age pension), children (the child grant) and the disabled (the disability grant). About 2% of South Africa’s Gross Domestic Product is redistributed by the state to others through government transfers.

Figure 2. Unemployment and HIV Prevalence in South Africa



Sources: Klasen and Woolard (1999: 11); CSS, Statistical News Release P0317.10, 13 August 1998; Statistics South Africa, Statistical News Release P0317 18 May 2000; Statistical News Release PO317 31 July 2000; Statistical News Release, PO210, September 2002; Statistical News Release, P0210, 25 March 04; the ASSA2002 demographic model (available on www.assa.org.za)

Notes: The PSLSD (Project for Statistics on Living Standards and Development) and OHS (October Household Survey) unemployment rates are not strictly comparable due to differences in survey design. The LFS (Labour Force Survey) figures are all for February (2000, 2001, 2002) and for September in 2003. The OHS figures for 1996 and 1997 have been re-weighted to adjust for the lack of inclusion of mining hostels in the sample so as to ensure comparability with the OHS for 1998 and 1999 that included mining hostels in the sample. The strict unemployment rate includes only those unemployed who were actively seeking work; the broad unemployment rate includes those who say they have no job and want work even though they are not actively seeking it.

Table 1. HIV Prevalence and Unemployment Rates in South Africa

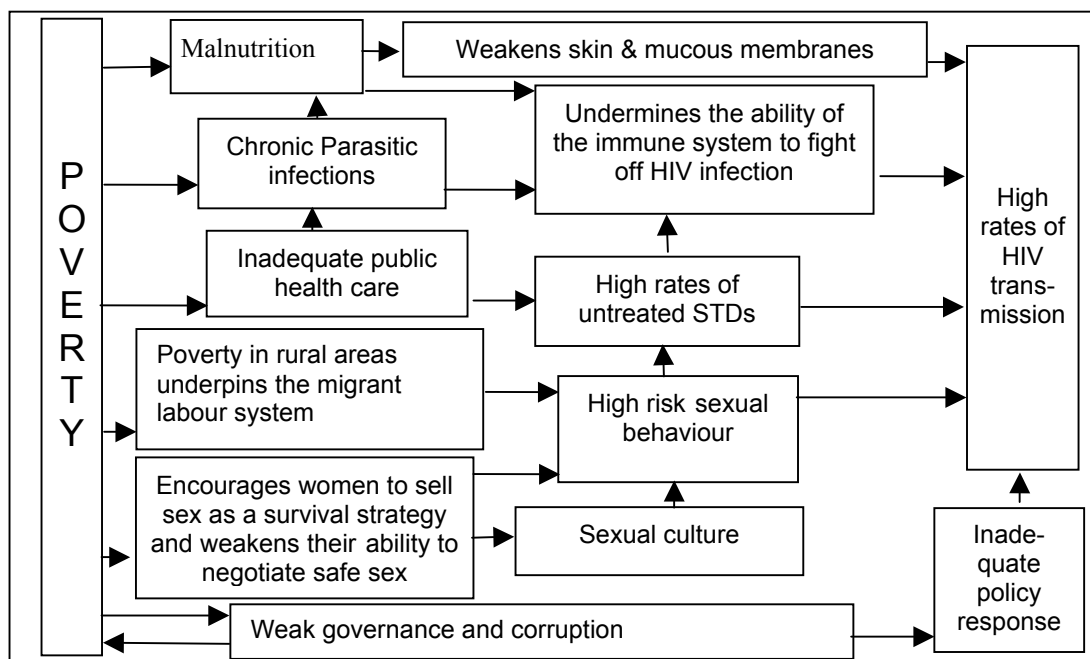
	African	Coloured	Indian	White	Total
<i>Estimated HIV Prevalence Rates in 2004 (ASSA2002 model)</i>					
Male adults (20-64)	23.1%	2.8%	2.6%	1.5%	18.6%
Female adults (20-64)	23.5%	5.0%	3.7%	3.3%	18.8%
All adults (20-64)	23.3%	3.9%	3.1%	2.4%	18.7%
Total Population (all ages)	13.3%	2.3%	1.0%	1.4%	10.8%
<i>Official (strict) Unemployment Rate – Sept 03</i>					
Male	30.4%	20.3%	15.7%	4.4%	25.4%
Female	37.4%	22.9%	18.7%	6.2%	31.5%
Total	33.7%	21.5%	16.9%	5.2%	28.2%
<i>Broad Unemployment Rate – Sept 03</i>					
Male	42.4%	26.0%	17.8%	5.9%	35.7%
Female	55.0%	32.9%	24.9%	9.7%	47.8%
Total	48.8%	29.4%	20.7%	7.6%	41.8%
Share of total population in 2004 (ASSA 2002 model). N = 45.9 million					
Population share of national income (2000)*	40%	9.0%	5.0%	46.0%	100%
GDP per capita (2002) NB: \$1=R6	R12,800	R25,000	R48,000	R113,000	R25,000

Source: South African Labour Force Survey September 2003 (Statistical News Release P0210, 25 March 04, Pretoria), ASSA2002 Demographic model (available on www.assa.org.za). *Calculated by Murray Leibbrandt using revised weights on the 2000 Income and Expenditure Survey by StatsSA.

As can be seen in Table 1, the majority African population in South Africa has the highest unemployment rates, a disproportionately smaller share of the national income, the lowest per capita income and the highest HIV prevalence rates of all the racial groups. Women have higher rates of unemployment and HIV prevalence than men in all race groups, but the difference is particularly pronounced for Africans.

The strong link between poverty and HIV infection in Africa has been well established (Stillwaggon, 2002). Not only do poor people have fewer resources to deal with this chronic, debilitating and ultimately deadly illness, but they are also, for biomedical reasons associated with malnutrition and parasitic infection, more likely to become infected with HIV. Poorer people are further disadvantaged by their inadequate education and income that leaves them at greater risk of contracting HIV. Evidence from the Demographic and Health Surveys in Southern Africa indicate that poorer women know less about how HIV is transmitted, and are less able to access and use condoms, than their better off counterparts (Booyesen, 2002a: 403-4). This, together with the fact that women (for biological reasons) are more likely to contract HIV from a single act of unprotected sex with an HIV-positive partner than men, makes poor women especially vulnerable to HIV infection.³ Table 1 shows that HIV prevalence is systematically higher for women than men in South Africa.

Figure 3. The Links between Socio-Economic, Biomedical and Behavioural Determinants of the spread of AIDS in Africa.



Source: Natrass, 2004b.

³ This is because fluids from the sexual partner remain in contact with the female genitalia (which are also more prone to tearing) than is the case with male genitalia.

Figure 3 traces the socio-economic, biomedical and behavioural determinants of the spread of AIDS in Africa. In South Africa's case, the picture is made more complex by the country's relatively high level of development (resulting in a state and health system that is more efficient than in most other parts of Africa) and its history of apartheid. Black residential areas had inferior access to health services, and black urbanisation was retarded by apartheid influx control and the policy of 'separate development'. Although rural dwellers bore the brunt of impoverishment, African people as a whole were disadvantaged by apartheid. Those lucky enough to obtain jobs and housing in the urban areas found themselves under pressure to redistribute part of their earnings to others and many retained strong links with the rural areas, returning once or twice a year with food and money. From the 1950s onwards, the survival of rural dwellers was dependent on such remittances from migrant workers working in the mines and urban industry.

The migrant labour system has been implicated as a factor contributing to multiple sexual partnering and risky sexual behaviour – especially amongst mine-workers where the added stress of their dangerous work made them even less concerned with safe sex (Campbell, 2003). This, together with a sexual culture that encourages men to have multiple partners and women to associate sex with gifts and money,⁴ was one of the vectors contributing to the rapid spread of HIV through the sexually active African population. In 2001, a national HIV prevalence study found no significant differences between employed and unemployed people in terms of propensity for HIV infection (Shisana and Simbayi, 2002), which suggests that by this time, the disease had gained a strong foothold in all sectors of African society. Unfortunately, the survey did not collect adequate income data, so it was not possible to explore the continuing relevance of poverty for HIV infection. However, the survey found that those with higher levels of education were less likely to be HIV infected.

Survey data from the Free State province indicates that AIDS-affected African households have higher rates of unemployment and are more dependent on non-employment income (such as pensions) than non-affected households (Booyesen, 2002b). This suggests that one or more of the following is the case: people living with AIDS migrate to households with pensioners in order to be taken care of (thus increasing the burden already placed on pensioners); AIDS-affected households experience disproportional employment losses

⁴ See LeClerk-Madlala, 2002, and discussion in Natrass, 2004b, Chapter 5.

because of AIDS; and people living in households with limited (if any) access to wage employment are more vulnerable to HIV infection because they are poor. Such evidence points to the continuing link between poverty and the burden of AIDS.

The Challenge for Social Solidarity

Addressing the dual problem of poverty and AIDS poses major challenges for social solidarity in South Africa (Nattrass, 2004a, 2004b). Given high unemployment, the pool of tax-payers is small in relation to the numbers needing health services and income support. South Africa has a skill- and capital-intensive growth path that has delivered benefits to both capital and labour (Nattrass, 2004a). The unemployed are marginal, and their deaths from AIDS are likely to have less of an impact on the economy than the deaths of employed workers. For example, two out of three macroeconomic models of the impact of AIDS on the South African economy estimate that AIDS has raised per capita income relative to the counter-factual no-AIDS scenario (see overview in Nattrass, 2003). If the only objective of government policy was to promote growth, then prolonging the lives of the unemployed would probably feature low down its list of priorities. This may well be a reason why the government has been reluctant to ‘rollout’ AIDS treatment through the public sector (Nattrass, 2004b). It may also be one of the reasons why the government has so far firmly rejected all calls for a Basic Income Grant.

Ultimately, the discussion about AIDS interventions has to entail social concerns and values. The question posed by AIDS policy is whether South Africans as a society should sit back and let all those who are marginal to the process of income-generation die – or should something be done about it (Nattrass, 2004b)? What is the reasonable response to this major challenge for social justice? The problem with this question, however, is that it immediately poses the question of what *else* we could be doing as a society to help the poor. What is an appropriate balance between addressing AIDS and addressing unemployment and poverty for a middle-income developing country like South Africa? Given the strong connection between poverty and HIV transmission, it would seem, at the very least, that anti-poverty measures should be an integral aspect of any AIDS intervention strategy. The challenge is how best to address poverty and AIDS together.

This paper argues that a Basic Income Grant is a reasonable response to the multiple challenges posed by unemployment, poverty and AIDS in South Africa. Indeed, given that the disability grant is one of the ways that poor households are able to access social security for people of working age, the rollout of antiretroviral treatment poses unacceptable dilemmas for them. Antiretroviral treatment restores the health of people previously sick with AIDS, thus rendering them ineligible for the disability grant. They are thus faced with a stark choice between income and health. Those who try to maintain the grant by discontinuing their treatment long enough to get the grant reinstated, and then going back on to treatment, not only undermine their own health but also will contribute to the growth of resistant strains of the virus – thereby undermining the effectiveness (and raising the costs) of the antiretroviral rollout itself.

2. Welfare, AIDS and Disability in South Africa

South Africa's welfare system provides for the young (through child grants), the elderly (through generous non-contributory pensions) and the disabled. The underlying assumption underpinning its design is one of full-employment, i.e. that able-bodied adults can provide for themselves through work (Nattrass and Seekings, 1997; Seekings and Nattrass, forthcoming). As a result, unemployed people rely on pensioners, transfers from employed family members and (increasingly) on disability grants to survive.

The South African government faces significant fiscal exposure to the AIDS epidemic through the welfare system. A government means-tested disability grant of a maximum of R750 a month is available to all 'severely physically and mentally disabled people' older than 18 and younger than 65. Grants can be temporary (six months) or permanent (and these usually have to be reviewed every five years). The Social Assistance Bill of 1992 (amended in 2001) clarified the rules for awarding disability grants in general, but makes no mention of HIV/AIDS. It simply defines a disabled person as someone: "who has attained the prescribed age and is, owing to his or her physical or mental disability, unfit to obtain by virtue of any service, employment or profession the means needed to enable him or her to provide for his or her maintenance" (Section 1).

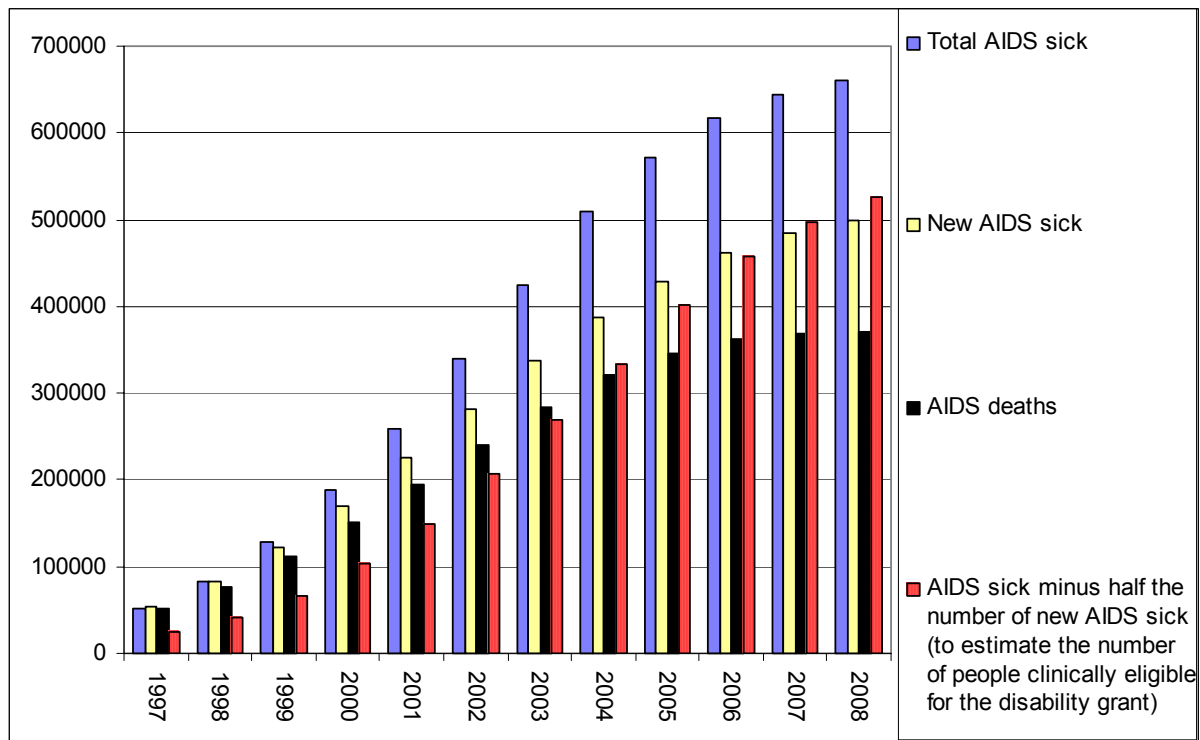
This ‘medical model’ of disability effectively instructs those responsible for recommending patients for disability grants to judge whether they are capable of working – irrespective of whether work is available (Simchowitz, 2004). Welfare payments in South Africa are administered at provincial level (although moves are afoot to consolidate these payments at national level through the new National Social Security Agency). Different provinces use different means of assessing disability with some relying on evaluation by the district surgeon or medical officers, and others on an ‘assessment panel’. Assessment panels (comprising a social service officer, a nurse, an occupational therapist, a social worker, a community member and a member of a local disability NGO) were made possible by the 2001 amendment to the Social Assistance Bill. They were designed to ensure that people had access to disability grants in rural and other areas where medical officers were in short supply (Simchowitz, 2004).

Some provinces, such as the Western Cape, opted not to introduce assessment panels, but rather to continue insisting on the use of medical officers to assess disability. The Western Cape is the only province to have laid out clear criteria for when a person with AIDS should be considered sick enough not to be able to work. The rule is that the individual should be either in Clinical Stage 4 of AIDS or have a CD4 cell count of less than 200.⁵ In other provinces, the clinical criteria for assessing AIDS-related disability remain obscure, and it is left up to the judgement of individual medical officers.

If we take the Western Cape guidelines as the rule for eligibility for the disability grant, then according to the ASSA2002 demographic model (which projects the number of people in the different stages of AIDS) about 340,000 people would qualify on clinical criteria in 2004. Note that this is about 175,000 less than the total number of AIDS sick projected by the ASSA2002 model for that year. The number was adjusted downwards by subtracting half the number of new AIDS sick in order to account for the six-month delay in accessing the disability grant. Using this methodology, Figure 4 shows that over half a million people are likely to be clinically eligible for the disability grant by 2008.

⁵ Clinical Stage 4 of AIDS is the final stage of AIDS. The diagnosis of Stage 4 is determined by a set of clinical criteria including the patient manifesting AIDS related opportunistic infections (such as thrush in the mouth and throat). A person in Stage 4 of AIDS also usually (but not always) has a CD 4 cell count of less than 200).

Figure 4. The Number of People who have been AIDS-sick for more than Six Months (potential AIDS-related Disability Grant Recipients)



Source: Calculated from data in the ASSA2002 demographic model.

Not all of these individuals would, however, necessarily qualify for the grant because in addition to medical criteria, successful applicants have to be able to provide identity documents and proof of income and assets. Only those who cannot work and an income from other sources of less than R1,502 and assets of less than R266,400 are able to obtain the full grant (Simchovitz, 2004).⁶ However, as this is a fairly generous upper income limit (it is one and a half times the average African per capita income, and twice the old age pension and minimum wage for domestic workers) it is probably safe to assume that the majority of those who are clinically eligible would also pass the means test. Furthermore, it appears that as is the case with the old age pension, there is little administrative capacity to check whether a person receiving a disability grant is actually working or has a non-earned income of less than the stipulated amount. A recent survey of patients on antiretroviral treatment in Cape Town revealed that 22% of those receiving the disability grant also reported being employed

⁶ For married individuals, they have to show that their joint income is less than R2,782 and that their joint assets are less than R532,800 (ibid).

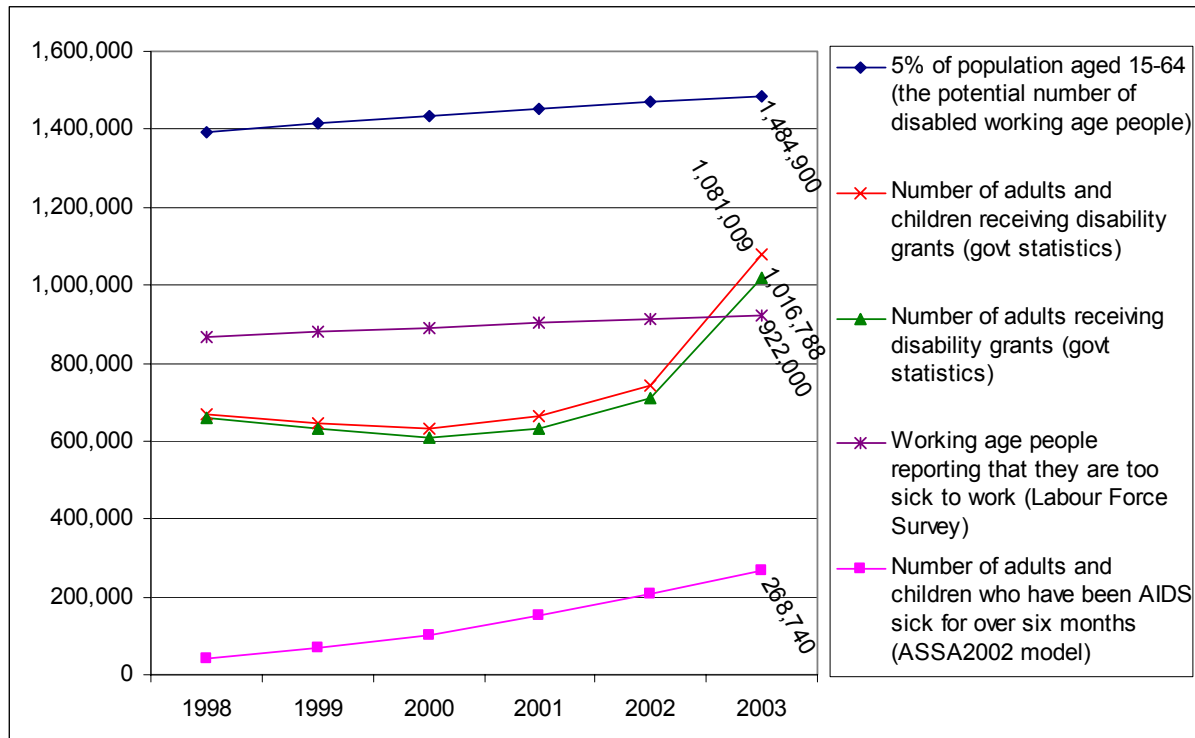
(Coetzee and Nattrass, 2004). This suggests that the medical officer's assessment of disability is key to obtaining a disability grant.

Figure 5 presents trends in the number of actual disability grant recipients and in the estimated number of people who would (at least clinically) qualify for a disability grant as a result of being in Stage 4 of AIDS for longer than six months. Means tested disability grants are available for adults between the age of 19 and 64, and for children up to age 18 (the grant for children is known as the 'care dependency grant' rather than the disability grant). Disabled people over the age of 64 have to rely on the old age pension. Figure 5 shows that most disability grants go to adults, although the numbers of disability grants for children has been rising faster (as evidenced by the widening gap between the number of disability grants for adults and the number of grants for adults plus children).

It is unclear to what extent the disability grant actually reaches the disabled people who need it in South Africa because the number of disabled people is unknown. According to a recent government inquiry into social security in South Africa, 5% of developing country populations are severely or moderately disabled (Taylor, 2002: 101). If this is the case, then South Africa is likely to have had about one and half million disabled people of working age in 2003. This is one and a half times as many people as the number of adults actually receiving disability grants (see Figure 5). However, as this includes the moderately disabled who may well be able to work, and hence should not qualify for the disability grant, an alternative way of estimating potential grant recipients is to use the number of people enumerated by labour force surveys who say that they are too sick or disabled to work. According to the September 2003 Labour Force Survey, about 922,000 people fell into this category – i.e just under 100,000 *less* than the number of people actually receiving disability grants that year. This suggests that either the Labour Force Survey is a very poor way of measuring disability, or that more people are obtaining access to the disability grant than should be the case (according to existing criteria).

It was only as a result of the sharp increase (of 45%) in the number of disability grants awarded in 2003 that the number of disability grant recipients dipped above the number of disabled people as estimated by the Labour Force Survey (see Figure 5). Disability grants going to adults as a percentage of adults reporting that they were too sick to work rose from 68% in 2000, to 70% in 2001, and then to 78% in 2002 followed by a massive 110% in 2003.

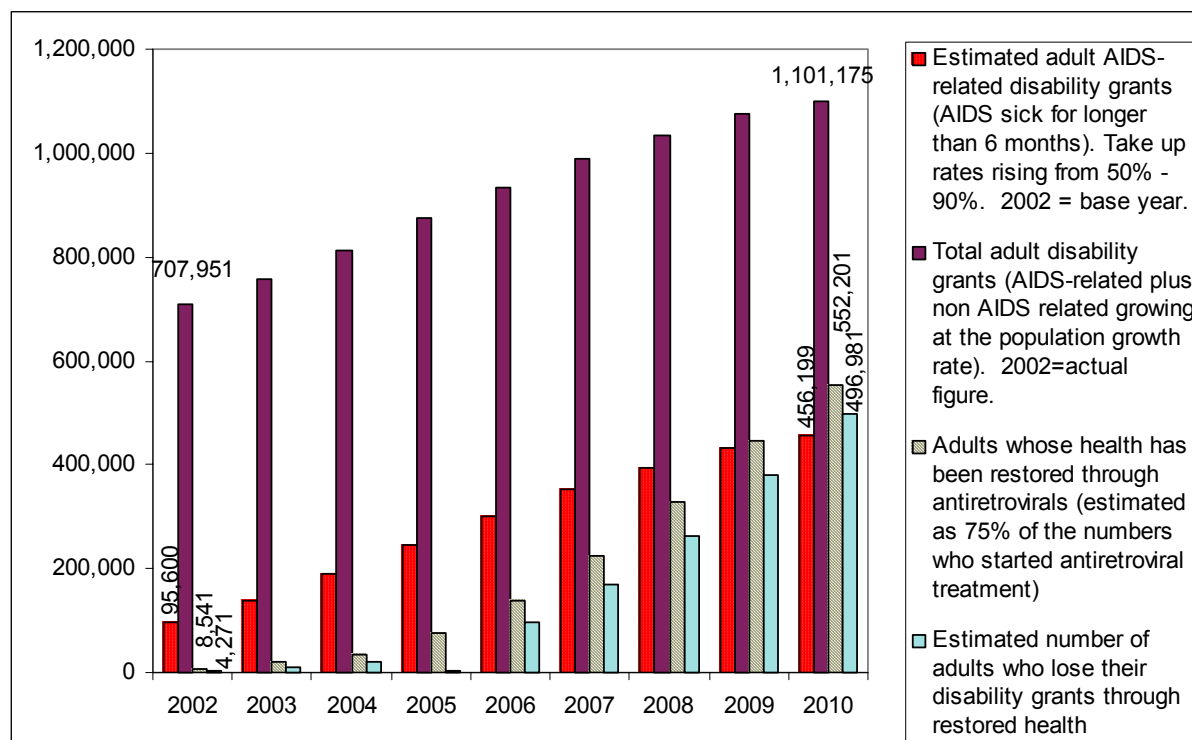
Figure 5. Trends in the Number of Disability Grant Recipients



Sources: South African Labour Force Survey September 2003 (Statistical News Release P0210, 25 March 04, Pretoria), ASSA2002 Demographic model (available on www.assa.org.za). Intergovernmental Fiscal Review 2001, 2003 and 2004. NB: The number of working age people too sick to work was derived from the Labour Force Survey of September 2003 and extrapolated as a % of the population for the preceding years.

There are three main reasons for the dramatic increase in 2003. The first was the introduction of assessment panels in the Northern Cape and the Eastern Cape. Such panels appear to have adopted a broader notion of disability than the medical model – thus resulting in a sharp increase in grants awarded (Simchowitz, 2004). Fearing further dramatic growth in the disability grants, these pilot assessment panel projects were subsequently cancelled. The second reason for the sharp increase in disability grants was as a result of a court order (in the Mashishi case) instructing government to reinstate all temporary grants that had been cancelled because the government had failed to notify the recipients appropriately. These grants were subsequently cancelled in 2004, with the result that the expected number of disability grant recipients in 2004 is likely to be lower than that for 2003. Thirdly, the AIDS pandemic is reaching its mature stages in South Africa with the consequence that more illness and death is being experienced (see Figures 4 and 5). This is clearly placing upward pressure on the numbers of adults and children qualifying for the disability grant.

Figure 6. Projected Numbers of Adult Disability Grant Recipients



Sources: Intergovernmental Fiscal Review 2003; ASSA2002 demographic model.

If we assume that only half of those who were AIDS sick for longer than six months actually received a disability grant, than 13.5% of the total number of disability grants actually awarded in 2002 would have been to AIDS-sick adults. If we assume that take-up rates by AIDS-sick adults rises steadily from 50% in 2002 to 90% in 2010, and that the number of non AIDS-related disability grants rises at the same rate as the population, then the number of disability grant recipients will rise at an average annual compound growth rate of 22%. In 2010, 1,1 million will be receiving disability grants (see Figure 6). This will cost the state R9.3 billion in 2002 prices.⁷ (Note that these estimates use 2002 as the base in order to avoid the distortionary impact of the 2003 increases). This would require an increase of 75% in the budget allocated to disability grants, which in turn would require an increase in 18% to the budget allocated for all transfer payments.⁸

⁷ This is broadly consistent with Simkins's earlier estimate (using different data and a different demographic model) that the number of disability grants will rise to 1,237,000 in 2010 and that the annual cost to government will rise to R9.5 billion as a result (2003: 9).

⁸ The total disbursed by provincial governments for all transfer payments (i.e including the old age pension, disability grants, care-dependency grants, foster care grants etc) in 2001/02 was 21.5 billion (2003 Intergovernmental Fiscal Review: 97). Of this R5.3 billion (i.e. 25%) was for disability grants. This amounted to just under 2% of total government expenditure, i.e. about half a percent of GDP.

The Impact of Antiretroviral Therapy

The figures for the number of disability grants in Figure 6 were derived from the ASSA2002 model on the assumption that take-up rates for the grant would rise from 50% to 90% over the period. It is, however, important to note that this take-up rate refers only to those who are AIDS-sick, i.e. who are displaying AIDS related symptoms. In the ASSA2002 demographic model, the AIDS sick comprise those in Stage 4 (i.e. those displaying AIDS-related symptoms who are not yet on antiretroviral treatment) and 25% of those who started antiretroviral treatment.⁹ Figure 6 plots the numbers of people who have had their health restored by antiretroviral treatment and who (given our assumptions about take up rates for the disability grant) are thus likely to have lost their disability grants as a result. The figure shows that the number of people still alive who are likely to have lost their disability grant as a consequence of antiretroviral treatment, rises from just over 4,000 in 2002 to just under half a million in 2010.

The ASSA2002 demographic model includes a set of assumptions about the rollout and effectiveness of various AIDS-policy interventions ranging from voluntary counselling and testing, to mother-to-child-transmission prevention and providing antiretroviral treatment for adults. In this respect the ASSA2002 model incorporates many of the features of the ASSA2000 interventions model which was designed to test the demographic impact of different AIDS policies (see discussion in Geffen *et al*, 2003). But whereas the ASSA2000 interventions model projected a rapid take-up of antiretroviral treatment (rising to 90% for all population groups by 2006), the ASSA2002 demographic model attempts to project actual population trends, and hence assumes a much slower rollout (in line with government policy). The model assumes that antiretroviral treatment will reach only 50% of Africans who need it by 2009 – and then remain at that level. Rollout rates are assumed to be much higher for whites and Asians, because their income and employment rates are higher, and hence they are able to access antiretroviral treatment through the private sector.¹⁰ However, as 96% of South

⁹ The model includes a category for those who started but then stopped antiretroviral treatment. 25% of these people are also estimated to be AIDS-sick. Note that the demographic model assumes that once a person stops taking antiretroviral treatment, their risk of mortality rises to that of people in Stage 4 (AIDS sick) and hence they do not live very long once they are off treatment.

¹⁰ The model assumes that 81% of whites who need antiretroviral treatment get access to it by 2010.

Africa's estimated 4.9 million HIV positive people in 2004 were African, the pace of the overall rollout is overwhelmingly driven by that for the African population.

Table 2. Selected output from the ASSA2002 model (with and without the antiretroviral treatment rollout).

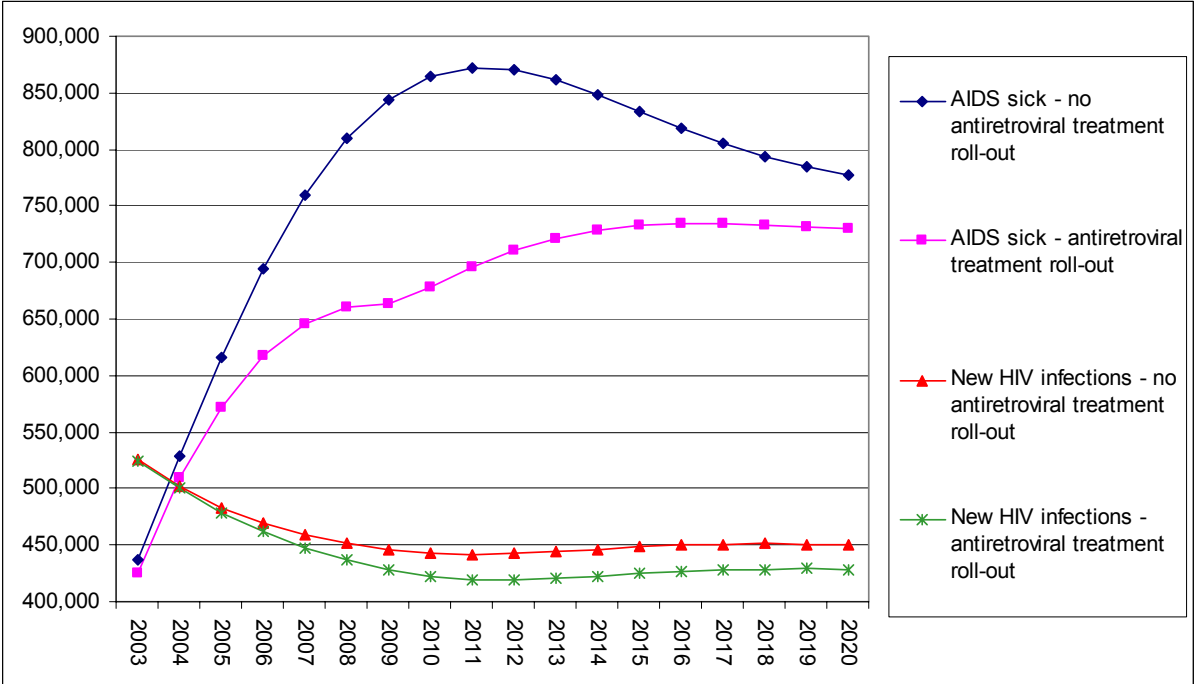
	Without an antiretroviral treatment rollout	With an antiretroviral treatment rollout
Life expectancy at birth in 2010	46.3	50.0
Infant mortality rate in 2010	52 per 1,000 live births	45 per 1,000 live births
New adult HIV infections (2000-2010)	5,536,028	5,454,468
Cumulative AIDS deaths (2000-2010)	3,553,562	3,119,249
HIV Prevalence (2010)	10.6%	11.3%
New AIDS sick cases (2010)	504,432	503,718
Total AIDS sick cases (2010)	864,370	663,470

Despite this limited rollout, the model predicts that antiretroviral treatment will have a major impact on life expectancy. This is partly because HIV-positive people on treatment live longer. As can be seen from Table 2, over half a million deaths would be averted between 2000 and 2010 as a consequence of adding an antiretroviral treatment rollout to the existing suite of policy interventions including mother-to-child-transmission prevention, voluntary counselling and testing, the management of sexually transmitted diseases etc. (The number of deaths averted of course explains why HIV prevalence rises in the population once treatment is rolled out). But the increase in life expectancy is also because many fewer people get infected in a scenario in which treatment is rolled out.

The fact that a treatment programme is likely to *prevent* many new HIV infections often comes as a surprise to those who hear it for the first time. Surely, they ask, if people with HIV are living longer, they have more time to pass on the virus? While it is certainly the case that people on HAART do live longer and continue to have sex, they are living with substantially reduced viral loads – and hence are less infectious. Drawing on medical

evidence on the impact of antiretroviral treatment on the viral loads in seminal fluid, the model assumes that for every log increase in the viral load, the risk of passing on the virus to an uninfected partner rises three-fold. The model assumes that antiretroviral treatment causes a log reduction of 1.76 in the viral load – which means that an HIV-positive person on antiretroviral treatment is substantially less infectious over their life-time than they would be if they died earlier and with a higher viral load in the last few years of their lives. This, together with a small positive impact associated with the voluntary counselling and testing programme associated with the treatment rollout, is why the model predicts that there will be over 80,000 fewer adult HIV infections by 2010 if antiretroviral treatment was rolled out (albeit slowly), than would be the case if it was not.¹¹

Figure 7. The Number of AIDS Sick and Number of New HIV Infections with and Without an Antiretroviral Treatment Rollout



Source: The ASSA2002 demographic model.

Figure 7 plots the trend over time in the number of AIDS sick cases and the number of new HIV infections with and without an antiretroviral treatment rollout. The top two lines track the

¹¹ More child infections, however, take place under the antiretroviral scenario because more babies are born to HIV-positive mothers.

number of AIDS sick cases. It shows that in the absence of an antiretroviral treatment rollout, the number of AIDS sick cases rises steeply, and then falls after 2011. This reflects the gradual burning out of the epidemic as people die from AIDS. By contrast, the number of AIDS cases flattens as the antiretroviral rollout takes place, and then rises. This is a product of the assumption in the model that antiretroviral treatment delays the onset of terminal AIDS illness rather than prevents it entirely.¹² The bottom two lines track the number of new HIV infections over time with and without an antiretroviral treatment rollout. It shows that there are significant and sustained benefits in terms of HIV infections-averted as a consequence of rolling out treatment.

The fact that the antiretroviral treatment rollout helps avert HIV infections is one of the reasons why the overall cost to government of the rollout is substantially less than would appear to be case if only direct costs were considered. Total cost to government includes the cost of treating the opportunistic infections of people suffering from HIV. By rolling out antiretroviral treatment, the government reduces such costs by improving the health of people living with AIDS, but more importantly, helps prevent many new infections – and hence brings about fewer hospital visits overall than would be the case in the absence of a treatment program. In earlier work I have shown that the higher the level of hospital care offered to people suffering from AIDS-related opportunistic infections, the more cost-effective the treatment intervention will be (Geffen *et al*, 2003; Nattrass, 2004b).

Although the health costs associated with the antiretroviral rollout are the overwhelming cost drivers for government, the cost of AIDS-related disability grants with and without a treatment rollout are also worth considering. Because fewer people become infected with HIV, and because people living with AIDS have their health restored by antiretroviral therapy (and thus are no longer AIDS sick, thereby rendering them ineligible for the disability grant), the number of disability grants is substantially lower across time in the scenario which includes antiretroviral treatment – compared to a scenario which does not. This can be seen in Figure 7 that shows that the number of AIDS-sick individuals is substantially lower in the scenario that includes the antiretroviral treatment rollout compared to the one that does not.

¹² Technically, what the model does is assume an increase in the median term to death of between 4 and 5 years for those who take antiretroviral treatment.

The Potential Trade-off between Disability Grants and Antiretroviral Treatment

Disability grants can be an important source of income for AIDS-affected households in South Africa. This is illustrated by Table 3 which presents data from two surveys conducted in Khayelitsha, Cape Town: one comprising a sample of people just starting their antiretroviral treatment; the other comprising a representative sample of Khayelitsha residents (restricted to fall within the same age band as the sample of antiretroviral patients – i.e. 20-59). The table shows that disability grant income contributes on average 32% of household income for the sample of people just beginning antiretroviral treatment. Of the 73% who had access to the disability grant, the grant contributed on average 41% of household income. The percentage of disability grant income to total household income for the average Khayelitsha household is of course much lower than that for the sample of people on antiretroviral treatment, all of whom were very ill when they started treatment. It is interesting to note that conditional on reporting a disability grant as part of household income, average per capita income is practically equivalent between the two surveys.

Data such as this indicates that the disability grant is a major source of relief for poor AIDS-affected households. A respondent interviewed as part of a broader study went as far as to say “I love this HIV” because of it. She explained her choice of words as follows:

“Yes I like this HIV/AIDS because we have grants to support us..... Before I was staying with my mother and father and sister, they didn’t work. Maybe I was taking three to four days without food. People discriminated against me and no one come in the house. The only thing that was helping was my grandmother’s pension. We were surviving on that money. Concerning the illness, our lives are changed completely” (quoted in Steinberg *et al*, 2002b: 29).

The notion that someone might ‘love this HIV’ seems shocking. But it is understandable (albeit in a terrible way) when one considers the desperate circumstances that households can find themselves when they lack access to an income-earner. The advent of a disability grant, as was clearly the case for the respondent quoted above, can be a major life-line for the entire family. The threat of its removal as a result of antiretroviral treatment is thus serious indeed. If the data from Khayelitsha is anything to go by, it suggests that average household income could fall by a third if a disability grant is lost through restored health.

Table 3. Comparative Data from People aged 20-59 in Khayelitsha*

	People just starting to receive Antiretroviral Treatment in Khayelitsha	Khayelitsha Residents (general sample)
Household income (mean)	R1,463	R1,754
Average % contribution of disability grant income to household income	31.7%	1.5%
Average % contribution of disability grant income to household income for those households receiving a disability grant	41%	48%
Average per capita household income	R340	R458
Average household income for those households with a disability income	R1,510	R1,497
Average household size	4.9	4.6
Average age	34	34
% Women	70%	58%
Average years of schooling	9	9
Labour force participation rate**	71%	95%
Unemployment rate**	45%	48%

Source: Coetzee and Natrass (2004). The first column reports data from a survey of people on antiretroviral treatment in the Khayelitsha clinic in 2002. The second column reports data from a 2000/1 survey of Khayelitsha adjusted upwards to reflect 2002 prices.

*NB: The data is not strictly comparable because the survey of people on antiretroviral treatment failed to ask sufficiently detailed information about income sources. It is likely that income for this survey is under-estimated by about 5% .

** This is the broad definition of unemployment, i.e. includes as unemployed those who say they want work but are not necessarily actively seeking it. Table 4 uses the strict definition (i.e. only includes active jobseekers).

It is, of course, possible that some of those individuals who lose their disability grant through restored health will in fact find a job – thereby contributing to an increase in household income. Panel data is necessary to answer this question. In this respect, we do have information on the changes experienced by 104 antiretroviral patients during the first year of treatment. This limited data set shows a significant rise in labour-force participation as a

consequence of treatment. However, as more people moved from the ranks of non labour force participants to the searching unemployed than moved into the ranks of the employed, the unemployment rate actually rose (see Table 4).

Table 4: Changes in Labour Force Participation for the 104 Antiretroviral Patients for whom we have a Year's Worth of Data.

	At the start of the programme (base line)	After one year of treatment
Employed	44 (42.3%)	55 (52.9%)
Searching Unemployed	25 (24.1%)	33 (31.7%)
Non-labour force Participants	35 (33.7%)	16 (15.4%)
<i>Total</i>	<i>104 (100%)</i>	<i>104 (100%)</i>
	Pearson's Chi2= 9.4041 (pr=.009)	
Unemployment rate (strict)	36.2%	37.5%
Labour force participation rate (strict)	66.4%	84.6%
<i>Employment rate</i>	42.3%	52.9%

Source: Coetzee and Natrass (2004)

The results of the small panel study reported in Table 4 are far from representative. Not only is the sample very small and limited to one particular African township outside of Cape Town, but the changes in employment over time are strongly influenced by the fact that this was the first cohort of Africans in South Africa to receive antiretroviral treatment. People from this group were thus in demand as AIDS treatment advocates (for NGOs like the Treatment Action Campaign) and as lay counsellors. One thus cannot expect that subsequent cohorts of antiretroviral patients will experience similarly good employment opportunities once their health is restored. It is safer to assume that most of these people will become unemployed and that their household incomes will fall as a result of the loss of the disability grant.

Given such a scenario, it is possible that a small, but significant, proportion will opt to discontinue antiretroviral treatment so as to become AIDS-sick again in order to qualify once

more for the disability grant – and then once it is reinstated, go back onto treatment (and when the grant expires once more, repeat the cycle). Besides the negative impact on the health of the individual, such behaviour will dramatically increase the growth of drug resistant strains of the HI virus, thereby rendering the entire antiretroviral rollout less effective. Put differently, the more that people switch from being on and off treatment, the greater the numbers of AIDS sick, and the greater the number of new HIV infections. In other words, the outcomes depicted in Figure 7 would look more and more like the no antiretroviral treatment rollout and less and less like the scenario that included the antiretroviral treatment rollout. The rate at which the shift takes place depends on how many people choose to yo-yo between the disability grant and antiretroviral treatment, the rate at which resistant strains of HIV develop, and the extent to which such resistant strains spread through the population.

3. Towards a Basic Income Grant

One response to the potential trade-off between disability grant and antiretroviral treatment is to remove the grant altogether for HIV-positive people. This would at least remove the perverse incentives described above. The cost, however, is that it is discriminatory (because people disabled by AIDS should not be any less entitled to government support than any other disabled person) and cuts away an important income life-line for poor AIDS-affected households. And, to the extent that lower household income translates into lower food expenditure, it may also adversely affect the nutritional status of people on antiretrovirals – thereby reducing the effectiveness of the treatment rollout via a different route. Furthermore, to the extent that AIDS is driven by poverty, this could also exacerbate the AIDS epidemic.

An alternative response is to allow HIV positive people to maintain their disability grants – even after their health has been restored. There are two problems with the strategy. The first is that the problem of perverse incentives is not eliminated. Allowing access to the disability grant for people whose health has been restored may result in some people desiring to become HIV-positive. Although this may sound far-fetched, there is anecdotal evidence from the Western Cape, the Eastern Cape and KwaZulu Natal indicating that some people become angry when they test negative – saying that they were hoping to get the grant.¹³ In the Eastern

¹³ Reported by social workers and peer counsellors.

Cape, there is a saying that you have ‘won the lotto’ if you test HIV-positive because it is seen as a ticket to the disability grant.¹⁴ If antiretroviral treatment is regarded (incorrectly) as a ‘cure’ for HIV, then it is possible that some people may desire to become HIV-positive under the mistaken notion that they will be able to get access to the disability grant and obtain antiretroviral treatment.

The second problem with allowing HIV positive people to keep their disability grants even when their health has been restored through antiretroviral treatment is a moral one: why should they be privileged over other people whom may be equally needy, but HIV-negative?). Put this way, the immediate question that poses itself is: why not introduce a Basic Income Grant (BIG) for all? A BIG would need to be at a much lower level (probably in the region of R100-R200) than the R740 maximum grant for the disabled. Those household who lose the disability grant as a consequence of antiretroviral treatment, will be at least have some financial cushioning resulting from the fact that they, and each household member, has a BIG. This may help prevent people on antiretroviral treatment from being tempted to stop adhering to their treatment regimens in order to get the disability grant reinstated.

If a BIG is introduced for all people – say at R100 a month – what is the appropriate level of payment for the disability grant? If the payment to disabled people is to remain at its current level, then if someone gets a disability grant on top of the BIG, it could fall by R100, to R640. This means that if a person loses the disability grant as a result of going on antiretroviral treatment, the loss of income is R540 rather than R740 – and they still have a basic income grant to help them get by. It is, however, possible that for some very poor individuals on antiretroviral treatment, the gap between the disability grant and the BIG may still be large enough to encourage them to stop taking antiretroviral treatment in order to restore the grant. If so, then there is a case for reducing the value of the disability grant and/or raising the value of the BIG.

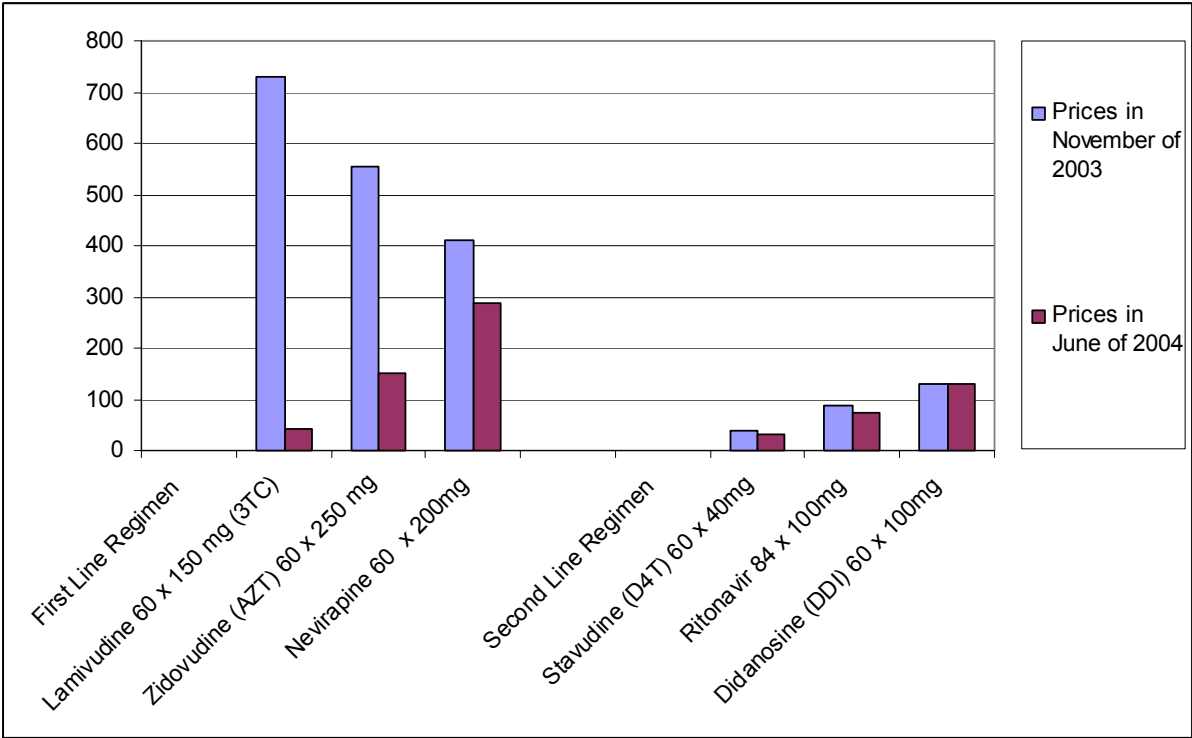
There is a range of arguments, both moral and economic in favour of a BIG in general (see e.g. Van Parys, 2001) and for South Africa in particular (see e.g. Standing and Samson, 2003). This is not the place to review these arguments, or the arguments against the introduction of a BIG. The point is simply that given the context of the AIDS and the

¹⁴ Correspondence with a journalist in the area.

perverse incentives associated with the removal of the disability grant, this amounts to one more argument in favour of the introduction of a BIG.

Previous research and financial simulations has shown that even a modest BIG of R100 per month for all South Africans could contribute substantially to reducing poverty and inequality in South Africa (e.g. Borat, 2002). This is why the recent ‘Taylor Committee’ report on comprehensive welfare reform argued in favour of a BIG (Taylor Committee, 2002). According to Le Roux (2002), a BIG could be financed by a 7.3 percentage point increase in value-added tax (VAT) and a 50% increase in excise and fuel taxes. This proposal is broad-based and redistributive: those who spend more than R1,000 a month end up paying more in consumption taxes than they benefit from the R100 BIG.

Figure 8. The Drop in Prices Paid for Antiretroviral Treatment by the Western Cape Provincial Government between November 2003 and June 2004



Source: Data provided by the Western Cape Provincial Government

In earlier work, I estimated that implementing a full-scale AIDS prevention and treatment intervention which provided HAART to all those who needed it (i.e. with a rapid rollout and

no rationing of antiretroviral treatment), would require an increase in resources equivalent to raising VAT by between 3 and 7 percentage points depending on what level of care is provided to those suffering from AIDS-related illness (Nattrass, 2004b).¹⁵ Given the subsequent dramatic decrease in the price of antiretrovirals – the first line triple therapy treatment regimen dropped by 72% between November 2003 and June 2004 (see Figure 8) – the revenue which would need to be raised would now probably require an increase of between 1 and 5 percentage points on VAT. If we take the mid-point estimate and add it to Le Roux's estimate of a necessary tax increases to finance a BIG, then it would appear that South Africa would need to raise tax revenue by an equivalent of a 10 percentage point increase in VAT to finance a BIG *and* implement a national AIDS prevention and treatment intervention for all who need it.

This, of course, is a significant increase in taxation. Is this feasible? There is no exact technical answer to this question as different societies tolerate different levels of taxation, and at different times. Welfare expenditure as a proportion of GDP has risen with economic development, and in times of crisis (such as war) citizens have accepted large increases in taxation as legitimate (Seekings, 2003). The notion of what is and is not 'affordable' thus varies according to the social and economic context. Given the scale of the unemployment problem and the AIDS epidemic, it is possible that reasonable South Africans might agree to an increase in taxation so as deal with it. Whether one appeals to Rawlsian logic to protect the lives and livelihoods of the poor – or to more radical left libertarian ideas of providing each citizen with a social dividend as a basic right – the issue ultimately boils down to whether reasonable people can tolerate living in a society that forces people living with AIDS to choose between income and health.

Finally, it is important to note that even if a BIG and an acceptable AIDS prevention and treatment intervention was to be introduced, far more needs to be done to address the problem of unemployment and poverty in South Africa. A BIG of R100 a month is very small: it amounts to one tenth of average African per capita income, and to one twentieth of average per capita income in South Africa. Addressing poverty through other means – most notably by encouraging labour-intensive growth – thus must be an integral part of any solution.

¹⁵ The money could of course be raised through income tax rather than VAT. The discussion about taxation is presented here in terms of VAT simply to keep the argument simple.

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