Scaling up access to antiretroviral treatment in southern Africa: who will do the job?

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Malawi, Mozambique, Swaziland, and South Africa have some of the highest HIV/AIDS burdens in the world. All four countries have ambitious plans for scaling-up antiretroviral treatment for the millions of HIV-positive people in the region. In January 2004, we visited these countries with the intention of directly observing the effect of AIDS, especially on health systems, to talk with policy makers and field workers about their concerns and perspectives regarding the epidemic, and to investigate the main issues related to scaling up antiretroviral treatment. We found that financial resources are not regarded as the main immediate constraint anymore, but that the lack of human resources for health is deplored as the single most serious obstacle for implementing the national treatment plans. Yet, none of the countries has developed an urgently required comprehensive human resource strategy. This may also need increased donor attention and resources.

Approaching Malawi's capital Lilongwe on the road from Blantyre, its second main city, the traffic is getting denser. Small shops line the road, little wooden shacks with signposts advertising their business. Small groups of people stroll from one shop to the next—a scene familiar to anyone who has ever travelled through the African countryside. What makes this scene gruesomely special is that almost all of the shops deal exclusively in the production and sale of coffins (figure 1). We visit some of the small workshops and talk with their owners who say that "there is a lot of dying these days—business is going well". Grieving families are walking from shop to shop, warily comparing prices. Still, the price of a coffin is often only a small part of the total cost of a funeral, of which there are many these days. Malawi, like the rest of southern Africa, is ravaged by AIDS.

Background

Travelling through Malawi, Mozambique, Swaziland, and South Africa, AIDS is an obvious and visible concern in all four countries. Mass prevention campaigns have left their mark, from roadside billboards, to condom promotion posters, to mural paintings in the inner cities (figure 2). These campaigns, however, are difficult to evaluate and reduction of infection rates remains a major challenge.[1]

The rates of adult HIV-infection in the four countries are among the highest in the world, ranging from an aggregate 14% in Mozambique, 15% in Malawi, 20% in South Africa to a staggering 38% in Swaziland.[2] In 2003, an estimated 8 million people were living with HIV/AIDS in the four countries (table 1).[3–8] The numbers are overwhelming, yet they can only describe the quantitative dimension of the epidemic, the reality behind the figures is one of individual human suffering and whole societies affected by AIDS.

While part of the epidemic's effect is already visible, the long-term damage will be slower to show. Christine Kamwendo, director of the Malawian Social Action Fund, which funds non-governmental organisations (NGOs) and grassroots organisations to empower local communities, describes AIDS as a disaster affecting the entire society: "Funerals are for days interrupting all productive activities in the villages. The social fabric of communities and families is being overstretched by the number of AIDS orphans, it is very serious." In Swaziland, child-headed households are common and in 2003, the country was thought to have 60 000 orphans in a population of just over 1 million. Derek Von Wissel, director of the National Emergency Response Council for HIV/AIDS, expects this figure to double by 2010, when an almost unimaginable 10–15% of the population will be orphaned children. Society faces a daunting challenge in dealing with the effects of so many parentless children.

Increasing illness and death from AIDS, it is feared, will have a devastating impact on agricultural production in southern Africa, where most of the population relies on subsistence farming. Already, food consumption is being reduced in many places and nutritious crops are being replaced by less labour intensive, starchy root crops. It is feared that falling supplies and shifts to lower quality foods may lead to chronic food insecurity and higher levels of malnutrition.[9]

Figure 1: One of the many coffin workshops near Lilongwe, Malawi

Figure 2: **Mural painting about AIDS in Mozambique**
Portuguese text reads "AIDS. I'm responsible—are you?".

Financing the response to HIV/AIDS

In recent years, the global response to AIDS has entered a new phase. The Global Fund to Fight AIDS, Tuberculosis, and Malaria started to operate in January, 2002, and had by April, 2004, disbursed almost US$150 million for HIV/AIDS.[10] The World Bank is committing large amounts of funds through its Multicountry HIV/AIDS Programme for Africa (MAP) and private foundations, such as the Bill and Melinda Gates Foundation, and the Clinton Foundation are contributing to increased funding for HIV/AIDS. From January, 2003, the US President's Emergency Plan for AIDS Relief (PEPFAR) intends to spend US$15 billion in the fight against AIDS over 5 years. Several other major donor countries have committed substantial amounts of funds globally and, above all, in the countries with the highest HIV/AIDS burden in southern Africa.

With the increased financial resources for HIV/AIDS and the prices of antiretroviral drugs recently reduced to US$140 per patient per year, the debate about the cost-effectiveness of antiretroviral treatment versus that of prevention has subsided.[11–14] Today, it is widely acknowledged that a comprehensive response to HIV/AIDS is required in which access to antiretroviral treatment is dealt with as a global health emergency. In December, 2003, WHO launched its 3 by 5 initiative, a project that aims to have 3 million people on antiretroviral treatment by the end of 2005.[15]

	South Africa	Malawi	Mozambique	Swaziland
Total population[3]	43 600 000	11 200 000	18 000 000	1 029 000
Mean adult HIV seroprevalence[2]	25%	15%	14%	38%
Total number of HIV-positive people	5 300 000*	900 000†	1 400 000†	200 000†
Estimated number of people in need of ART	400 000†	170 000†	270 000†	20 000†

ART=antiretroviral treatment. *Data from reference 4. †National HIV/AIDS treatment plans of Malawi,[5] Mozambique,[6] Swaziland,[7] and South Africa.[8] None of the plans provides detailed explanations about the calculation of these figures.

Table 1: **HIV prevalence and the need for antiretroviral treatment in South Africa, Malawi, Mozambique, and Swaziland**

Although South Africa plans to rely mainly on its own resources for the nationwide scaling up of antiretroviral treatment, for Swaziland and especially for Malawi and Mozambique, increased donor commitments have now put antiretroviral drugs within the financial reach of large numbers of HIV-positive people. Spurred on by the prospect of sufficient financial resources, the governments of all four countries have prepared large-scale AIDS treatment plans in line with the 3 by 5 initiative. Yet, a huge gap exists between the number of people currently receiving antiretroviral treatment and the target number in national plans.

Within less than 2 years, a more than fifty-fold increase in the number of people on treatment is planned in South Africa, with seven-fold and twenty-fold increases in Swaziland and Malawi, respectively (table 2).[5–8,16] These national treatment plans would seem ambitious for most of the world's health systems, yet they are to be realised in countries where health systems are already struggling with severe constraints. However, all policy makers we interviewed in the four countries no longer regard financial resources as the main obstacle for scaling up antiretroviral treatment in the short term. Instead, they see the lack of health workers as the single biggest constraint. Tackling the issue of human resources for health is of paramount importance not only for achieving the 3 by 5 goal but also for the survival of these countries' health systems in times of AIDS.

The human resource reality

About 30 minutes drive south of Blantyre, we arrive at the rural district hospital of Thyolo. We are welcomed by Roger Teck, head of a Médecins Sans Frontières (MSF) mission running an HIV/AIDS project in the district. On our visit, the hospital is overcrowded with patients lying in beds and on the floor (figure 3).

MSF reckons that in Thyolo district around 50 000 people are HIV positive and that about 8000 people are in need of antiretroviral treatment; however, fewer than 400 are receiving it. The Malawian staff is eager to show us their hospital, we must see the reality: "The situation is very difficult, we have so many patients, but we are so few to do all the work, it is very exhausting." AIDS has enormously increased the need and demand for care, and over 80% of admissions to the medical ward are for conditions related to HIV/AIDS.

Hospital care for AIDS patients is not the only factor leading to facilities being overburdened, the anti-retroviral treatment projects we visit are also very labour-intensive. Pretest and post-test counselling, appoint-ments with a medical doctor for every patient requiring antiretroviral treatment, and regular individual follow-up

	South Africa	Malawi	Mozambique	Swaziland
People on ART in the public and NGO sector in 2003 (estimates)	<3500*	<4000†	< 2000‡	About 1500§
People on ART (plans for 2004/05)	190 000¶ (April, 2005)	80 000 (end 2005)¶	4000 (end 2004)¶	10 000 (end 2005)¶
People on ART (plans for 2008/09)	1400 000¶ (April, 2009)	NA	130 000¶ (end 2008)	NA

ART=antiretroviral treatment. NA=not applicable.* Data from Treatment Action Campaign;[16] †Malawi Ministry of Health and Population;[5] ‡Calculated from figures provided by Médecins Sans Frontières, and Sant' Egidio; §Swaziland Ministry of Health and Social Welfare;[7] ¶National HIV/AIDS treatment plans of Malawi,[5] Mozambique,[6] Swaziland,[7] and South Africa.[8]

Table 2: **Population on antiretroviral treatment by the end of 2003 and national plans for scaling up antiretroviral treatment**

appointments with nurses involve a high number of qualified staff working to the limits of their capacity.

Staff shortages are striking in most public sector facilities of all four countries. In Thyolo, MSF estimates that 60% of posts in the district's public health facilities are vacant. In South Africa, 29 000 positions in the public health sector are currently unfilled, yet the national AIDS treatment plan aims to create 12 000 new posts.[8] The ratio of doctors to head of population in Mozambique is 1/30 000, and in Malawi the figure is 1/100 000.[17] In 1998, WHO estimated the number of doctors in Swaziland was 15 per 100 000 population.[18]

The human reality behind these numbers is that health workers are caught in a vicious cycle, a cycle in which they themselves are victims of the epidemic in several ways. Five-to-six-fold increases in health-worker illness and death rates have been reported for Malawi, and the number of deaths in nurses represents 40% of the average annual output of nurses from training.[19] Yet, health workers often fail to seek care, and MSF staff from project sites in several countries shared stories of health workers who would rather die than disclose their HIV status to a colleague. As a consequence of this high attrition, a staff dwindling in size has to cope with ever higher work loads, and the remaining health workers' fear of infection with HIV in unsafe care situations contributes to growing emotional and physical stress and job dissatisfaction.

In such a situation, it is not surprising that many health workers decide to leave their countries of origin. Anton, our young black taxi driver from a township near Cape Town, confides "next week my wife, who is a nurse, will leave South Africa and go to work in England. This is better than staying here, for here nursing is not only an exhausting but also a dangerous job, there is much violence in the hospitals and you are always working in fear of catching AIDS". South African statistics show that more than 82 000 health workers left the country between 1989 and 1997. 31% of the UK National Health Service (NHS) workforce in the UK are from overseas, and around 6% are from South Africa.[20]

As a result of the international brain drain, South Africa itself has to recruit health workers from elsewhere. A 2003 USAID report[19] has shown that only a quarter of rural doctors were South African nationals, with most of the remainder coming from other African countries, such as Zambia, Zimbabwe, and Congo.

Yet, the brain drain is not only on an international level; country-level human resource indicators conceal the internal mobility of health workers. Medical personnel are moving from public to private sectors, rural to urban areas, and primary to tertiary facilities within countries. In South Africa, the number of doctors per head of population in the Western Cape is four times higher than that in some of the rural provinces. In 1999, 73% of general practitioners were estimated to be working in the private sector, despite the fact that this sector catered for less than 20% of the population.[21]

Tackling the human resource crisis

In Thyolo, where only 40% of posts in the public health sector are filled, MSF has recruited extra staff, thus adding another 20% to the health workforce. Nevertheless, this number is not sufficient to cope with the normal workload, let alone with the extra HIV/AIDS-related burden. MSF acknowledges that "we can only do this because we are a pilot project, for scaling up antiretroviral treatment, solutions for the human resource crisis must be found at the national level". The recruitment logic of pilot projects reaches its limits when applied to scaling up treatment, which requires different measures to overcome the human resource bottleneck. Pilot projects have provided very valuable lessons, such as having shown that treating HIV-positive people with antiretroviral drugs in resource-limited settings is feasible, and that adherence to treatment is as good or better than that in richer countries. Furthermore, in Thyolo which has not even one Malawian doctor for a population of 490 000, we saw the quality of

Figure 3: **An overcrowded medical ward in Thyolo hospital, Malawi**

an antiretroviral treatment programme managed mostly by very professional nurses and clinical officers. Yet, the overall shortage of health workers in all categories of the public-health systems means that even if national programmes rely mainly on paramedical staff, they will still lack the people needed to scale-up antiretroviral treatment.

In our interviews with national policy makers, human resources always surfaced as a major concern, and we learned of many ideas and initiatives to tackle this most important bottleneck. Thus, in Mozambique the Ministry of Health is planning to substantially increase the output of medical schools and training institutions for paramedical staff. However, as Avertino Barreto, Deputy Director of Health in Maputo points out, "this is a long-term measure and in the short term we will have to resort to intermediate solutions such as importing medical doctors from Cuba". In Malawi, where most nursing schools are running well below capacity and many missionary nursing schools have completely closed, measures have been taken to raise the standards of secondary schools in order to produce more entrants for medical and nursing programmes. A previous decision to upgrade nursing training was revoked because it had resulted in a lower intake of students.[19] Reactivation and short-course training to return former community-health workers to the workforce is also being considered.

In South Africa, many call for a change in the type and orientation of training to increase its relevance to health needs in the country instead of focusing mainly on European style tertiary hospital skills. Lilian Dudley, from the Health Systems Trust in South Africa, tells us that "in South Africa the medical students are still predominantly urban whites and enrolment fees may be one of the barriers for black people from poorer rural backgrounds". Recently, the minister of health has announced a new training programme for medical assistants, which is expected to enrol more than a hundred students from rural districts when it is piloted next year. To make better use of the skills mix of existing staff, South Africa's plan for scaling up antiretroviral treatment relies mainly on nurses instead of doctors. Von Wissel in Swaziland, says that "with this epidemic we have to keep our minds open for new ideas and keep looking for innovative ways of dealing with it". One such way is the Swazi strategy of including both public and private health sector medical doctors in the national AIDS plan.

In all four countries people tell us not only about measures to increase the production of health workers but also about retention measures to keep them in rural areas, in the public sector or in the country. In Mozambique and South Africa, for example, medical graduates are obliged to do a period of community service before being allowed to register in an urban centre. The South African government is experimenting with a variety of incentive schemes, distance learning possibilities, and support for spouses and families in rural areas. Private healthcare organisations, too, are losing staff to other countries and some have designed programmes and incentives for their nursing workforce such as performance-based pay and long-service rewards.[22] Yet, international brain drain is a problem that cannot be tackled with retention measures alone, and in June 2001, the health ministers of the Southern African Development Community (SADC) issued a statement urging industrialised countries to refrain from active recruitment of staff in developing countries.[23] However, Eric Goemaere, the MSF head of mission in South Africa voices his frustration that "despite the UK's Code of Conduct on International Recruitment private agencies continue to recruit viciously throughout South Africa".

Present measures are falling short

Will what is being done and what is being proposed to tackle the human resource crisis be sufficient to turn the tide? Our observations in the health facilities and our interviews with people from all levels of the health systems in the four countries make us doubt this. We did not come across a truly comprehensive national human resource strategy, even though the lack of health workers is acknowledged everywhere as the most seriously lacking resource for realising the national AIDS plans.

Increasing the number of health workers is very important. More innovative thinking is required to increase the number of staff in a short time, and to ensure their long-term commitment. The creation of new professional cadres will require further deliberation. While the mobilisation of former community health workers warrants caution based on previous poor experiences,[24] the use of less highly trained nurses or clinical officers could be worth further exploration, particularly since many clinical officers are already used to taking the responsibility of doctors in rural environments where there have never been any doctors. But, as has been seen in Uganda and Zimbabwe, creating lower trained professional cadres may meet with resistance from associations who regard this as a threat to their professionalism and international competitiveness.[25]

Pilot projects, such as in Thyolo, show the extent to which antiretroviral programmes can be entrusted to clinical officers and nurses. Additional ways of optimising the use of staff in the currently very labour intensive antiretroviral treatment programmes would be worth investigating. How could less qualified staff be usefully employed to free doctors' time? One path to be explored could be to tap the pool of literate and educated HIV-positive people, such as teachers, who are already receiving antiretroviral treatment. With their personal experiences of the disease, they could be employed on many more levels of an HIV/AIDS programme than is currently the case. Their official recognition and employment could additionally have a beneficial effect on the widespread stigma of HIV-positive people.

A focus on health workers would further need to acknowledge that, to be able to care for AIDS patients, they themselves must be protected from AIDS. Targeted provision of antiretroviral treatment to health workers may be problematic from an equity point of view, yet might be unavoidable if the ambitious national scaling up plans are to be realised. Improvements of pay and conditions of service, allowing for flexible work schemes for staff infected with HIV, may help to keep more health workers in the job.

Last but not least, improving the conditions for health workers requires a review of donor strategies. All donors should recognise the human resource crisis and accept that a large share of the budget is dedicated to it. Donors should rethink their traditional focus on in-service staff training towards investment in initial training and the improvement of human resource systems. The Global Fund budget's flexibility and many donors' move towards sector wide approaches and budget support could widen the scope for addressing major systemic issues and providing salary support. Yet, in many countries, fiscal constraints place limits on such strategies, often influenced by the public sector reforms advocated by the World Bank and the International Monetary Fund. One has to question the justification for strict public sector spending ceilings in countries hard-hit by AIDS. Their revision could enable governments to invest on a larger scale in human resources for health and make full use of the additional grants from initiatives like the Global Fund.[26]

In hospitals in South Africa, Malawi, Mozambique, and Swaziland, we have met and talked with health workers who are exhausted from their daily confrontation with AIDS-related suffering and death. It is for these remaining carers and their millions of patients that the international donor community must find solutions for the human resource crisis today rather than tomorrow.

In the words of Peter Piot, executive director of UNAIDS, "we must rewrite the rules [. . .] not simply do *more*, or do it *better*. I now believe we have to act *differently* as well. An exceptional threat demands exceptional actions".[27]

Conflict of interest statement
None declared.

Contributors
Katharina Kober and Wim Van Damme travelled together to Malawi, Mozambique, Swaziland, and South Africa. All interviews and site visits were done jointly. Katharina Kober wrote the reportage.
Wim Van Damme reviewed the various draft stages of the reportage.
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