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Abstract

South Africa launched its Operational Plan for Comprehensive HIV and AIDS Care, Management and Treatment for South Africa (Operational Plan) in November 2003. This chapter reviews particularly the implementation of the antiretroviral therapy (ART) component of the Operational Plan.

Following the release of the Operational Plan, substantial progress has been made in the accreditation of sites and patients being initiated onto ART. By the end of March 2005 each of the 53 health districts had at least one accredited site. Unfortunately a national monitoring system is not yet in place. This makes it difficult to provide reliable information regarding ART provision.

There has been a substantial increase in ART provision from previous years and individual patient benefits are increasingly visible. However, at this stage the numbers of patients on ART are too small to have had large scale effects on the population who are HIV+ or on the broader public health system. Although one of the key principles of the Operational Plan is to strengthen the health system as a whole through an injection of resources, paradoxically there is concern that because of the sheer scale of the epidemic, in the short term the demand on scarce resources may be undermining the very systems that the Operational Plan seeks to build and strengthen.

Sustaining the growth of the programme, while ensuring that existing weaknesses in the health system and inequities are not worsened, will prove to be the next major challenge to be faced. In addition improved patient and programme monitoring systems that feed back into practice, supplemented by a coherent research strategy, will be necessary to inform future strategies, policy development and funding requirements.

operational plan

implementation of the antiretroviral therapy component

Introduction

In 2004, about 37.8 million people were living with HIV worldwide. Of these, 25 million people were in sub-Saharan Africa (SSA).¹ It is further estimated that 5.8 million adults need antiretroviral treatment (ART) in developing countries.² Of these, 4 million were in SSA. An increasing number of national treatment programmes have been initiated, supplemented by larger global initiatives. Although most programmes have been operational for a short period of time, several major challenges have been identified through these attempts to improve access to antiretroviral treatment. These challenges include financing, human resources, drug supply management, patient information and infrastructure.³

Background to the development of the Operational Plan

At the end of 2004 it was estimated that approximately 5 million people were living with HIV in South Africa (SA).⁴ There is still no consensus on how many people in SA require ART. Current estimates range between 750 000⁵ and 837 000.⁶

Although Highly Active Antiretroviral Treatment (HAART) has been provided for a number of years, largely to the privately medically insured population⁷ and to some individuals through non-profit initiatives, the availability of ART through the public sector has been highly limited.

The Department of Health (DoH) launched the HIV/AIDS/STD Strategic Plan for South Africa (2000-2005) in June 2000.⁸ One of the goals of this Strategic Plan is to "provide adequate treatment, care and support services in communities" for HIV and AIDS. Priority strategies for this goal include some of the following: the development of guidelines for the treatment

of opportunistic infections; consistent supply of drugs; and capacity building of health professionals. However this Strategic Plan stopped short of including antiretroviral drugs for the treatment of HIV and AIDS.

In tracking the progress on this Strategic Plan in 2003, the DoH reported that significant progress had been made on the implementation of the priority activities mentioned above.⁹ This progress included the release of treatment guidelines for managing of opportunistic infections in October 2000, and the training of 11 000 health workers on STI treatment guidelines during 2002. In November 2003, the Operational Plan for Comprehensive HIV and AIDS Care, Management and Treatment for South Africa¹⁰ (Operational Plan) was released. The Operational Plan builds on the 2000-2005 Strategic Plan but explicitly included the use of antiretroviral medicines for the treatment of HIV and AIDS.

The Operational Plan sets out a coherent, comprehensive strategy to deal with HIV and AIDS and details a multi-sectoral response to the pandemic. It aims to ensure free, universal access to ART through the public sector. SA is unique amongst SSA countries in that the funding for the implementation of the Operational Plan comes predominantly from the national fiscus and is not dependent on funding from external donor organisations.

Specifically, the Operational Plan aimed to establish at least one service point in each of the country's 53 health districts by the end of the first year of implementation. It envisages that within five years, all South Africans and permanent residents who require care and treatment for HIV and AIDS would have equitable access. Implementation is largely the responsibility of the nine provincial Departments of Health

with support in key areas from the national Department of Health (DoH).

Strengths and weaknesses of the Operational Plan

The Operational Plan included broader participation in its development with provinces, research institutions and civil society inputs. This probably contributed towards its acceptance and perceived legitimacy.¹¹ This is particularly important given the historically divided and conflicting response to HIV and AIDS in SA.

The Operational Plan emphasises the prevention of HIV as well as treatment and care, and it locates the provision of treatment and care within broader primary health care (PHC) provision. In doing so the Operational Plan attempts to avoid a vertical approach to provision of ART, instead emphasising the necessity of ensuring a continuum of care for individual clients; and of strengthening of the overall health system and integrated PHC services. Implementation is designed to strengthen district based health delivery and provide equitable access to treatment by setting up a treatment site in each of the country's 53 health districts. Through integration, the additional resources made available to the HIV programme can benefit other PHC services.¹²

The Operational Plan emphasises universal and equitable improved access to health services for the poor and disadvantaged. It also recognises the need to develop the health system, in particular human resource capacity. Furthermore, the Operational Plan recognises the benefits of good nutrition and the promotion of healthy lifestyles, thus acknowledging that HIV is not a purely medical phenomenon, but has societal dimensions such as poverty.

The Operational Plan also recognises the need to develop health service delivery infrastructure, in particular human resource capacity and the allocation of additional funds for a potential human resource bottleneck is prioritised. The human resource model adopted calculates that one doctor, two professional nurses, one pharmacist and a dietician are optimal for treating and managing 500 patients. Given the huge demand for ART and the general scarcity of human resources, SA does not have and is unlikely to have the required personnel to meet the stated intention of universal treatment. Although recognition is made in the Operational Plan for exploring alternative treatment models, the Operational Plan fails to clarify the role of the private not-for-profit sector and the private-for-profit sector, including

workplace programmes. Given the size and experience of these sectors, they represent an opportunity for inclusion when the Operational Plan is updated.

The Operational Plan recognises the value of research, monitoring, and evaluation as an integral part of the ongoing process of implementation, thereby allowing for a critical feedback loop into the process of planning and delivery. However it lacks practical and specific proposals for ongoing monitoring, support, and supervision of health service staff. It also provides a role for traditional healers and other sectors of civil society. This opening up of the public health system to promote and support greater participation by civil society groups is an opportunity to strengthen the overall PHC system, yet it remains unclear how this will happen. Without having the experiences arising from the participation of these groups, it remains unclear how this strengthening will happen.

The comprehensiveness of the Operational Plan is a major strength, but it may be that some of the standards and targets set are too high and therefore probably unattainable. A logistical framework which sets milestones is referred to in the Operational Plan, but has yet to be properly developed and made publicly available. Given the unprecedented task ahead, a detailed time frame for guiding this process is essential.

Progress in implementation of the Plan

Within six months of being released, the Operational Plan was funded by the national fiscus, a number of sites were accredited and the necessary systems were in place to start assessing and treating patients on ART. Progress has varied in different parts of the country and many useful lessons have been learnt.

Financing^a

The Minister of Finance, in his 2005 budget, announced a three year allocation of R6.6 billion for the government's integrated response to the HIV and AIDS epidemic. In line with the Operational Plan, funds have been allocated to the three social sector departments of health, education and social development. The national DoH has been allocated

^a This section is based on work conducted by IDASA's AIDS Budget Unit in Cape Town.

a total of R5.6 billion (85%) of this total budget as shown in Table 1. In real terms, the total health HIV and AIDS budget has grown by 18% from R1.2 billion in 2004/05 to R1.5 billion in 2005/06. Although the 2004 budget allocated R600 million specifically for ARVs, the 2005 budget made no specific reference to the amount of money allocated for ARVs.¹³ Seventy seven percent (77%) of the health department's HIV and AIDS budget will be sent to provinces through conditional grants. The remainder of the budget will be transferred to non-profit institutions.

A considerable amount of money is also given to provinces to spend on HIV and AIDS through the provincial Equitable Share (ES) allocation. ES allocations for HIV and AIDS and ARVs form part of the discretionary spending by provinces. While National Treasury is increasing the provincial ES block grant with the aim of supporting the HIV and AIDS programmes and strengthening the health sector generally, provincial reporting on actual spending and use does not allow HIV and AIDS spending to be quantified.

The Department of Education has been allocated R432 million over the next three years to continue providing HIV life skills prevention education to learners. This is a decrease of 3% in real terms. The Budget Review 2005 reports that "the programme is now fully integrated into the schooling system with learner and teacher support materials provided for grades 1 to 9 learners".¹⁴

The allocation of R572 million to the Department of Social Development caters for the provision of support and care services to individuals infected by HIV. Allocations have grown from R79 million in 2004/05 to R186 million in 2005/06 and to R195 million in 2007/08. In real terms this is an increase of 124% for 2005/06.

Accreditation process

In early 2004, teams from the national DoH and provincial DoH assessed the public facilities selected by provinces to provide ART. The assessment covered infrastructure, human resources, pharmaceutical services, laboratory support, physical infrastructure, information systems and other aspects deemed necessary to deliver ART. Some sites were accredited and able to start provision immediately. Those sites not meeting all the accreditation requirements submitted action plans to the department. Although the accreditation process took longer than expected it had the beneficial effect of confronting policy makers with the realities of service provision at the front line of health care. By March 2005, 122 sites had been accredited nationally,¹⁵ while 113 were operational.¹⁶ For more details see Appendix 1. The process of accreditation has now been decentralised to provincial level.

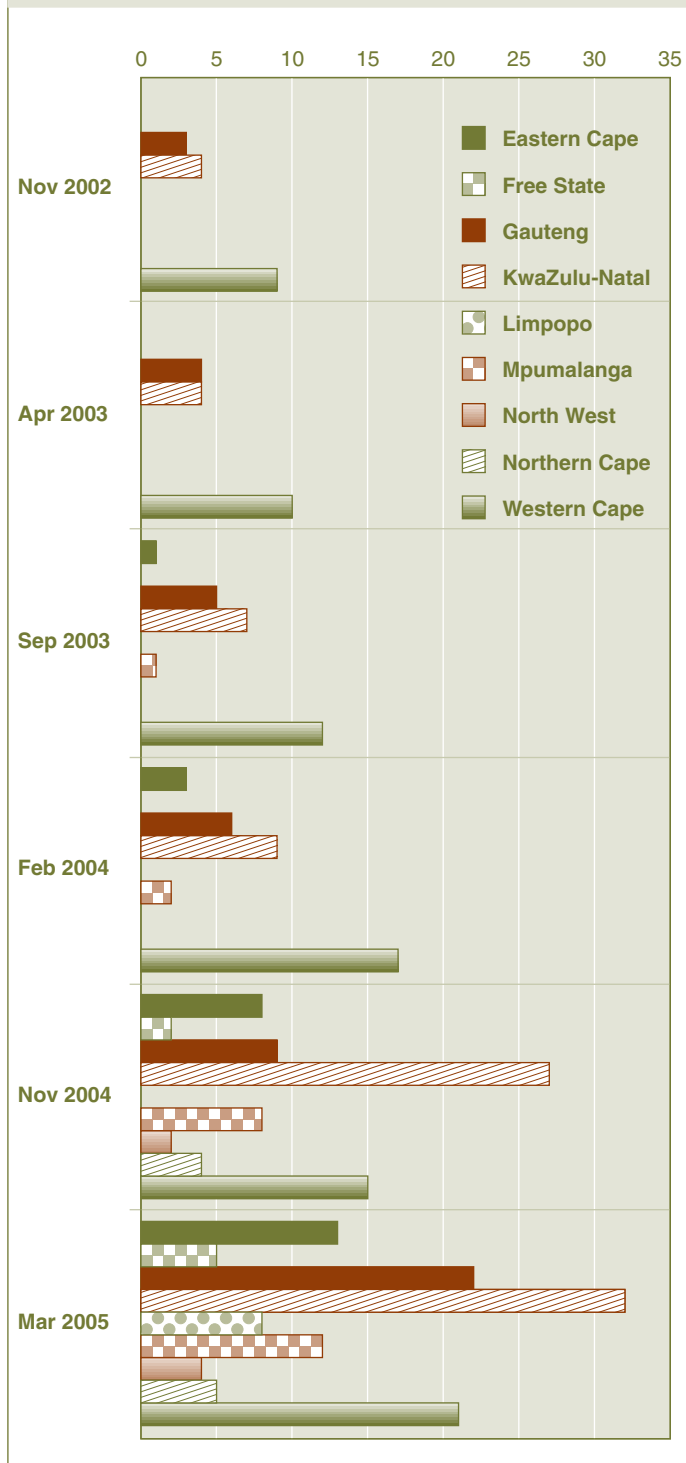
Table 1: Treasury allocation of funding for HIV 2005/06 - 2007/08 (R million)

	05/06	06/07	07/08	Total	%
Health*	1 531	2 002	2 107	5 640	85
Education	136	144	152	432	6
Social Development	186	191	195	572	9
Total	1 853	2 337	2 454	6 644	100

Source: IDASA; 2005

* This includes conditional grants and transfers to Not-for-Profit Organisations

Figure I: Distribution of Public Accredited ARV Facilities by Province (November 2002 – March 2005)



Source: Data to November 2004: HST HAART Site Database March 2005: National DoH Media Release.

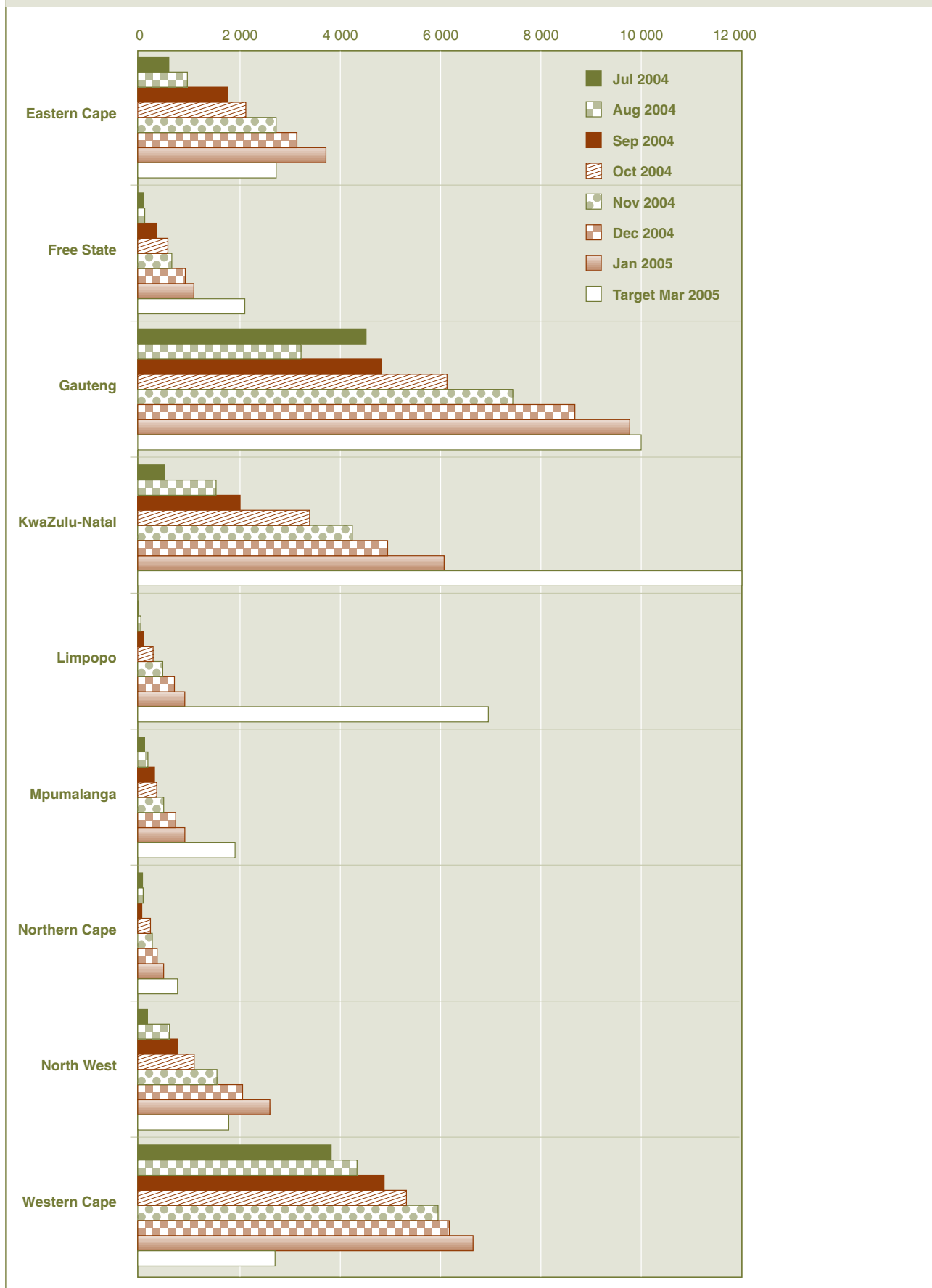
Patients receiving antiretroviral therapy

Over the period July 2004 to the end of January 2005, a total of 173 958 patients were assessed and 32 385 were placed on ARVs.¹⁵ By April 2005 it was reported that about 50 000 patients were on ART.¹⁷ Progress across the provinces is varied. The Western Cape started providing ART prior to the approval of the Operational Plan and has exceeded its initial target set for March 2005. KwaZulu-Natal, with a massive burden of disease, is struggling to make inroads against treatment needs despite relatively rapid enrolment and the largest number of ART sites. Similarly Limpopo, Free State and Mpumalanga are struggling to meet initial patient targets. The Eastern Cape has exceeded initial targets, although these were set very low and capacity was probably underestimated. However, in Gauteng rapid strides have been made in meeting the target set through an exponential expansion of numbers of patients on treatment.

Because of weak data collection systems at facility level, it is difficult to disaggregate patients by age or sex and other demographic variables. However, patients numbers from the Free State show that of the 1 076 adult patients on treatment by March 2005, 346 (32%) are male and 730 (68%) are female.¹⁸ Similar figures are reflected in KwaZulu-Natal¹⁹ with 31% male and 69% female. Corresponding figures in Botswana at April 2004 were almost identical.

However, demographic modelling and seroprevalence surveys²⁰ suggest that around 45% of the HIV+ population could be anticipated to be men and in need of care. These figures highlight the under-utilisation of public health services by males.

Figure 2: Patients on ART v March 2005 Targets (July 2004 - January 2005)



Source: National DoH, 2005.

Note: Target for KZN was 25 000.

Paediatric provision

Dorrington et al. estimated that in 2004 there were 245 000 children under the age of 14 years infected with HIV (prevalence 1.7%). The majority of these (211 000) are believed to be in pre-AIDS stage.⁴ Although the national figures of children who are receiving treatment were not available at the time of writing, it appears that the proportion of children on treatment is in line with that of adults. For example of the 1 174 patients on treatment in the Free State, 98 (8%) are children.¹⁸ In Gauteng the total number of patients who were on treatment in May 2005 was 12 412, of these, 1 496 or 12% were children.²¹ Less than 5% of all patients on treatment in KwaZulu-Natal in November 2004 were children¹⁹ whilst in the Western Cape 17% of those on ART are children.^b

There are a number of specific challenges in scaling-up provision of ART to children based on the national guidelines. Among these is inadequate training of health workers on paediatric issues and associated anxiety; lack of implementation of policies to utilise Polymerase Chain Reaction (PCR) diagnostics; the lack of appropriate paediatric ARV formulations registered with the Medicine Control Council (MCC); high costs of existing formulations; and the lack of WHO recommended dosing tables based on weight.^{22,23}

Support services

Drug tender process

The national tender for the supply of antiretroviral drugs was awarded in late February 2005. Delays in awarding the tender resulted in substantial problems for some provinces, such as the Free State which experienced supply interruptions between October 2004 and February 2005 and was unable to successfully negotiate directly with the suppliers due to national tender uncertainties.²⁴ The other provinces did not experience this problem.

The value of the tender is R3.4 billion over a three year period (September 2004 to the end of August 2007). The generic producer Aspen Pharmacare has received the greatest portion of the tender in terms of the different types of drugs to supply. However, due to the cost of Efavirenz, which is produced by the pharmaceutical company MSD, regimen 1a is substantially more expensive and results in MSD receiving the greatest proportion of each Rand spent, approximately 53c per Rand.^b

Details of the tender are provided in Table 2.^{25,26}

The costs detailed in the table are based on doses for adults weighing 70 kg and translate to the monthly and annual drug acquisition costs in Table 3. The availability of first line generic drugs (except for Efavirenz) has reduced costs considerably. Substituting Efavirenz with a cheaper generic equivalent would further reduce the costs, but given that the tender for Efavirenz is for three years this may not be possible.

^b Personal communication: Dr Andrew Boule, University of Cape Town.

Table 2: Tender Awards

A: Nucleoside reverse transcriptase inhibitors				
Drug	Form and quantity	Supplier	Cost in R	% Split
Stavudine (d4T)	200ml powder	BMS	87.99	N/A
	20mg capsules 60 per pack (s)	Aspen	19.60	N/A
	30mg capsules 60s	Aspen	19.60	70
		Cipla	22.23	30
	40mg capsules 60s	Aspen	21.70	60
		Cipla	24.16	40
Lamivudine (3TC)	240ml solution	Aspen	24.47	N/A
	150mg tablets 60s	Aspen	33.94	80
		GSK	41.57	20
Didanosine (ddI)	25mg tablets 60s	Aspen	68.36	N/A
	50mg tablets 60s	Aspen	65.36	N/A
	100 mg tablets 60s	Aspen	72.25	N/A
Zidovudine (ZDV or AZT)	50mg/5ml syrup 200ml	Aspen	25.59	N/A
	100mg capsules 100s	GSK	113.21	N/A
	300mg tablets 60s	Aspen	77.52	N/A
B: Non-nucleoside reverse transcriptase inhibitors				
Drug	Form	Supplier	Cost in R	% Split
Efavirenz (EFV)	50mg tablets 30s	MSD	25.75	N/A
	200mg capsules 90s	MSD	309.02	N/A
	600mg tablets 30s	MSD	214.31	N/A
Nevirapine (NVP)	50mg/5ml suspension 240ml	Boehringer Ingelheim	199.50	N/A
	200mg tablets 60s	Aspen	41.61	N/A
C: Protease inhibitors				
Drug	Form	Supplier	Cost in R	% Split
Ritonavir-boosted lopinavir (LPV/r)	80mg/20mg per ml solution 60ml	Abbott	62.59	N/A
	133.3/33.3mg capsules 2x90s	Abbott	312.95	N/A
Indinavir (IDV)	400mg capsules 180s	MSD	370.82	N/A
Ritonavir (RTV)	80mg/ml solution 90ml	Abbott	62.59	N/A

Source: Department of Health, 2005

Note: Prices are for the initial period and varying escalations may apply. Prices include VAT (14%) and delivery to depot.

Table 3: Cost per regimen^{25,27}

Regimen	Cost per month in R	Cost per year in R*
Regimen 1a (d4T/3TC/EFV)	97.26	1 167.12
Regimen 1b (d4T/3TC/NVP)	269.96	3 239.52
Regimen 2 (AZT/ddl/lopinavir/ritonavir)	534.98	6 419.76
Paediatric costs	These are very difficult to calculate, but are generally more expensive.	

Source: Department of Health and Drug Info Discussion List; 3 March 2005

* Note: These costs do not include the logistics fee levied by the depots, which is estimated at 8%.

Health information systems: monitoring and evaluation

Accurate and readily available information is the cornerstone of any decision making process. The ability to track and treat patients regardless of where they present is key to ensuring suitable levels of adherence and monitoring treatment outcomes. A national ARV monitoring and evaluation framework has been developed and distributed to provinces. Training within the provinces on this framework is scheduled to commence in early 2005. Indicator definitions have been developed and a draft data flow protocol has been set out. The future vision is for the implementation of a single electronic-based patient information system.

Although the monitoring framework has been distributed, the national system to collect and capture the data has not yet been developed. As a result, some provinces and individual sites have developed their own information systems. Provincial patient data forms vary in quality and amount of information collected. Through the National Indicator Data Set developed for the District Health Information System (DHIS) and primary health care in general, some core ART indicators may become available at a national level towards the end of 2005, but more detailed data availability is likely to remain limited for the immediate future.

It is uncertain whether surveillance sites and facility based surveys will be utilised to enhance data collection and evaluation efforts, although such systems have proven highly effective for other health related programmes.²⁸

One way in which the HIV and AIDS programme could have tackled monitoring through indicators would have been to build on the strengths of the National Tuberculosis Control Programme (NTCP). The NTCP has established an

aggregated information system based on patient registers which are held in each facility. At facility level there is a paper based system with an electronic system at the sub-district level. Although there were a number of teething problems with the electronic TB register, due to the robustness of the paper based system there is a reliable backup and patient management information is available at the facility level. In Malawi, the strengths of the TB programme were recognised and the ARV indicators, treatment register and all other patient information tools were developed in the same format as those of the TB programme.²⁹

The ARV programme is setting a precedent in planning to implement a nation-wide electronic patient information system and a number of challenges will need to be overcome. These include:

- Setting up and maintaining a uniform electronic system throughout SA.
- Training all staff involved with the process of collecting, capturing, analysing and interpreting these data. Many of the staff at a facility level are not computer literate, so extra personnel may have to be appointed.
- Whatever system is set up will need to be compatible with existing NTCP system and PHC information system.

Laboratory services and pharmacovigilance

There are 250 laboratory services nationally that have been certified to provide laboratory support to the ART programme and three pharmacovigilance centres have been established to monitor and investigate adverse reactions to treatment. By September 2004, twenty laboratories were providing CD4 count testing and seven provide viral load testing. The National Health Laboratory Services (NHLS) is the primary laboratory service provider and has a new automated extraction system for CD4 counting. This should be available for use from early 2005^c and this system will hopefully improve turnaround times, increase capacity and reduce error rates.³⁰ Presently there are concerns regarding the turnaround time of test results to some sites and improvements are necessary to facilitate integrated management of HIV and TB co-infections.³¹

In November 2004 it was reported that the NHLS had tested over 130 000 patient samples for CD4 counts. Approximately

^c The new automated extraction system for CD4 counting is available and functioning well. Personal communication: Dr Adrian Puren, NHLS, August 2005.

half of these samples demonstrated CD4 count results of below 200 cells/mm³, and 20% overall had CD4 counts below 50 cells/mm³. Over the same period 16 000 viral load tests were completed with more than 50% measuring more than 50 000 copies/ml.³⁰ Currently all test results, for patients on treatment as well as those being assessed, are contained in one database and cannot be analysed separately. As a result, only limited cohort data can be produced to inform progress.

An amount of R2.7 million was allocated in the financial year 2003/04 for the establishment of pharmacovigilance surveillance. Allocations for the 2005/06 financial year are as yet unknown. The Medical University of Southern Africa (MEDUNSA) and Bloemfontein Centres are used for sentinel surveillance and actively collect safety data. The spontaneous reporting is coordinated in Cape Town by the National Adverse Event Monitoring Centre as part of regulatory reporting.

Nutritional support

Existing nutrition programmes include the National Emergency Food Programme whose aim is to improve food security, and the Nutrition Supplementation Intervention whereby people with TB and HIV are provided with supplementary meals and micronutrients. According to the Operational Plan, the Department of Health is responsible for the coordination of interdepartmental nutritional programmes and developing nutritional training materials.

An order of R7 million was placed by the national DoH in late 2003/04 to provide nutritional supplementation to those who are food insecure. The present monitoring system does not make it possible to determine what nutritional resources have reached patients. There are a number of issues of concern around the nutritional interventions including the absolute shortage of social workers and nutritionists; inadequate supervision of existing staff; inadequate guidelines for existing staff; and logistical problems.

The WHO Consultation on Nutrition and HIV/AIDS in Africa held in Durban in 2005 clearly articulated the need to substantially improve nutritional support for malnourished patients and those with food insecurity. There was also discussion on the need for greater regulation and research into the claimed benefits of supplements and alternative diets.³²

Emerging challenges after one year of implementation

Human resources

Human resource constraints continue to dominate as the single greatest impediment to the successful scaling up of ART services. The provision of ART in the absence of substantial strengthening of the overall health system has the potential to increase existing inequities between well and poorly resourced areas.³³ The current lack of human resource capacity within the South African public health system is therefore of great concern. This is particularly so since ART efforts by other countries within the region have been severely hampered by human resource constraints.^{29,34} The Operational Plan estimates that an additional 13 805 staff will be required over the next 4-5 years in order to ensure successful implementation.

The doctor-based approach of the Operational Plan may be an inappropriate model for SA where there is a very high prevalence of HIV+ people. Doctor's time will be increasingly taken up with complicated cases of toxicity, resistance, and adverse reactions.^d Thus it is essential that nurses are skilled to manage the more routine cases on a day to day basis. This is problematic as nurses are also in short supply and those that are available will need to be certified to disperse medicines. In addition to producing and retaining greater numbers of doctors and nurses, opportunities to introduce mid-level workers to take over some of the current responsibilities of nurses should be investigated. The responsibility of trained counsellors could also be increased. However, this in turn requires substantial investment to ensure that lay counsellors are adequately trained, equipped, monitored, and supervised. For more details see chapter 13 in this Review.

By 31 March 2005, more than 1 060 health professionals had been recruited to support the ARV programme and more than 7 600 health personnel has been trained on the management, care and treatment of HIV and AIDS.³⁵ Concerns have been raised that recruited staff have been reallocated from existing services to the ARV programme. Given that there is an overall staff shortage in the public sector this may undermine the provision of these existing services. Recruiting new professional staff, such as pharmacists, from outside of the existing public sector staff requires a long term strategy.²⁴

d Personal Communication: Dr Ndwapu, Internal Medicine Specialist, Princess Marina Hospital, Botswana. December 2004.

Representatives from both the Free State²⁴ and Western Cape³⁶ have suggested that the recommended ratios of staff to patients contained in the Operational Plan, that of one doctor and two nurses per 500 patients, may not be accurate and that saturation levels may be reached earlier than anticipated. Whether this can be addressed as experience is gained or through more efficient staff management remains to be seen.

Current shortages of administrative staff and a reliance on 'volunteerism' are not sustainable. These shortages undermine the capacity of professional staff to provide even a basic level of service. Such shortages of administrators and data capturers could be relatively easily solved in the short term.

The use of stipend-based DOTS supporters, home based carers, lay counsellors and in some provinces, special auxiliary service officers is often fragmented and poorly managed. Standardisation of work, support, monitoring and conditions of service are necessary to obtain the value of these workers and their community links. For more details see the chapter on CHWs in this Review.

Partnerships

Partnerships between the public and private sector are deemed to be one of the most challenging yet critical factors in successfully scaling up ART services.^{24,36} In addition the involvement of donors and other non-governmental organisations in providing funding and technical expertise adds complexity to funding mechanisms, costs and management. Partnerships are dynamic and will continue to grow and change over time. Constant monitoring is needed to ensure the benefits of partnerships are realised and the potential pitfalls avoided. The challenges faced in developing and sustaining partnerships include:

- Considerable time has to be spent coordinating different role players. A strong management committee is needed to coordinate and guide all the activities of the partnership.
- Skilled personnel may be attracted into better paid partner organisations.³⁷
- The ART site may function as a vertical programme with separate parallel supply and delivery systems for ART.³⁸
- Opportunities to use the ART programme as a catalyst to build, strengthen and promote the public health

system capacity for the delivery of comprehensive PHC may be lost.

- Consistency and standardisation of the ARV services within the country may be compromised.
- The core staff essential for the running of the service may be employed by the partnering organisation. This may destabilise the service if the partner withdraws.
- Without adequate mechanisms to facilitate skills transfer, momentum may be lost when the collaborators withdraw and move on.
- Information and data may be claimed as intellectual property belonging to external partners.
- Costing of service delivery per capita or per site and the ability to undertake forecasting of costs may be difficult.

Donor Funding

In July 2004, the Organisation for Economic Cooperation and Development (OECD) completed an analysis of HIV and AIDS donor commitments to developing countries for 2000-2002.³⁹ This showed that SA received 2.2% of the total aid flowing to developing countries for HIV and AIDS and only five other countries received greater amounts. The OECD report states that 99% of the donor aid received for health related programmes in SA was for HIV and AIDS related services which included HIV and AIDS prevention, education, care for orphans and vulnerable children, treatment of sexually transmitted infections (STIs) and prevention of mother-to-child transmission (PMTCT) of HIV.

In SA, this funding is channelled either through bilateral aid to government departments or by direct funding to NGOs from international aid agencies. The national DoH has set up mechanisms to monitor donor funding for HIV and AIDS related services. In addition, to facilitate communication between donors, the national DoH has set up a donor coordination forum. It is hoped this will reduce competition between donors and minimise funding duplication.

Besides the Global Fund to Fight AIDS, TB and Malaria (GFATM) and the President's Emergency Plan For AIDS Relief (PEPFAR), which are discussed in detail below, other major international donors to HIV and AIDS programmes in SA include the United Kingdom's Department for International Development (DFID), Australian development cooperation programme in Africa (AusAid), New Zealand Aid (NZAid), German (GTZ) and the Centers for Disease Control (CDC) support for HIV and AIDS.

Global initiatives

The '3 by 5' initiative

In 2003 the WHO launched the '3 by 5' initiative. This initiative aims to put three million people living with HIV and AIDS in developing and middle income countries on antiretroviral treatment by the end of 2005.⁴⁰ The '3 by 5' initiative is a step towards the goal of making HIV and AIDS prevention and treatment universally accessible to all in need.

A recent progress report on the '3 by 5' initiative estimates that 700 000 people were receiving antiretroviral treatment in developing countries at the end of 2004.² Of these, 310 000 were in SSA.² The need for international support to combat HIV and AIDS, TB and malaria in SSA is clearly evident. However the conditions and stringent reporting criteria under which many of the larger grants are allocated result in vertical programme delivery with a focus on the number of patients on ART. This does not only jeopardises the sustainability and growth of ART programmes, but also undermines the fragile health systems in many countries in SSA.⁴¹

The Global Fund to Fight AIDS, TB and Malaria (GFATM)

The Global Fund has committed itself to providing US\$65 million for HIV and AIDS programmes in SA over a six-year period.⁴² Between December 2003 and April 2005, 55% of this grant (US\$ 35 million) had been disbursed. Disbursements up to the end of April 2005 are detailed in the table below. The national DoH requested US\$25 million which has not yet been disbursed. KwaZulu-Natal's programme, the Enhancing Care Initiative, and the Western Cape Department of Health have received approximately half of their disbursements. loveLife was the other major recipient in SA and has received all of its round one funds. An in-depth evaluation of GFATM activities is planned for 2006.⁴²

Table 4: Global Fund disbursements to South Africa as at the end of April 2005⁴²

Applicant	Principal Recipient	Round number	Amount requested US\$	Approved Grant Amount US\$	Disbursements US\$	Percentage Disbursed	Balance to be disbursed US\$	Balance due in %
loveLife / Soul City	National Treasury	1	70 354 000	2 354 000	2 354 000	100	0%	0
loveLife	National Treasury	1		12 000 000	12 000 000	100	0%	0
KZN Health Department	National Treasury	1	71 968 018	26 741 529	12 873 456	48	13 868 073	52
WC Health Department	National Department of Health	3	66 509 557	15 521 457	8 282 075	53	7 239 382	47
National Department of Health	Not yet reported	2	25 110 000	8 414 000	0%	0	8 414 000	100
Total			208 831 575	65 030 986	35 379 531	55	29 651 455	45

Source: IDASA; 2005

President's Emergency Plan for AIDS Relief (PEPFAR)

PEPFAR, launched in 2004, represents a commitment by the United States government to provide US\$15 billion over five years in the fight against HIV and AIDS in 15 focus countries, including SA. The aims are for the recipient countries to provide treatment to 2 million HIV+ people; prevent 7 million new HIV infections; and provide care to 10 million people infected and affected by HIV and AIDS, including orphans and vulnerable children by 2008 (the '2-7-10 goals').⁴³

In the 2004/05 financial year PEPFAR allocated US\$89 million to SA.⁴⁴ This funding includes support to the following interventions:

- ▶ 14 organisations which were treating 25 633 patients by March 2005.⁴⁵
- ▶ US\$3 million (R19 million) towards expanding a public health education channel, Mindset, which will deliver free education to patients and health care workers in clinics and hospitals across the country.⁴⁶
- ▶ 6 mass media HIV and AIDS prevention programmes that promote abstinence and being faithful that reached 13 million people. Other prevention strategies developed by Soul City and TshaTsha, including those promoting condom use, reached over 16 million people.
- ▶ US\$5 million (R35 million) to the Hospice Palliative Care Association to facilitate the expansion of its national and provincial activities to make palliative care available to people living with HIV and AIDS.⁴⁷
- ▶ The 'Men as Partners' project, which encourages an active role by men in the prevention of HIV transmission and violence against women.
- ▶ The Traditional Leaders HIV and AIDS Human Rights and Advocacy Programme, through the national DoH and the National Traditional Leaders Forum. This programme aims to involve traditional leadership in the fight against HIV and AIDS at community level.

National initiatives

Private not-for-profit

At the time of release of the Operational Plan, the private not-for-profit sector, often working in conjunction with the public service and utilising donor funds, had accumulated experience in the provision of ART.⁴⁸ These initial sites have

proven to be excellent learning centres and continue to provide lessons on innovation using limited resources. However, it is recognised that many of these early sites are reaching saturation point. In the Western Cape, the public sector is slowly assuming responsibility for these NGO run sites.

In December 2004, twelve different organisations were being funded by GFATM and PEPFAR. These organisations include the Catholic Relief Services (CRS), Centre for AIDS Programme Research in South Africa (CAPRISA), Thembalabantu clinic in KwaZulu-Natal, the Reproductive Health Research Unit (RHRU) and the Perinatal HIV Research Unit (PHRU). Between them these organisations had assisted in screening 32 096 patients and had 9 591 patients on ART.

Another example of a private not-for-profit organisation is the Ndlovu Medical Centre in Mpumalanga which treats approximately 500 patients with ART and actively supports the development of job creation. Additional documentation of such projects is required to keep track of sites being set-up as well as to highlight examples of best practices.

Private for-profit and workplace schemes

Workplace programmes (e.g. Anglo-American, Daimler-Chrysler), often supplemented with donor funds, have pioneered ART provision in SA. In late 2004 it was estimated that approximately 45 000 people were receiving treatment through various private sector channels (e.g. medical schemes; employer assisted programmes).⁴⁹ ART is now a prescribed minimum benefit through medical aids schemes.

Obtaining data on the private sector remains a challenge as there is no central authority to collect data on a regular basis and reporting is haphazard and likely to be inaccurate. Despite this the skills, resources and experience within the private sector are invaluable and should be drawn upon and recognised as part of the overall health care system. Opportunities for possible synergies between the public and private sectors should be fully explored.

Community involvement

A 2003 World Bank report, based on a survey of experience in distributing ARVs in developing countries, identified active community involvement as a key component of a successful ART programme.⁵⁰ In Khayelitsha community activism has been essential to the success of the programme.¹² While there is no prerequisite for ART sites to ensure that there is a

functional relationship with the community (e.g. a Community Health Committee) such a strategy may be useful in building community participation and empowerment, while enhancing the perceived legitimacy of decisions made which affect access to treatment.

Treatment literacy advocates and adherence supporters to assist people in gaining access to disability grants and treatment, add value to the work of the public sector and should be welcomed. Preliminary findings from work done by the HST in KwaZulu-Natal and the Eastern Cape shows that strong communication between community and health facility can assist in improving service delivery.⁵¹

The decentralised approach required for ART and the need for an inclusive approach of community based organisations, home based care, and the involvement of traditional healers requires vastly improved referral systems to ensure that treatment and support occurs beyond the facility walls. The value of adherence supporters has been emphasised in Botswana, Malawi²⁹ and Khayelitsha¹² in the Western Cape.

Integration of ART and PHC services and intervention imbalances

Currently there is minimal integration of ART with PHC services. The focus on increasing patient numbers has led to a largely vertical programme implementation. Concern has been expressed that the staffing of the ART programme has been at the expense of other equally important PHC programmes. In the long term, as the ARV programme is cascaded to clinics, it will be essential to integrate the ARV programme into general PHC services. This will ensure that there is no duplication and that overlaps between different components of PHC are avoided. For example, up to 60% of patients with Sexually Transmitted Infections (STIs) have HIV.⁵²

Preventative health care remains the most cost-effective approach to HIV management and the national DoH has made it abundantly clear that its primary task is to prevent new infections. This has been clearly spelt out in the Operational Plan where prevention is considered a key pillar. However, because of the considerable pressures to increase treatment, there is therefore a risk of an imbalance in resource allocation and excessive focus on the treatment side at the expense of prevention.

Integration of HIV and TB

The relationship between HIV and TB has been well documented. One third of all people with HIV have TB co-infection and 70% of TB cases are HIV positive.⁵³ It has been documented that the incidence of TB doubles within the first year of HIV infection and that the risk increases in future years.⁵⁴

The delivery of TB and HIV services in the same place at the same time has been shown to increase patient adherence, improve the outcomes of treatment, increase the efficiency of the service delivered and focus future efforts on real needs.⁵⁵ In the table below, the advantages of HIV/TB collaboration for TB and HIV patients, as well as the health services, are described in more detail.³⁴

Table 5: Objectives of HIV/TB collaboration³⁴

For HIV patients	<ul style="list-style-type: none"> ✧ To have easier access to TB diagnosis and treatment ✧ To ensure early diagnosis and treatment of TB ✧ To benefit from existing TB and HIV services (e.g. Community services)
For TB patients	<ul style="list-style-type: none"> ✧ To encourage VCT among TB clients ✧ To accelerate access to ART for TB/HIV co-infected ✧ To reduce TB incidence among HIV patients ✧ To ensure early diagnosis and treatment of TB ✧ To increase TB adherence and cure rates
For health services	<ul style="list-style-type: none"> ✧ To integrate monitoring ✧ To pool TB and HIV staff and integrate training ✧ To improve staff morale

Source: IUATLD Conference: Paris, 2004

The Operational Plan makes specific mention of ensuring that there is an integrated approach to TB and HIV, as patients are commonly dually infected. The national DoH, with funding from the Belgium government, has a national project which aims at ensuring that all TB patients are tested for HIV. This project also aims at ensuring that all HIV+ patients have their TB status checked. If infected they are treated and if not infected they are offered prophylactic treatment.^e

^e Personal communications: Dr Nhlapo Vilakazi, National DoH (28/7/2005)

ART and hospital services

In the Free State the need to integrate ART with hospital services has been highlighted. Although health professionals had been prioritised and trained in ART, initially general (non ART) hospital staff had not been trained in how to deal with patients who are on ART. In addition, patients face problems in adhering to ART within the hospital environment. These problems are aggravated at hospitals which are not yet ART sites, and therefore have no ART teams on which they can rely for assistance, but they also occur at hospitals which are treatment sites. Hospital staff need to be informed about ART, the different regimens, how to identify and manage the side effects of ARV as well as how to integrate ART with ward procedures. As the ART programme becomes more part of the mainstream with more facilities accredited providers, these problems are likely to be overcome.

Saturation of sites

Although considerable money has been allocated to the delivery of ART in SA, currently there is insufficient capacity to treat everyone in need. A number of ART sites have reached saturation level with their present human resource capacity, and are struggling to expand their services to include all patients enrolled on their waiting lists.^{24,36} The rationing of treatment services is therefore inevitable. Currently this rationing is indirect and implicitly favour those who are informed, can afford treatment, are in proximity to facilities or have the time to sit in long queues. In some instances, clinicians are forced to make choices as to who can or cannot receive treatment, decisions they are ill-equipped to handle. Implicit rationing is likely to increase the inequity in provision of, and access to, services, while undercutting the potential societal benefits of the programme.

Deliberate or explicit rationing of services will allow the specific allocation of services to particular groups, such as health workers, women, children or other vulnerable groups as designated. While the choices made through a process of explicit rationing are contentious they may allow the targeting of scarce resources in a transparent and rational manner. The choices and assumptions, in terms of service rationing are therefore of utmost concern.⁵⁶ This debate needs to be open and informed through an improved understanding of the options available.

Conclusions

Following the release of the Operational Plan, substantial progress has been made in the accreditation of sites and patients being initiated onto ART. By the 31 March 2005, the national DoH announced that all 53 districts in the country had at least one accredited public sector site, while a total of 122 sites had been accredited nationally. Accurate patient figures remain elusive but estimates of patients on ART across all sectors in SA appear to be somewhere in the vicinity of 100 000 people (12-13%) of those in need.

This is an improvement on previous years, and progress has probably been swifter than in any comparable country. Individual patient benefits are increasingly evident.

The implementation of the Operational Plan has highlighted some weaknesses with the current approach to ARV delivery and with the support systems. Concerns have been raised over early signs that general PHC systems are not being strengthened through the narrow focus on ART as a vertical programme.

The first round of establishing initial sites has been completed. This is a significant step forward. However, sustaining growth within the programme, while ensuring that existing weaknesses in the health system and inequities are not worsened, will prove to be the next major challenge to be faced.^{24,36}

Recommendations

Human resources

Human resources remain the single most critical input to strengthen the health system as a whole, thereby ensuring long-term sustainability in the ART programme. At the time of writing, a 'Strategic Framework for the Human Resources for Health Plan' (draft for discussion) was released by the national DoH. It is hoped that the Strategic Framework will assist in developing stronger relations between the private and public sectors, and create partnerships with civil society in an integrated PHC system.

Limited human resource capacity is the biggest constraining factor on further roll-out of the ART programme and must be addressed as soon as possible. In the short term, the limited scope of practice of many professional categories of health workers must be adapted so that other health workers can do the job and ART services extended to rural areas. Nurse based models of ART delivery must be explored and the

experiences of nurse based ART delivery, such as the MSF site in Khayelitsha, drawn upon.

The emotional and spiritual support of health workers at a number of the sites run by Faith Based Organisations (FBOs) is highly valued by staff and is thought to contribute to their retention. Public health managers need to acknowledge the value of support and ensure it is built into service delivery plans. It has also been shown in the Free State that the physical presence of provincial and district managers in visiting sites and being committed to resolving problems are of prime importance.

In the medium term, a human resource plan for the next ten years must be developed. The focus of this plan should be ensuring that there are sufficient human resources of various kinds, including mid-level workers and community based workers, to strengthen the PHC approach.

Partnerships

There has to be recognition of the numerous challenges thrown up by partnerships. Careful management is needed to ensure maximum benefit from partnerships to minimise potential pitfalls. Further work is needed to monitor donor funds coming into the country and how these are spent and to avoid fragmentation and duplication of implementation.

Criteria for donor funding should be drawn up to ensure the development of the whole health system and a proportion of donor grants should be committed to this development. The specific area of the health system needing development in a local area should be decided on by the local recipient of funds together with the funding agency.

Rationing

Provision of ART to all those who need it is not possible in the short or medium term. This needs to be acknowledged and there needs to be discussions around the rationing of services. A policy document arising out of this process would ensure the rational and informed allocation of services to specific target groups based on an open and transparent debate. This in turn could inform guidelines for those within the facilities to make informed and objective decisions.⁵⁶

Financing

The financial allocations for the ART programme are frequently touted as sufficient and non-problematic. However this view embodies a short-term and narrow approach to the provision of service. Given the extent of the HIV and AIDS pandemic in SA, long term planning (over the next 20 years) will be necessary to ensure adequate mobilisation and allocation of financial resources for the broader development of health services, of which ART is one of many components.⁵⁷ For more details see the chapter on Financing ART and PHC services in this Review.

Revision of the Operational Plan

One year after the start of implementation it appears that some of the standards and targets set in the Operational Plan are too ambitious and therefore probably unattainable. As a guiding document used to inform decision making processes at provincial and local level, it is essential that the Operational Plan itself is refined and updated to more accurately reflect the reality on the ground and to incorporate the findings and lessons of the first few years. In addition a framework which sets milestones, together with a detailed time table for achieving these, needs to be developed to guide future partnerships in the process of implementation.

Integration

The ART programme has to be integrated with PHC services. As increasing numbers of patients are placed on ART, all health workers will need to be informed about the ART programme so that they can manage patients holistically. All health workers need to be aware of high risk groups (e.g. TB patients) who should be encouraged to access HIV related services through VCT.

Monitoring and evaluation

Efforts to strengthen routine data collection and monitoring on the nationally determined set of indicators must continue. This is a priority activity so as to inform progress in the health system response to the epidemic and the impact of the Operational Plan. This may require that data is collected that satisfies the needs of clinicians as well as managers and policy makers. Ideally the same reporting mechanisms and indicators should be used by both the public and private sectors.

Appendix I

Accredited facilities for Comprehensive Plan for Management, Care and Treatment of HIV and AIDS				
Province	District	Facility	Status	Commencement Date
Eastern Cape (13)	Nelson Mandela Metro	Dora Nginza Hospital	Operational	15 May 2004
		Uitenhage Hospital	Operational	15 May 2004
		Livingstone Hospital	Ready	
	Amatoleng	Frere Hospital	Operational	15 May 2004
		Cecilia Makiwane Hospital	Operational	15 May 2004
	OR Tambo	Umtata General Hospital	Operational	15 May 2004
		St. Elizabeth Hospital	Operational	04 October 2004
		St. Lucy's Hospital	Operational	15 May 2004
	Alfred Nzo	Rietvlei Hospital	Operational	04 October 2004
	Ukhahlamba	Umlamli-Empilisweni Hospital	Operational	04 October 2004
	Chris Hani	Frontier Hospital	Operational	15 May 2004
	Cacadu	Settlers Hospital	Operational	15 May 2004
		Port Alfred Hospital	Ready	
Free State (5)	Motheo	National Hospital	Operational	28 June 2004
	Lejweleputswa	Bongani Hospital	Operational	03 May 2004
	Thabo Mofutsanyana	Mofumahadi Manapo Mopeli Hospital	Operational	10 August 2004
	Xhariep	Bophelong CHC	Ready	
	Northern Free State	Metsimaholo Hospital	Operational	01 November 2004

Accredited facilities for Comprehensive Plan for Management, Care and Treatment of HIV and AIDS

Province	District	Facility	Status	Commencement Date
Gauteng (22)	Johannesburg Metro	Helen Joseph Hospital	Operational	01 April 2004
		Coronation Hospital	Operational	01 April 2004
		Discoverer CHC	Operational	
		Johannesburg Hospital	Operational	01 April 2004
		Hillbrow CHC	Operational	04 October 2004
		Chris Hani-Baragwanath Hospital	Operational	01 April 2004
		Zola CHC	Operational	04 October 2004
		Lillian Ngoyi Clinic	Operational	04 October 2004
	West Rand	Leratong Hospital	Operational	01 April 2004
		Carletonville Hospital	Operational	18 October 2004
		Khutsong Main Clinic (CHC)	Ready	March 2005
	Ekurhuleni	Natalspruit Hospital	Operational	01 June 2004
		Thembisa Hospital	Operational	01 June 2004
		Far East Rand Hospital	Operational	01 June 2004
		Daveyton Main Clinic (CHC)	Ready	
	Sedibeng	Kopanong Hospital	Operational	01 June 2004
		Sebokeng Hospital	Operational	04 October 2004
		Empilisweni CHC	Operational	04 October 2004
	Tshwane / Metsweding	Pretoria Academic Hospital	Operational	June 2004
		Kalafong Hospital	Operational	April 2004
Laudium CHC		Ready	To start 01 April 2005	
Dr. George Mukhari Hospital		Operational	June 2004	

Accredited facilities for Comprehensive Plan for Management, Care and Treatment of HIV and AIDS

Province	District	Facility	Status	Commencement Date
KwaZulu-Natal (32)	eThekweni	King Edward VIII Hospital	Operational	April 2004
		RK Khan Hospital	Operational	July 2004
		Prince Mshiyeni Hospital	Operational	July 2004
		Addington Hospital	Operational	April 2004
		Mahatma Gandhi Hospital	Operational	July 2004
	Umgungundlovu	Greys Hospital	Operational	July 2004
		Northdale Hospital	Operational	July 2004
		Edendale Hospital	Operational	July 2004
	Amajuba	Madadeni Hospital	Operational	July 2004
		Newcastle Hospital	Operational	July 2004
	Umzinyathi	Church of Scotland Hospital	Operational	April 2004
		CJ Memorial Hospital	Operational	July 2004
		Dundee Hospital	Operational	July 2004
	Ilembe	Stanger Hospital	Operational	May 2004
	Uthungulu	Ngwelezane Hospital	Operational	April 2004
		Lower Umfolozi Memorial Hospital	Operational	July 2004
	Umkhanyakude	Mseleni Hospital	Operational	July 2004
		Hlabisa Hospital	Operational	July 2004
		Bethesda Hospital	Operational	July 2004
		Manguzi Hospital	Operational	July 2004
		Mosvold Hospital	Operational	July 2004
	Uthukela	Ladysmith Hospital	Operational	July 2004
		Estcourt Hospital	Operational	July 2004
	Zululand	Benedictine Hospital	Operational	April 2004
		Nkonjeni Hospital	Operational	July 2004
		Vryheid Hospital	Operational	October 2004
	Ugu	Murchison Hospital	Operational	July 2004
		CJ Crookes Hospital	Operational	July 2004
		Port Shepstone Hospital	Operational	July 2004
	Sisonke	Christ the King Hospital	Operational	July 2004
		St. Apollonaris Hospital	Operational	July 2004
		Kokstad (EG Usher Memorial) Hospital	Operational	April 2004

Accredited facilities for Comprehensive Plan for Management, Care and Treatment of HIV and AIDS

Province	District	Facility	Status	Commencement Date
Limpopo (8)	Capricorn	Polokwane Hospital	Operational	20 September 2004
		Mankweng Hospital	Operational	06 August 2004
	Vhembe	Tshilidzini Hospital	Operational	20 September 2004
		Siloam Hospital	Operational	20 September 2004
	Mopani	Letaba Hospital	Operational	20 September, 2004
	Bohlabela	Mapulaneng Hospital	Operational	20 September 2004
	Sekhukhune	St. Ritas Hospital	Operational	20 September 2004
	Waterberg	Mokopane Hospital	Operational	20 September 2004
Mpumalanga (12)	Gert Sibande	Evander Hospital	Operational	August 2004
		Embhuleni Hospital	Operational	August 2004
		Piet Retief Hospital	Ready	To start in May 2005
		Bethal Hospital	Ready	01 November 2004
	Ehlanzeni	Rob Ferreira Hospital	Ready	01 November 2004
		Tonga Hospital	Ready	To start in June 2005
		Shongwe Hospital	Operational	August 2004
		Themba Hospital	Operational	August 2004
	Nkangala	Philadelphia Hospital	Operational	August 2004
		KwaMhlanga Hospital	Ready	To start in May 2005
		Mmamethlake Hospital	Ready	To start in May 2005
		Witbank Hospital	Operational	August 2004
Northern Cape (5)	Frances Baard	Kimberley Hospital	Operational	26 July 2004
	Kgalagadi	Kuruman Hospital	Ready	accredited on 30 March. 2005
	Namaqua	Springbok Hospital	Operational	26 July 2004
	Karoo	De Aar CHC	Operational	26 July 2004
	Siyanda	Gordonia Hospital	Operational	26 July 2004
North West (4)	Southern	Klerksdorp / Tshepong Hospital Complex	Operational	21 June 2004
	Central	Mafikeng / Bophelong Hospital Complex	Operational	16 June 2004
	Bojanala	Rustenburg Hospital	Operational	22 June 2004
	Bophirima	Taung Hospital	Operational	01 November 2004

Accredited facilities for Comprehensive Plan for Management, Care and Treatment of HIV and AIDS

Province	District	Facility	Status	Commencement Date
Western Cape (21)	Metro	Khayelitsha Site B	Operational	
		Michael Mapongwana Clinic	Operational	
		Nolungile Clinic	Operational	
		Gugulethu Clinic	Operational	
		Tygerberg Hospital	Operational	
		Groote Schuur Hospital	Operational	
		Red Cross Memorial Children's Hospital	Operational	
		GF Jooste Hospital	Operational	
		Langa Washington Road Clinic	Operational	
		Hout Bay Main Road Clinic	Operational	
		Masiphumelelo Clinic	Operational	
		Westfleur Hospital	Operational	
		Victoria Hospital	Operational	
		Hottentots Holland Hospital	Operational	
		Mitchells Plain CHC	Operational	
	Central Karoo	Beaufort West Hospital	Operational	
	West Coast	Vredenburg Hospital	Operational	
	Garden Route	George Hospital	Operational	
	Boland / Overberg	Hermanus Hospital	Operational	
		Worcester (Eben Donges) Hospital	Operational	
		Paarl (TC Newman) Hospital	Operational	

Total Accredited = 122

Source: National DoH March 2005

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Indicators

Chapter 17 **Health and Related Indicators**