

SECTION SIX

MANAGEMENT AND BUDGET

CHAPTER XV: PROGRAMME MANAGEMENT **227 – 236**

CHAPTER XV1: BUDGET **237 - 258**

Chapter XV

Programme Management

The Importance of Effective Management

The comprehensive HIV and AIDS Care and Treatment Programme will require energetic and disciplined management. A large number of people must complete tasks and their work must be integrated together in a timely fashion for the programme to succeed.

This will be particularly important in the first few years of the programme. A management failure to execute one part of the plan could jeopardize the execution of all parts. Health professionals can be trained, facilities upgraded for treatment, patient information systems ready to go, but if the capacity to administer CD4 tests is not ready, or one of the necessary ARV drugs is not delivered on time, the whole programme can be delayed. This may occur if any of the multiple essential elements of the plan are not executed efficiently.

This operational plan is designed so that patients will not be put in jeopardy through management failure. Facilities will not be allowed to administer antiretroviral drugs until they are accredited as ready and their staff are properly trained. Drugs will not be made available until they are properly tested and can be securely distributed. Patients will not be given drugs until they are counselled, tested and have community support structures in place to assist them. However, the programme could suffer serious delays, waste significant resources and cause considerable disruption to the nation's health care system if not managed properly.

The management annex of this plan (Annex A.2) details the tasks that need to be performed to implement this programme successfully. This annex also proposes a week-by-week initial schedule for the performance of those tasks in order to help ensure that the various actions necessary for successful implementation occur in tandem. This annex has been computerized and will serve as a tool for management of the project. It will require

continual revision and updating as the project proceeds, but will provide a way to keep managers at all levels working from the same management plan.

Programme Management Principles

There are a number of principles that will guide the management of this programme.

1. Though it will involve a significant increase in health spending, this programme will not create a parallel health system in the country. It will be integrated into the existing management of the national health system.
2. The programme will be integrated closely with the existing health programmes across a broad spectrum, including HIV, AIDS, STI and TB management. In particular, this comprehensive care and treatment programme will integrate with prevention and education programmes.
3. The programme will be coordinated within a national framework to ensure uniform quality, an equitable implementation and efficiencies that can come with scale of operation. However, provinces and health districts will be responsible for on-the-ground implementation.
4. Programme managers will utilise, where appropriate, partnerships between the public and private sector to enhance the effectiveness of the programme's management.
5. The national Department of Health will provide assistance to provinces as required to ensure effective implementation of the programme.

Management Structure

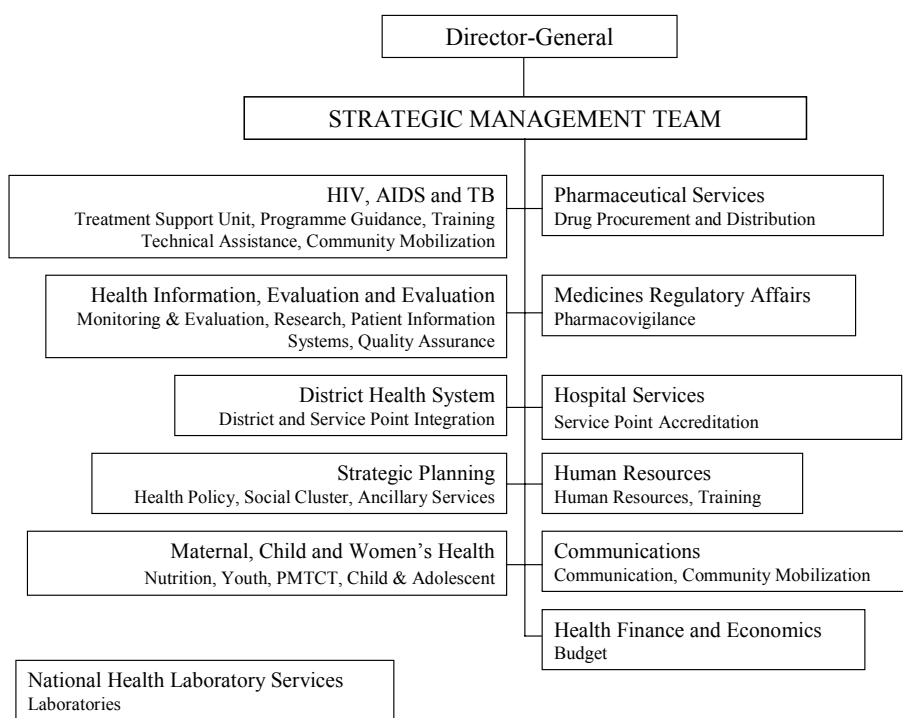
Management of the programme will ultimately be the responsibility of both national and provincial authorities. Some tasks such as procurement and distribution of drugs, laboratory testing, organization of research, pharmacovigilance, information systems and monitoring and evaluation will be managed nationally. Other tasks such as oversight of care and treatment protocols, human resource development and training and certification

of facilities will be implemented locally under frameworks and accreditation established nationally. Still other activities such as mobilisation of community support groups will be coordinated at the provincial level.

National Management

At the national level, the coordination of this programme will be through the existing Strategic Management Team (SMT). The SMT consists of all Cluster Managers in the Department of Health, and is chaired by the Director-General (see Figure 15.1). The SMT already meets on a bi-weekly basis, and this platform will be used to drive implementation, with guidance from the HIV, AIDS and TB Cluster.

Figure 15.1: Strategic Management Team

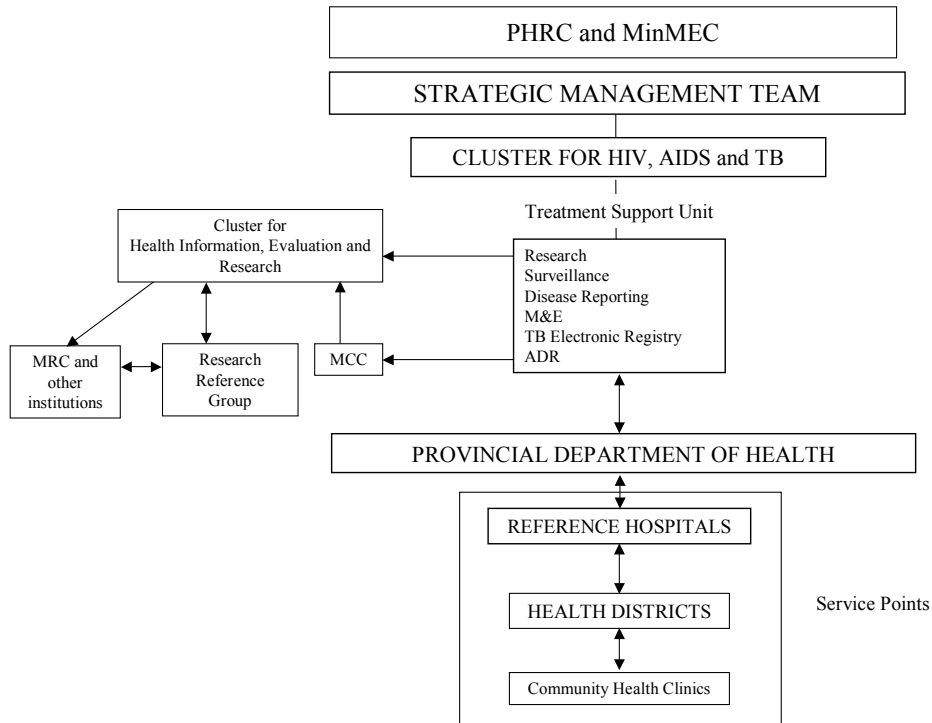


The Clusters that constitute the Strategic Management Team will require additional resources, both human and financial, to implement the various functions contained within the programme. These requirements are planned for in the budget.

The work of the SMT will be informed by a dynamic flow of information between provincial Health Departments and the national Department of Health (see Figure 15.2). Systems already in place will be vital to the quick identification of emerging issues that require attention and a rapid response. Information from service points at the community level, received and managed at the health district level, will capture critical clinical and programme-level issues involved with delivery of the programme. The health districts and tertiary level/reference hospitals are in turn closely interfaced with provincial Health Departments, with reporting relationships that broadly inform programme planning, management and budget activities.

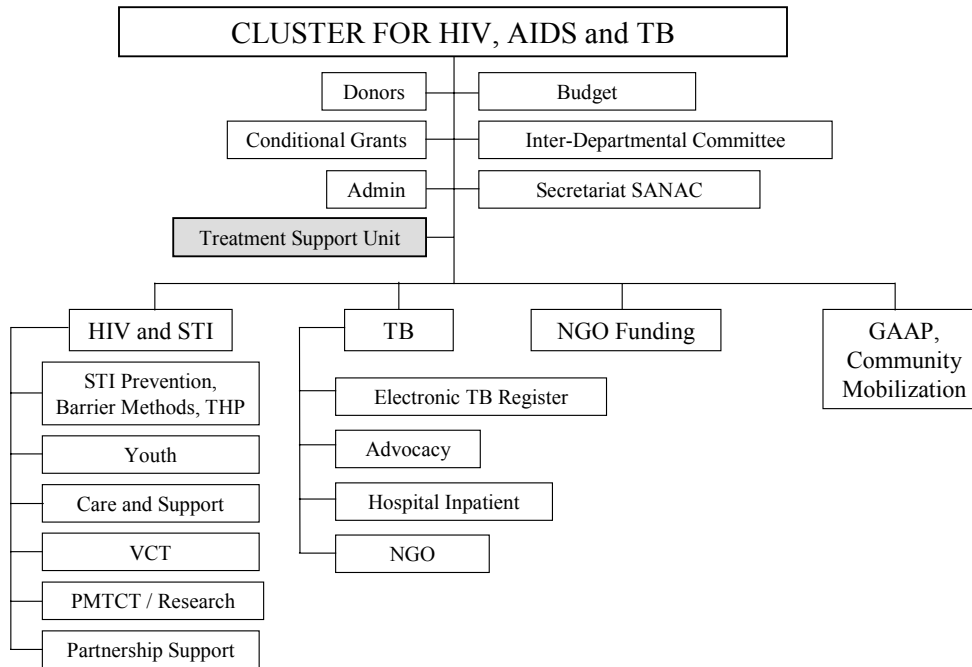
The SMT will report to the PHRC and MinMEC on the progress of implementation. Disease reporting, routine surveillance and a resistance surveillance system, and monitoring and evaluation data will continue to be reported to the Health Information, Evaluation and Research Cluster. Reports of adverse drug reactions will be directed to the pharmacovigilance programme of the Medicines Control Council for further evaluation. Health systems, behavioural and clinical research studies will also be enhanced by the wealth of data that will come forward to the Health Information, Evaluation and Research Cluster from multiple levels of the public health system.

Figure 15.2: Information Flow



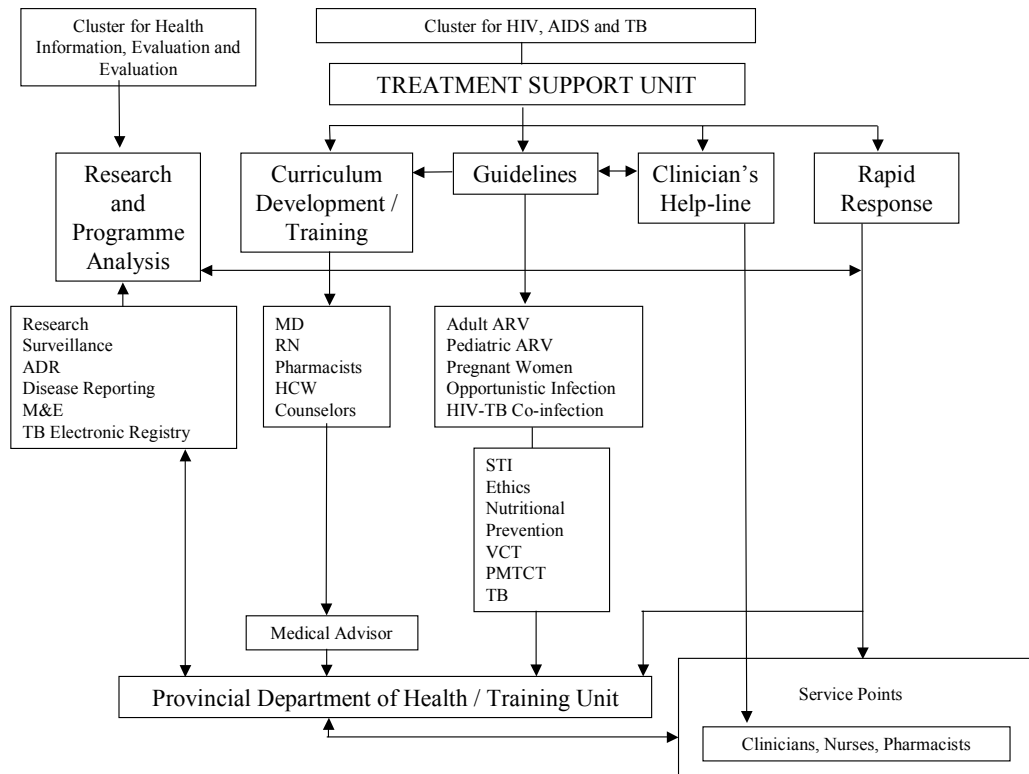
Within the SMT, the Cluster for HIV, AIDS and TB will continue to serve as a focal point for the oversight of HIV, AIDS, STI and TB programmes. Current programmes under the Cluster form the fabric of the national response to HIV and AIDS, to which treatment with antiretrovirals will now be added (see Figure 15.3). The Cluster also includes the Secretariat for the South African National AIDS Council (SANAC) and the Inter-Departmental Committee, which have important roles in informing and coordinating policies and programmes that respond to HIV and AIDS. The Department of Health also has a direct relationship with the Social Cluster to ensure effective information flow and coordination with other government departments.

Figure 15.3: Cluster: HIV, AIDS and TB – Office Structure



Additional responsibilities will be required to strengthen the Cluster in the implementation of this programme, including the establishment of a Treatment Support Unit in the Cluster to oversee the new functions (see Figure 15.4):

Figure 15.4: Treatment Support Unit



Guidelines Review and Development: The current Care and Support sub-directorate within the HIV, AIDS and TB Cluster will need to be strengthened to define and regularly update treatment guidelines for the management of HIV, AIDS, TB and STIs. These will include guidelines for the use of ARVs in adults, adolescents and pregnant women; use of ARVs in paediatric HIV infection; prophylaxis and treatment of opportunistic infections; and use of ARVs in patients with HIV and TB co-infection. In addition, this sub-directorate will need to convene expert panels of HIV specialists and researchers from within South Africa to regularly review and evaluate new clinical information related to the treatment of HIV infection.

Curriculum Development and Training: The Cluster will have responsibility for reviewing national curricula and training materials that have been developed on the treatment and care of HIV, STIs and TB, and develop new training modules on ARV therapy management. Specific curricula for clinicians, nurses, pharmacists, nutritionists, counsellors and community health workers will need to be developed, along with

continuous professional development programmes to update and reinforce the knowledge and skills acquired. These educational materials will be the basis for training programmes used to certify clinicians and train other health care professionals as part of the requirements for accreditation of service points. The Cluster will also have to provide ongoing support and technical assistance to provinces as they develop and implement training centres and provincial training plans.

Clinical HIV Treatment Helpline: A clinical consultation phone line will be established to assist health care workers involved in HIV and AIDS care and treatment, including clinicians, nurses and pharmacists, address clinical questions related to patient care. Staffing of the Helpline will be coordinated within the Cluster, in consultation with national and international experts in HIV care.

Rapid Response Capability: A rapid response technical assistance capability will be put in place within the Cluster to address emerging problems that cover the breadth of care and treatment programme issues that may arise in the course of implementation. The information pathway from service points through the district and provincial level can bring problems rapidly to the attention of the office of the Cluster, where the Cluster can quickly draw on a faculty of experts from around the country to help define the problem and the solution. This ability to mobilize and intervene early can preclude the development of adverse outcomes.

Provincial Management

The implementation of the national HIV and AIDS care and treatment programme within existing programmes and service points will be directed by the provincial Health Departments. Each provincial government will need to integrate within its management structure a defined capacity to oversee and monitor all aspects of the delivery of HIV-related care and treatment services, as part of broader health care services. This would include oversight of human resource development, training, and community mobilisation and communication activities, in addition to clinical services. A medical advisor will need to be made available to each province to assist in developing and carrying out training activities and mentoring support, with an immediate focus on those clinical staff serving in proposed initial service points. Provinces will also require ongoing technical assistance

and support from the SMT as they implement the accreditation process and address crosscutting issues, such as laboratory and pharmacy systems, that require national leadership.

To begin implementing the programme quickly, a number of people could be hired on a temporary basis to initiate the programme while longer-term recruitment takes place.

The SMT will be responsible for overseeing the successful implementation of all aspects of the management plan. They will exercise programmatic control over expenditures associated with the programme and will ultimately be responsible for its success.

Public-Private Cooperation

This programme is designed for implementation in the public sector. However, just as HIV does not observe national borders, the virus does not distinguish between those South Africans who utilise the public health system and those who have private insurance and use private clinicians and hospitals.

HIV and AIDS are national problems that require a coordinated national response. Though government will not directly oversee nor fund care and treatment for HIV and AIDS in the private sector, it should attempt to ensure that the standards it establishes for quality and accreditation in the public sector are replicated in the private sector. Similarly, the pharmacovigilance, monitoring and evaluation and research agendas should be coordinated with the private sector, to help ensure success of national AIDS treatment. Drug resistance can develop in private sector patients as easily as in those treated in the public sector.

Public-private cooperation will also be helpful for the implementation of the public sector programme itself. Private NGOs and companies can assist government with community mobilisation and support programmes, education and communications programmes, and programmes to integrate education and prevention with treatment and other health-promoting activities.

Finally, mechanisms that support contractual arrangements between public health facilities and health professionals and managers in the private sector may assist provincial health authorities to augment their human resource capabilities and facilitate a more rapid and successful implementation of the plan.

Management Review

The Strategic Management Team will ultimately be responsible for the accomplishment of the tasks defined in this plan and for revising both the plan's objectives and the management and task plan as necessary. The SMT should regularly publish reports on programme progress.

Chapter XVI

Budget

OVERVIEW

This chapter presents a national budget detailing the resource requirements for implementation of all aspects of the operational plan. It incorporates information on each dimension of the proposed comprehensive care and treatment plan, including provincial service delivery and infrastructure, procurement, system strengthening and programme management. These are combined to provide a uniform estimate of the resources required to support the comprehensive HIV and AIDS care and treatment plan over a five-year period.

BACKGROUND AND RATIONALE

The report of the Joint Health and Treasury Task Team (JHTTT) presented estimates of the likely cost of implementing a comprehensive care and treatment package to meet the specific health care needs of people with HIV and AIDS. The overall budget presented below can be compared directly with the total cost estimates presented in the JHTTT report for the “100% coverage / Best Prices” scenario. The development of the budget for the operational plan flows directly from this earlier work, but the Task Team has used a more detailed estimation of programme implementation and infrastructure strengthening requirements. The Task Team has also used updated price and cost data in several key areas where the situation has evolved.

The Task Team used the estimates of the underlying demand for AIDS care and treatment from the ASSA2000 model, as did the JHTTT. Based on these epidemiological estimates, ranges for patient demand and achievable treatment coverage have been discussed with provinces to form the basis for provincial planning. Models developed for use in the JHTTT (*GOALS SA* and related costing models) have then been used to evaluate the costs of nutritional supplementation and support, diagnostic testing and laboratory monitoring, and of treatment with antiretroviral drugs, based upon planning ranges for demand agreed with provinces. These models also incorporate all revisions and improvements to care

protocols. The staffing and infrastructure requirements presented in provincial plans have been analysed, and form the basis for a standardised and equitable approach to allocating resources for health system strengthening; this approach seeks to provide the resources required by all provinces to successfully implement the comprehensive HIV and AIDS care and Treatment plan, while also targeting additional resources to strengthen health systems in those provinces whose current resource base and capacity is relatively low. Resource estimates for national functions and activities have been developed on the basis of detailed assessment of plans for each component.

As described in the JHTTT report, there are a number of essential links between an expanded care and treatment programme and other aspects of HIV-related and general health care programmes, although these may operate and be budgeted for independently of the care and treatment programme. The JHTTT report noted the fundamental importance of maintaining and strengthening an effective HIV prevention programme, and that the availability of resources for prevention must not be compromised by the expansion of the care and treatment response. Similarly, the integrated care and treatment programme has organic links and inter-dependencies with programmes such as PMTCT, VCT, STIs, HBC, and the National Tuberculosis Control programme. However, all of these programmes will remain operationally distinct, and are therefore not included in the budget presented in this chapter. Standard treatment of opportunistic infections and complications of AIDS will also continue to take place in the wider primary health care and hospital system.

Over the last two years, substantial additional funds have been provided via the provincial Equitable Share and the HIV and AIDS Conditional Grant to cover the growing costs of AIDS care in hospital, primary health care and home-based care, and these already committed funds continue to grow over the MTEF period. The JHTTT report concluded that these funds were likely to be sufficient to cover the costs of non-antiretroviral care for people with AIDS (primarily treatment of opportunistic infections and palliative care) during the phase-in period of the comprehensive care and treatment plan.

While the budget presented below makes provision for substantial strengthening of staffing in the general health system, and of infrastructure specifically required to implement the integrated care and treatment plan, it does not address the issue of large-

scale physical facility upgrades or new builds for clinics or hospitals, as significant capital programmes exist already for this purpose.

Demand Estimates and General Assumptions

Underlying the general analysis of resource requirements is a set of estimates of the likely need for AIDS care and treatment across the population. These are based on the ASSA2000 model output for each province, excluding the proportion of persons who are members of medical aids (i.e. who do not require publicly funded health care). While Figure 16.1 shows how planned numbers of patients accessing antiretroviral therapy rise as a proportion of new AIDS cases, Table 16.1 below shows the number of new AIDS cases projected by province for the next five years.

Figure 16.1: New Patients Starting ARVs vs. New AIDS Cases Per Year.

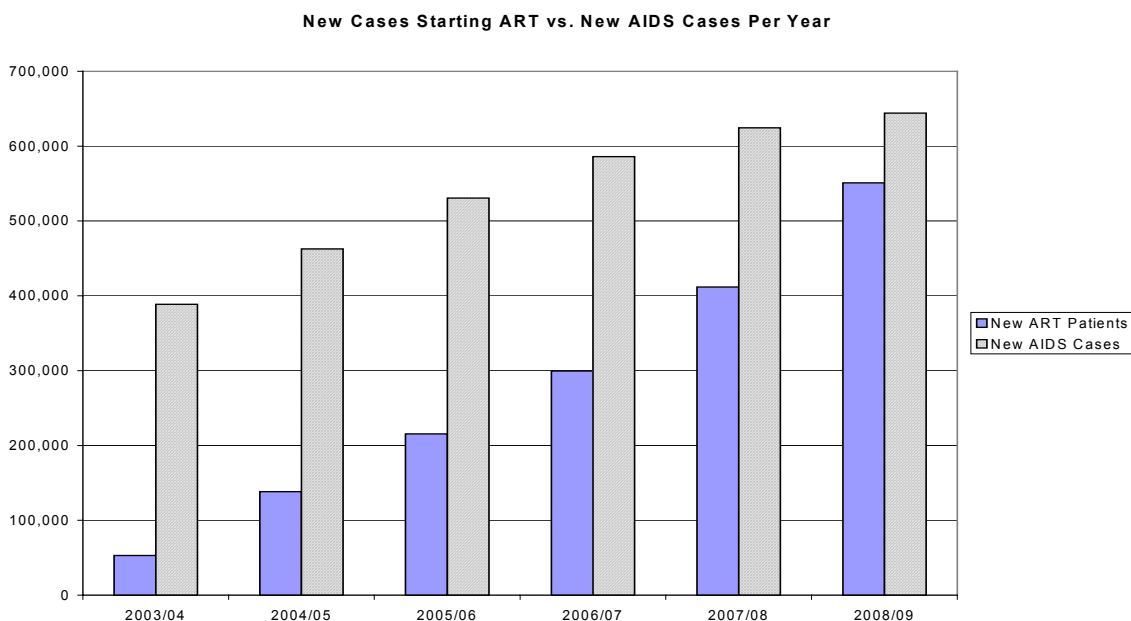


Table 16.1: Estimated New AIDS Cases by Province (excluding Medical Aid)

Province	2003	2004	2005	2006	2007
Eastern Cape	48,758	60,228	71,975	83,259	93,278
Free State	29,310	34,987	40,128	44,247	46,960
Gauteng	64,150	77,036	88,638	97,751	103,429
KwaZulu-Natal	124,511	144,430	160,930	172,311	177,547
Limpopo	34,823	42,507	50,190	57,311	63,296
Mpumalanga	38,670	44,649	49,673	53,336	55,403
Northern Cape	3,948	4,977	6,039	7,057	7,949
North West	36,155	43,545	50,421	56,106	60,079
Western Cape	8,376	10,482	12,664	14,803	16,779
South Africa	388,701	462,841	530,658	586,181	624,720

Note: These figures are not cumulative.

Over the planning period, the objective of the programme is to ensure that an increasing proportion of new AIDS patients are able to access antiretroviral treatment. As shown in the chart above, this proportion grows from zero (the current position) until 86% of new AIDS patients access ARV therapy by 2008/09. In nations that have been providing ARVs for many years, between two-thirds and three-quarters of patients estimated to be eligible for treatment actually participate in treatment. Therefore, this 86% figure is likely to prove more than full coverage. It is possible that a high percentage of people might choose to participate in the first five years of the programme, which could raise the cost of the programme in those years.

Based upon this estimate of underlying need, resource requirements have been calculated on the basis that the content of care and treatment protocols then drives resource utilisation. These requirements are described thematically in the sections that follow. All budget and cost estimations are presented in 2003 Rands.

Strengthening and Upgrading the Health System

A fundamental prerequisite to implementing this operational plan is ensuring the upgrading of the health system. At the core of improving the health system's capability is the need to ensure the availability of appropriate human resources, and to ensure that personnel are appropriately skilled and trained. Staffing requirements and training were addressed and costed in the JHTTT report, but more detailed cost estimates have been prepared as part of the process of developing this operational plan. Other necessary

system upgrades that require additional resources include the upgrading of pharmacies, patient information and monitoring systems, and the capabilities of the National Health Laboratory Service. Over the first five years of the integrated care and treatment plan, fully 36% of all expenditure will be devoted to strengthening the health system.

Staffing Requirements

As part of the development of their provincial plans, provinces submitted detailed proposals on their requirements for additional staffing to implement the integrated care and treatment plan. This encompassed health professionals, management personnel, counsellors and administrative support at all levels. Staffing requirements for programme management at the provincial level are addressed separately in the programme management section below. The Task Team analysed provincial plans and developed a standardised approach to estimate staff requirements. The Task Team determined the numbers of health professionals and supporting staff required per site for initial implementation and then used staff:patient ratio models for subsequent years. In order to ensure that provinces with low healthcare staff:population ratios receive targeted additional support, a weighting factor was applied to estimates of staff requirements. This weighting factor is based on the distance of each province from the national mean staff:population ratio for a set of key health professionals (medical officers and specialists, pharmacists, nurses and dieticians). Provinces below the national mean receive enhanced funding for key posts, while provinces above the mean receive proportionately less funding (reflecting the fact that a limited proportion of increased treatment workload can be met from their proportionately larger pool of existing staff). This weighting factor therefore serves to improve inter-provincial equity; enhance the capacity of poorer provinces to move ahead with implementation; and enhance the multiplier effect of the programme to benefit general health services in poorer provinces.

Funding requirements for additional staff have been calculated based on estimates of recruitment lead times. New staff hired at the beginning of the programme are assumed to be in post by February 2004; new staff joining the programme in FY 2004/05 are estimated to be in post on average by June 2004. In all subsequent years, full year funding for new staff has been provided for. Based on this approach, the estimated budget

required for the employment of additional staff to implement the integrated care and treatment plan is as follows (Table 16.2):

Table 16.2: Total Additional Staffing Costs (Millions of Rand)

Province	2003/04	2004/05	2005/06	2006/07	2007/08
Eastern Cape	2.5	40.0	55.5	97.2	159.9
Free State	1.3	21.3	28.3	40.4	62.5
Gauteng	2.7	46.5	61.9	79.4	106.5
KwaZulu-Natal	6.2	108.0	143.9	208.9	320.7
Limpopo	1.9	38.0	48.5	81.5	131.9
Mpumalanga	2.3	31.1	41.8	69.3	108.1
Northern Cape	1.2	4.5	6.0	8.2	13.0
North West	1.4	24.7	35.8	63.1	101.7
Western Cape	1.2	8.1	10.8	14.1	22.4
Total	20.7	322.2	432.4	661.9	1,026.7

Table 16.3 summarises the cumulative number of additional staff by category:

Table 16.3: Total Additional Staff (FTEs) to be Recruited

Employees	To March 04	April 04- March 05	April 05- March 08
Medical Officers	76	272	725
Professional Nurses	228	816	2,175
Enrolled Nurses	152	544	1,450
Assistant Nurses	152	544	1,450
Pharmacists	76	272	363
Pharmacist Assistants	76	272	363
Dieticians/Nutritionists	76	136	363
Social Workers	38	136	363
Counsellors	760	2,720	5,800
Admin Clerks	152	544	1,450
Total	1,786	6,256	14,500

Provinces will have discretion in the use of funds to procure additional staff inputs to support the programme; funds earmarked for expanding human resources may be used in any of the following ways:

- Employment of new staff
- Funding of community service personnel deployed to support the programme
- Overtime payments for health professionals already in post

- Contracting with private practitioners who have successfully met the programme's training and certification requirements
- Recruitment of foreign doctors

Upgrading Facilities and Pharmacies

While the implementation of the HIV and AIDS care and treatment plan will not require any significant new building or major upgrades to the physical infrastructure of health facilities, there will be a need for minor works and improvements at many sites and some procurement of capital equipment. In particular, many pharmacies are likely to require improved physical security measures and provision of secure storage space. Provincial capital planning is at a preliminary stage only, and most provinces are not yet able to provide detailed plans at facility level. Therefore, the Task Team proposes to hold a capital budget at national level, against which provinces will be able to bid for eligible upgrading projects. This mechanism will actively support provinces with poorer facility infrastructure and project management capacity to develop and execute project proposals. This capital fund will require R10 million in 2003/04, R75 million in 2004/05, and R100 million per year for the two succeeding years, after which point major capital upgrading should no longer be necessary.

Upgrading Patient Information, Monitoring and Evaluation Systems

Strengthening patient information systems will be an important part of the successful management of the programme. Information system strengthening will improve patient care and provide the backbone of effective quality assurance, programme and adverse events monitoring, and will maximise the efficiency of ordering and procurement systems. The Task Team estimates that R20 million per year will be required for each full year of the plan to support strengthening of patient information, monitoring and evaluation systems.

Upgrading the National Health Laboratory Service

The National Health Laboratory Service will require R20 million in capital and development funding at the beginning of the programme, to procure essential diagnostic equipment and to train key personnel. In addition to these capital funding requirements, NHLS has indicated a need for an advance payment of R20 million to purchase reagents

and consumables in bulk as the programme commences. The cost of tests conducted would then be drawn down against this advance payment.

Maintaining Health After HIV Infection

The JHTTT Report considered in detail the services and interventions required to maintain good health in HIV-positive patients and to delay the onset of opportunistic infections and AIDS. The JHTTT report costed these requirements, and they are contained in the “Non-ARV” component funded via general health services. This plan focuses on two main elements requiring additional resources to maximise the health and healthy years of life attainable by people infected with HIV, namely:

- Nutritional support
- Diagnostic monitoring of CD4 counts

Nutritional Support and Supplementation

Two nutritional interventions have been included in the operational plan:

- Provision of food support (composite meals) for members of defined patient groups who are malnourished and do not have access to a secure food supply
- High dose vitamin supplementation for defined patient groups (HIV-positive pregnant women, people with active TB and/or TB-HIV co-infection, HIV-positive children under fourteen years)

Table 16.4 describes the four target groups and the interventions to be received by each:

Table 16.4: Nutritional Supplement Protocol

Target Group	Composite Meals	Micronutrient Supplementation
HIV-infected children under 14 years of age	Yes Assumes 10% of children likely to display growth failure	Yes Paediatric syrup
HIV-infected mothers enrolled in PMTCT	Yes Assumes 25% may be food insecure	Yes Capsules
Tuberculosis patients in TB programme	Yes Assumes 25% may be food insecure	Yes Capsules
People receiving antiretroviral therapy	Yes Assumes 25% may be food insecure	Not indicated in this patient group

The Task Team assumes that 25 percent of patients may require meal supplementation (based on recent food security surveys), at a monthly cost of R56.40 per person. Vitamin supplementation has been costed on the current prices of special formulations; for adults, a monthly supply of vitamin capsules costs R40, and a month's supply of paediatric syrup currently costs R60. The Task Team considers these prices excessively high. Implementation of the nutrition component should be preceded by intensive negotiation and creation of competitive conditions to achieve significant price reductions. Notwithstanding these issues, the total additional costs of the nutritional support component are as follows:

Table 16.5: Total Costs of Nutrition Support and Supplementation

Years	R-Millions
2003/04	63
2004/05	343
2005/06	421
2006/07	532
2007/08	656
2008/09	798

Diagnostic Monitoring Following Diagnosis of HIV Infection

Once a person has been identified as HIV-positive, he or she should enrol in a high-quality care programme in order to receive appropriate advice on healthy living, prophylaxis against common opportunistic infections, and routine monitoring of health status. This

will also allow timely commencement of antiretroviral therapy when required. The revised treatment protocol recommends that this diagnostic monitoring incorporate routine measurement of CD4 count. In HIV-positive but asymptomatic individuals presenting to the care programme, CD4 count will be measured annually in individuals with CD4 >500. In those in whom CD4 count has fallen below 500, this would step up to six-monthly monitoring of CD4; once CD4 count falls below 200, antiretroviral treatment would commence. A one-third reduction in the price of CD4 testing has already been achieved since the finalisation of the JHTTT report. Numbers of patients presenting for care will be determined largely by the success of communication efforts and by the capacity of the VCT programme to provide initial diagnosis of HIV infection; clearly there is a degree of uncertainty surrounding the level of uptake which can be achieved. A relatively conservative scenario has therefore been used in which demand for diagnostic monitoring starts from a fairly small base, but over time assumes a majority of HIV-positive persons are enrolled in effective care programmes. The costs of laboratory diagnostic monitoring for this testing are as follows (Table 16.6):

Table 16.6: Cost of Diagnostic Monitoring of Asymptomatic HIV+ Patients

Years	R-Millions
2003/04	4
2004/05	45
2005/06	84
2006/07	126
2007/08	186
2008/09	249

Comprehensive Care and Treatment Plan

Implementation of the HIV and AIDS care and treatment plan, which includes the introduction of antiretroviral treatment, will require funding for two main elements: diagnostic monitoring of patients on therapy, and the antiretroviral drugs themselves. The additional staff described in Table 16.3 are adequate to support the care and treatment plan at the levels of coverage proposed. The treatment package will be supported by a major training effort, monitoring and evaluation, and research (the resource requirements of which are described below). Table 16.7 shows the total number of patients enrolled in the care programme by year, split between those who are receiving periodic CD4 counts, but

whose CD4 remains above 200, and those patients with CD4 <200 who will commence antiretroviral therapy.

Table 16.7: Total Patients Enrolled in Care Programme and ARV Treatment

Years	Patients CD4 >200	Patients on ARVs	Total in Programme
2003/04	212,000	53,000	265,000
2004/05	628,705	188,665	817,370
2005/06	1,078,446	381,177	1,459,623
2006/07	1,497,580	645,740	2,143,320
2007/08	2,167,834	1,001,534	3,169,368

The ultimate cost of care and treatment is a function of two cost drivers: the components of the care protocols in use, and the number of patients receiving care. The costs of care protocols are described below in detail. Estimates of patient demand (see Table 16.8 and Table 16.9) have been developed using the ASSA2000 model as a starting point for discussion with provinces; an upper and lower boundary for expanding coverage for each province was delineated (accounting for different levels of readiness and to accommodate the inherent uncertainty regarding patient uptake) to ensure that provinces will move within a reasonably consistent range to expand coverage, while allowing some degree of flexibility. Retaining flexibility within the programme budget to accommodate uncertain overall uptake levels and differential rates of progress between provinces will be of fundamental importance to the ultimate success of the programme. Proposed mechanisms to facilitate flexibility in budgeting are discussed later in this chapter. The budget for laboratory monitoring and antiretroviral treatment presented below is based upon the following estimates of uptake, based on provincial plans and target ranges as described above. The aim is to achieve universal coverage of new AIDS cases by the end of FY 2008/09 (excluding Medical Aid members).

The model used in the calculation of the budget factors in survival and mortality of people on ARV therapy. It also estimates the likely proportion of patients who will need to switch from regimen 1 to regimen 2 in any given year, assuming that, for every year spent on regimen 1, there will be a 24% probability that, by the end of that year, the patient will have switched to regimen 2.

Table 16.8: Planned Number of Patients on Antiretroviral Treatment

Years	New Cases Starting ARVs	Total Cases on ARVs
2003/04	53,000	53,000
2004/05	138,315	188,665
2005/06	215,689	381,177
2006/07	299,516	645,740
2007/08	411,889	1,001,534

Table 16.9: Expected Total Number of Cases on Antiretroviral Treatment by Province

Provinces	2003/04	2004/05	2005/06	2006/07	2007/08
Eastern Cape	2,750	15,626	38,826	72,411	121,804
Free State	2,127	11,883	24,415	42,065	66,555
Gauteng	10,000	45,000	77,358	112,840	149,851
KwaZulu-Natal	24,902	74,208	202,057	353,600	496,584
Limpopo	6,965	21,494	41,479	72,150	116,419
Mpumalanga	1,934	10,767	26,782	48,105	77,061
Northern Cape	790	2,492	4,907	8,698	14,282
North West	1,808	10,426	26,744	49,289	80,890
Western Cape	2,728	5,728	11,072	21,084	37,078

Note: These figures total to a slightly higher number in each year than those in Table 16.8, based on slightly different assumptions in some provinces on the number of AIDS patients who will be eligible for the programme.

The total number of planned cases on treatment falls within the range of likely total ARV cases estimated in the JHTTT report “100% Coverage” scenario, namely between 918,000 and 1,200,000 cases by 2007/08.

Laboratory Monitoring for Antiretroviral Therapy

The revised care and treatment protocol for diagnostic monitoring of patients on ARVs has been costed using revised prices negotiated with the National Health Laboratory Service. The costs per patient per year of the monitoring protocols accompanying each of the drug regimens are presented in Table 16.10a:

Table 16.10a: Laboratory Monitoring Costs of Each Regimen

Rands per patient/year	
Regimen 1 - efavirenz	820.00
Regimen 1 - nevirapine	926.68
Regimen 2	231.76

Infants aged below 18 months presenting with suspected AIDS will require an HIV p24 Antigen test (current cost R 52.63 per test) to determine their true HIV status, due to the risk that ELISA or rapid tests may react to residual maternal antibodies. Likely numbers of babies requiring treatment in this age group have been estimated with reference to the ASSA2000 model's one-year age-band projections. While the absolute number of babies projected to develop AIDS increases over time, the proportion of total AIDS cases in this age group actually declines, due to improved coverage of Prevention of Mother to Child Transmission services and the impact on fertility of HIV itself. It is assumed that, as coverage builds up, babies will present in proportion to the overall ratio of 0-18 month old cases to total cases. Using this assumption, the approximate number of 0-18 month olds requiring p24 Antigen testing will be as follows:

Table 16.10b: Laboratory Monitoring Costs for Infants Under 18 Months

	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09
Infants <18 months	3,825	8,382	11,203	13,656	16,913	20,924
Total Cost (R millions)	0.2	0.4	0.6	0.7	0.9	1.1

This cost is a small fraction (less than 1%) of the overall cost of laboratory monitoring. Thus, even if larger numbers of infants presented for care in the early stages of the programme, these costs would easily be accommodated within the overall amounts budgeted for laboratory monitoring.

Given the planned volume of patients on antiretroviral therapy, the total budget required for laboratory monitoring over the planning period is as follows (Table 16.11):

Table 16.11: Total Cost of Diagnostic Monitoring of Patients on ARVs

Years	R Millions
2003/04	13
2004/05	108
2005/06	227
2006/07	394
2007/08	620
2008/09	917

Antiretroviral Drugs

Very significant price reductions have been achieved through negotiations since the finalisation of the JHTTT report. Table 16.12 shows the prices that are currently available, those that should be negotiable in the first year of the programme, and the further reductions in price that will be negotiable by Year 5:

Table 16.12: Drug Prices per Patient per Year

Rands per patient/year	Current	Year 1	Year 5
Regimen 1 efavirenz	4,211.71	3,916.75	2,139.00
Regimen 1 nevirapine	1,473.13	1,405.85	1,078.13
Regimen 2	10,334.55	6,572.25	3,079.13

Drug costs for the first three months of the programme have been budgeted at current prices. However, there is a strong possibility that further reductions can be achieved even within this timeframe. Given planned volumes of patients on antiretroviral therapy, the total budget required for drugs will be as follows (Table 16.13):

Table 16.13: Total Drug Costs

Years	R Millions
2003/04	42
2004/05	369
2005/06	725
2006/07	1,118
2007/08	1,650

Programme Management

Successful implementation of all aspects of the integrated care and treatment plan will require additional programme management resources at both national and provincial levels.

National Strategic Management Team

The comprehensive care and treatment programme for HIV and AIDS will require an energetic and disciplined management team. A management failure to execute one part of the plan could jeopardise the execution of all parts. The funding requirements for additional resources at the national level is set out as follows:

- The establishment of a Treatment Support Unit within the Cluster HIV, AIDS and TB
- Strengthening of national Department of Health units providing direct support for the programme, such as drug procurement, pharmacovigilance, and monitoring and evaluation
- Task-specific funding required for successful oversight

Management Structure

Additional national DoH staff is required to support the implementation of the comprehensive care and treatment programme (Table 16.14):

Table 16.14: National Department of Health Additional Funding (Rand)

Requirements	2003/04	2004/05	2005/06	2006/07	2007/08
Personnel	1,300,000	5,100,000	5,100,000	5,100,000	5,100,000
Non-personnel	572,921	2,291,682	2,291,682	2,291,682	2,291,682
Total	1,872,921	7,391,682	7,391,682	7,391,682	7,391,682

Task-specific funding required for successful oversight

Additional funds must be added to carry out the following functions described in the operational plan:

- National care and treatment – encompassing activities such as protocol and guideline development, certification of sites, and provincial liaison.
- Training and human resource issues – development of teaching and training materials, conducting and coordinating training. In addition, in the early years a mentoring programme will ensure adequate support to health professionals.
- Drug procurement and distribution – added capacity required to deal with procurement and distribution together with the introduction of more sophisticated

mechanisms to track the distribution and enhance the security of drugs, especially ARVs.

- Pharmacovigilance programme – strengthening of national oversight of pharmacovigilance, specifically monitoring of resistance and adverse drug reactions, together with the establishment of two new research units to complement the existing unit in Cape Town.
- Patient information systems and monitoring and evaluation – enabling the tracking of patients through the system together with assessing outcomes of the programme requiring investment in IT infrastructure (hardware and software).
- Research – conducting a research programme that integrates different pieces of research to maintain a high quality programme but also to ensure that the policy direction of the programme is well guided.
- Communication – investment in infrastructure to ensure adequate and appropriate information is communicated to the public, including updating existing information and education programmes to include the benefits and risks of ARVs.
- Community mobilisation – targeted programmes with NGOs and CBOs to ensure that communities are informed of the benefits and roles that they can play in reducing infections, improving health outcomes and encouraging HIV testing.

The funding requirements to carry out these tasks and functions effectively are outlined in Tables 16.15 and 16.16 below. Table 16.16 further splits the costs of these tasks between recurrent elements and start-up and investment costs; the latter might be especially suitable for discrete funding by interested donors. The requirements to start the programme are R114m for the remainder of 2003/04, growing to R350m in 2007/08.

Table 16.15: National Programme Implementation and Health System Capability Upgrading Costs (Millions of Rands)

	2003/04	2004/05	2005/06	2006/07	2007/08
National Treatment and Care	3.0	5.0	5.0	5.0	5.0
Community Mobilisation	10.0	40.0	50.0	60.0	60.0
Training and HR					
Training	8.0	12.0	15.0	15.0	15.0
Mentoring	10.0	40.0	40.0		
Drug Procurement & Distribution	2.0	4.0	4.0	10.0	10.0
Pharmacovigilance					
National unit	2.5	5.0	5.0	5.0	5.0
University-based units	12.5	15.0	15.0	15.0	15.0
Patient Information (incl. M&E)					
Operational requirements	5.0	10.0	10.0	10.0	10.0
Infrastructure/equipment	5.0	10.0	10.0	10.0	10.0
Research					
NDoH priorities	14.0	20.0	20.0	13.0	13.0
General research	20.0	35.0	35.0	35.0	35.0
Communications	12.0	30.0	30.0	30.0	30.0
Total	104.0	226.0	239.0	208.0	208.0

Table 16.16: Split of Funding Requirements Between Recurrent and Start-up Investment for Health System Capability Upgrading (Millions of Rand)

	2003/04	2004/05	2005/06	2006/07	2007/08
National Treatment and Care	3.0	5.0	5.0	5.0	5.0
Recurrent	1.5	2.0	2.0	2.5	3.5
Start-up and Investment	1.5	3.0	3.0	2.5	1.5
Community Mobilisation	10.0	40.0	50.0	60.0	60.0
Recurrent	5.0	25.0	40.0	60.0	60.0
Start-up and Investment	5.0	15.0	10.0	0.0	0.0
Training and HR	18.0	52.0	55.0	15.0	15.0
Recurrent	2.0	7.0	7.0	7.0	9.0
Start-up and Investment	16.0	45.0	45.0	5.0	6.0
Drug Procurement and Distribution	2.0	4.0	4.0	10.0	10.0
Recurrent	0.0	2.0	2.0	2.0	2.0
Start-up and Investment	2.0	2.0	2.0	8.0	8.0
Pharmacovigilance	15.0	20.0	20.0	20.0	20.0
Recurrent	2.0	3.5	7.5	10.0	10.0
Start-up and Investment	13.0	16.5	12.5	10.0	10.0
Patient Information (incl. M&E)	10.0	20.0	20.0	20.0	20.0
Recurrent	2.5	10.0	10.0	10.0	10.0
Start-up and Investment	7.5	10.0	10.0	10.0	10.0
Research	34.0	55.0	55.0	48.0	48.0
Recurrent	14.0	20.0	20.0	20.0	20.0
Start-up and Investment	20.0	35.0	35.0	35.0	35.0
Communications	12.0	30.0	30.0	30.0	30.0
Recurrent	2.5	4.0	4.0	4.0	26.0
Start-up and Investment	9.5	26.0	26.0	26.0	4.0
Total	104.0	226.0	239.0	208.0	208.0
 Recurrent	30.8	78.6	97.6	120.6	145.6
 Start-up and Investment	73.2	147.4	141.4	87.4	62.4

Provincial Management Capacity

Each province will require additional staff to drive implementation successfully (Tables 16.17-16.19). Each provincial government will need to integrate within its management structure a defined capacity to oversee and monitor all aspects of the delivery of HIV-related care and treatment services, as part of broader health care services. This would include oversight of human resource development, training, and community mobilisation and communication activities in addition to clinical services. Detailed consideration was given to the needs of provinces, the pace of their planned implementation, and their

current levels of capability. All provinces have been allocated management and administrative support in relation to their planned number of sites. Provinces with more limited resources at present have also been allocated further staff to ensure that implementation can be driven forward effectively. All provinces have been allocated a non-staff budget to support day-to-day programme management activities, and to fund limited local communications activities.

Table 16.17: Provincial Programme Management–Personnel Budget (Rands)

Provinces	2003/04	2004/05	2005/06 onward
Eastern Cape	895,092	7,336,554	9,782,072
Free State	639,351	3,740,204	4,986,939
Gauteng	799,189	5,898,014	7,864,019
KwaZulu-Natal	1,118,864	7,336,554	9,782,072
Limpopo	895,092	7,336,554	9,782,072
Mpumalanga	895,092	5,898,014	7,864,019
Northern Cape	639,351	3,740,204	4,986,939
North West	735,254	7,336,554	9,782,072
Western Cape	799,189	5,178,744	6,904,992
Total	7,416,473	53,801,396	71,735,195

Table 16.18: Provincial Programme Management–Non-Personnel Budgets (Rands)

Provinces	2003/04	2004/05	2005/06 onward
Eastern Cape	723,773	3,834,139	4,445,518
Free State	659,838	2,935,051	3,246,735
Gauteng	699,797	3,474,504	3,966,005
KwaZulu-Natal	779,716	3,834,139	4,445,518
Limpopo	723,773	3,834,139	4,445,518
Mpumalanga	723,773	3,474,504	3,966,005
Northern Cape	659,838	2,935,051	3,246,735
North West	683,813	3,834,139	4,445,518
Western Cape	699,797	3,294,686	3,726,248
Total	6,354,118	31,450,349	35,933,799

Table 16.19: Total Provincial Programme Management Budget (Rands)

Provinces	2003/04	2004/05	2005/06 onwards
Eastern Cape	1,618,864	11,170,693	14,227,590
Free State	1,299,189	6,675,255	8,233,673
Gauteng	1,498,986	9,372,518	11,830,023
KwaZulu-Natal	1,898,581	11,170,693	14,227,590
Limpopo	1,618,864	11,170,693	14,227,590
Mpumalanga	1,618,864	9,372,518	11,830,023
Northern Cape	1,299,189	6,675,255	8,233,673
North West	1,419,067	11,170,693	14,227,590
Western Cape	1,498,986	8,473,430	10,631,240
Total	13,770,591	85,251,745	107,668,993

Summary of Budget Requirements

The total budget requirements for this programme are estimated below (Table 16.20).

Table 16.20: Total Programme Budget Estimate (Millions of Rands)

	2003/04	2004/05	2005/06	2006/07	2007/08
Service Staff	21	322	432	662	1,027
Laboratory Testing	20*	152	311	520	806
Antiretroviral Drugs	42	369	725	1,118	1,650
Nutrition	63	343	421	532	656
Health System Capability Upgrading	70	171	184	160	160
Programme Management (National and Provincial)	16	103	128	128	128
Capital Investment	30	75	100	100	0
Research	34	55	55	48	48
Total	296	1,590	2,358	3,268	4,474

* Includes R20 million advance payment to NHLS

Sensitivities

The Task Team sees the following sensitivities in its estimates. Savings are likely in the budget as laboratory costs are reduced through efficiencies and nutrition costs are reduced through more aggressive price negotiations. In the last two years of the budget, the Task Team assumes a higher proportion of the eligible people accessing ARVs than is typical internationally. In the first two and a half years, the Task Team assumes a gradual build up to the proportions (Table 16.1). If a higher proportion of eligible people access ARVs in the first few years, it is possible that the cost of the programme will be as much as 10%, or, in the extreme, 20% higher than in the budget summary during 2004/05 and 2005/06.

The budget is calculated and based on international tendering as the means of procuring drugs. Should this not be the route chosen, it must be noted that the drug cost component could rise and based on prices currently available in South Africa, this could increase by between 45-115%, depending on volumes of different combinations purchased.

Routing of Funds

Early discussions, including the Medium Term Expenditure Committee (MTEC) hearings with national departments, indicate that National Treasury has accepted the principle that programme funding:

- Must be additional to existing resources; and
- Would need to flow through direct NDoH transfers via a combination of conditional grants to provinces and direct national procurement of key inputs (e.g. drugs and laboratory services).

This would be required in the initial years of the programme to assure successful implementation and equitable provision across provinces, and to ensure steady progress is being made toward realization of provincial plans. Specific mechanisms for the routing of funds are presented below (Table 16.21):

Table 16.21: Funding Mechanisms for HIV and AIDS Care and Treatment

Programme	Funding Mechanism
Drug Procurement	Direct National Procurement
Drug Distribution	Conditional Grant
Laboratory Monitoring	Direct National Procurement
Nutrition Support	Conditional Grant
National Programme Management	Direct National Procurement
Provincial Programme Management	Conditional Grant
Regional Training Centres	Conditional Grant
Training	Direct National Procurement
Pharmacovigilance	Direct National Procurement
Medicines Regulation	Direct National Procurement
Additional Personnel – Health Facilities	Conditional Grant
Infrastructure – Health Facilities	Conditional Grant

Given the considerable uncertainties surrounding the levels of uptake and the pace of rollout, the funding arrangements for the programme will require considerable flexibility. In particular, two approaches will merit careful consideration.

- Significant funds should be held in reserve centrally to be reallocated in line with actual progress as implementation unfolds (a contingency reserve).
- There should be flexibility to roll over funds that are unspent due to slower-than-expected uptake and rollout.

Furthermore, any conditional grant funding will be designed to be as flexible as possible, and onerous or time-consuming administrative procedures will be avoided, while still ensuring that funds are spent against designated tasks and activities. The key determinant here will be adherence to the operational plans developed by each province, and demonstrated implementation progress against a set of key performance indicators.