

DRAFT for DISCUSSION

HIV/AIDS TREATMENT SCALE-UP PLAN
FOR
THE REPUBLIC OF SUDAN

2005 – 2009

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1 VISION AND TARGET

In line with the national anti retroviral treatment policy, the goal of this treatment scale up plan is to improve the longevity and quality of life of people living with HIV/AIDS so as to protect and promote their contribution to economic development and to prevent further HIV transmission. This is to be attained through increasing access to treatment, with a view to eventually treat 40,000 patients with antiretroviral therapy by 2009.

2 TREATMENT PLAN DEVELOPMENT PROCESS

This treatment scale up plan is seeks to operationalize the values, principles and commitments reflected in various policy, strategy and treatment guidelines documents of the republic of Sudan, into an actionable framework for participation in HIV/AIDS treatment by a widened range of stakeholders. Accordingly its development involved the review of various policy and guidelines documents, visits to active and potential service delivery sites, as well as discussions with care providers.

[Further process details TO BE ADDED LATER:](#)

3 GENERAL BACKGROUND AND CONTEXT

3.1 General Developmental Situation

As the largest country in Africa, Sudan surface area adds up to 2.6 million square kilometres, at a low level of development with a 2002 GDP per capita of US \$ 412.

It is inhabited by a population of 32.9 million (2002), with an annual growth rate of 2.5% (1975-2002), and a Life Expectancy at birth of 55.5 years, infant mortality rate at 64, and only 40.1% of persons above 15 years being literate (2002)¹. Although there is no single reliable estimate of poverty available, there is consensus among Sudanese analysts that its prevalence exceeds 50% in the North, with higher levels in Darfur and Kordofan, and Red Sea foothills, and up to 90% in Southern Sudan².

There are over 300 tribal groups and over 100 languages and dialects, with a Muslim Arabic speaking majority in the North, and a mixture of Christian and other African traditional beliefs to the south, where tribal languages predominate. The population distribution is mostly rural, 70%, with 25% urban and 5% nomadic. Only 7% of the land is arable, and frequent draughts have led to ongoing need for food assistance.

¹ UNDP, World Development Report, 2004.

² JAM. Volume I Synthesis: Framework for Sustained Peace, Development, and Poverty Eradication, March 18, 2005.

According to the most recent available data, the WHO World Health Report for 2005, Health expenditure constituted 4.9% of GDP, translating into an annual per capita spending of US \$ 58 (international rate), of which 79.3 and 21.7 % was private and public money, respectively³. A cost sharing policy that has been in force since the early nineties means that patients have to pay for most services and medications even in the government health facilities.

Until the signing of the Comprehensive Peace Agreement (CPA) by the government and the Sudanese Peoples Liberation Movement (SPLM), in January 2005, Sudan had been host to the longest running armed conflict in Africa. This conflict is believed to have led to the death of over 2 million people, causing 4 million to be internally displaced, and 600,000 to seek refuge outside Sudan's borders⁴. The impact of the conflict in Southern Sudan has been compounded by the conflict in Darfur, where an additional 1-2 million internally displaced persons (IDPs) now reside in camps.

Sudan is plagued with recurrent drought, which combined with the effect of conflicts has aggravated the chronic food shortages, requiring international food aid. For instance a recent food supply assessment found that the 2004-5 cereal production was 3.2 million metric tonnes (MT), against a total cereal requirement of 5.6 million MT⁵. These food deficits, combined with poverty and common illnesses such as diarrhoeal and acute respiratory infections, have resulted in high malnutrition rates, for instance with 36% of children below 5 years being stunted⁶.

Despite its own troubles, Sudan is also home to refugees from neighbouring countries. These numbered 567,000 as of the end of 2002, and they are a well recognised vulnerable group to HIV/AIDS. No data on HIV rates among refugees in Sudan is currently available, but some of them hail from countries that have HIV infection rates that are higher than Sudan's.

3.2 Situation of the HIV/AIDS Epidemic in Sudan

3.2.1 HIV Prevalence

Years of civil war and limited epidemiological data make it difficult to generalize about the status of HIV/AIDS in the Sudan. It is generally agreed that the country is in the early stages of a generalized HIV/AIDS epidemic, with an almost exclusively heterosexual transmission pattern, and indications of higher infection rates in the South than in the North. Internally displaced persons, refugees, prison inmates and members of the armed forces are some of the groups believed to be particularly vulnerable to HIV infection. In addition, high risk groups such as commercial sex

³ WHO, World Health Report, 2005.

⁴ The United Nations. Report of the Secretary General on the Sudan, 3 June 2004. S/2004/53.

⁵ WFP Sudan. Sudan Annual Needs Assessment 2004/2005. January 2005.

⁶ Joint Assessment mission for Northern Sudan, The Health sector, Draft 2. 15th October, 2004

workers are known to exist in the country, and studies to further understand their risk profile are planned. From a regional perspective, the country is very important to the treatment scale up efforts in the WHO Eastern Mediterranean Region (EMRO), because 73% of people requiring ART in the region have been estimated to reside in Sudan⁷.

The most reliable available indication of the extent of the epidemic is the 2002 Situation Analysis study conducted in the government-controlled parts of the country (11 out of 16 states in the north and 3 in the south). The study yielded HIV prevalence rates ranging from 0.5% for soldiers, 1% for antenatal care attendees, truck drivers, and Internally Displaced Persons (IDPs), 2.5% among female tea sellers, to 4.4 % among female sex workers. More recently, results of limited sentinel surveillance testing conducted during 2004 by SNAP⁸ yielded prevalence rates of 0.95% (18/1900) among pregnant women, 1.9% (9/465) among symptomatic STD patients, and 2.3% (33/1436) among TB patients.

It needs to be clarified that there have been two prominently cited estimates of the HIV sero-prevalence for the general population (1.6% as well as 2.6%), in various documents discussing HIV/AIDS in Sudan. However the 1.6% figure appears to have been derived from aggregation of the overall HIV positive rate among all the samples from the various groups tested during the epidemiological component of the 2002 Situation Analysis study⁹. But the methodology employed by the study would suggest that it was designed to determine sero-prevalence for the various groups studied, other than the “general population prevalence” from the overall positive rate among the samples collected. The estimate of 2.6 % was based on a UNAIDS/ WHO modelling for the whole country (2003).

The limited available data from Southern Sudan suggest relatively higher infection rates, compared to the north. Studies have yielded general population prevalence rates ranging from 2.7 in Yei (2003) to 7% in Yambio (2000). In the city of Juba, (located in the south but administered by the government), 10% of female tea sellers (a group some of whose members are believed to engage in casual / commercial sex), were found to be HIV positive in 2002. These higher rates of infection would suggest that IDPs hailing from the affected areas may have higher HIV rates than their host communities, this being made even more likely by the disruptions to family cohesion and sexuality norms that being an IDP could cause. Unfortunately this assumption could also reinforce a perception of relative safety and inaction for communities in the North of Sudan. It therefore worth pointing out that despite citation of the report of one survey yielding of a 5% HIV positive rate among IDPs in

⁷ WHO. Regional Strategy for Strengthening the Health Sector Response to HIV/AIDS and STIs in the Countries of the Eastern Mediterranean Region: 2006-2010.

⁸ SNAP. Annual HIV/AIDS surveillance report 2004.

⁹ SNAP/ FMOH. Report. Situation Analysis: Behavioural and Epidemiological Surveys, and Response Analysis. 2002.

Khartoum, this level of infection is not supported by other data. For instance, the 2002 situation analysis study yielded an IDP HIV prevalence of 1%, the same as that obtained for pregnant women in all the states, and results of sentinel testing among IDP antenatal mothers in Khartoum, done by SNAP and CARE during 2004, yielded a positive rate of 1.6% (11/700), very similar to the 1.5% (5/400) for general population pregnant women in the Red Sea state, for the same period.¹⁰ Further studies and a more comprehensive system are needed to monitor the epidemic among the various population groups in Sudan.

3.2.2 Behavioural data

Behavioural data is also limited to the 2002 Situation Analysis study, which found that although 78% of respondents had heard of AIDS, only 20% recognised that it was caused by HIV, and only 53% appeared aware of sexual transmission risk. Over two-thirds of respondents had never heard of or seen a condom, and less than 10% mentioned its use as a means of prevention. At the same time, wrong beliefs about the transmission of HIV were common, as were related indicators of stigma. About 28% and 24% believed that HIV could be transmitted by mosquitoes and sharing a meal, respectively, and about 44% would not share a meal with an infected individual, 31% would not nurse a patient, and 30% would not allow an infected child or teacher to attend school.

3.2.3 Stigma

Sudanese consist of many ethnic groups with some indication of variations in culture, including sexuality norms. In the north, the culture is mostly Muslim, the south is predominantly Christian or animist. Studies of the impact of the cultural differences on the HIV/AIDS epidemic and vice versa, in Sudan, have either not been undertaken or are unavailable. However, there are indications that stigma against people infected with HIV/AIDS may be stronger, and more closely linked to religious values in the North, than say, in Juba. For instance, PLWHAs are more openly active within their home city in Juba in the south, than in the northern cities, where strong reactions from their families such as rejection after diagnosis still occur.

There is further reason to believe that religious values and perceptions may be linked to stigma. The Sudanese Council of Churches, a Christian faith-based organisation is already quite active in both preventive and care activities even in the North, is a member of the CCM, and has strong linkages to the activities of PLWHA associations. But Muslim faith-based organisations are yet to get on board in formal HIV/AIDS prevention and care activities, and are not represented on the existing multi-sectoral forums. As a result their potential to impact stigma and discrimination, and ultimately utilisation and benefit from treatment services, is yet to be exploited.

¹⁰ SNAP. Annual HIV/AIDS surveillance report 2004.

3.3 The National HIV/AIDS Response

3.3.1 The Government's response

Between 1987 when the national AIDS program was formed and 2002, efforts to combat the epidemic were sporadic, and included several short and long term plans which were not based on a clear analysis of the situation. The lukewarm response continued until late 2002 when a Situation and Response Analysis was undertaken by the government. The situation analysis included a study of HIV prevalence among sections of the population, and yielded findings that showed that Sudan had entered a generalised epidemic, with a rate of 1% (30/3,355) among antenatal mothers. These findings may have spurred the response, resulting in the development a broadly focused National Strategic Plan 2003-2007, with technical assistance from the UN Country Theme Group on HIV/AIDS (CTG). The National Strategic Framework was launched by none other than the President of Sudan himself, further stimulating political commitment. More recently during December 2004, the Minister of health led a delegation of National, UN, and Media personnel to Uganda, to learn about the successes there in combating HIV/AIDS, and how lessons could be applied to strengthen Sudan's response. Apart from the health sector, eight government ministries and one NGO Sudanese General Women's Union have identified HIV/AIDS activities to be implemented as part of the National Strategic Plan, with an updated time frame of 2004-2009. The Ministries are the following: Defence, Interior and Police Forces, Education, General Education, Information and Communication, Higher Education, and Youth and Sports.

3.3.2 Civil Society participation

A range of national and international NGOs are involved in HIV/AIDS work in Sudan. Most of these agencies' work has to do with awareness-raising, and six of them have been identified as sub recipients of global Fund resources for activities targeting various vulnerable groups. The national NGOs coordinate their activities under an umbrella Sudan AIDS Network (SAN). The active international NGOs are also mostly involved in awareness-raising for various target populations, but one MSF Holland is planning to start ART for Leishmaniasis patients who have AIDS, and several agencies active in Darfur are reported to be providing ARVs for Post exposure prophylaxis (PEP), as part of Gender Based Violence interventions.

Christian Faith –based Organisations led by the Sudan Council of Churches (SCC) are active both in awareness raising (IEC) and PLWHA support activities. A curriculum for training Muslim leaders on HIV/AIDS advocacy and awareness raising was developed, prepared sermons distributed, and dialogue workshops conducted by SNAP in partnership with the Ministry of Guidance, during 2004. However, unlike for

the Christian FBOs, the full fledged intervention programs by Muslim FBOs have not yet occurred.

4 THE SITUATION OF HIV/AIDS TREATMENT (as of April 2005)

4.1 National Institutional and Policy Context

Sudan is a signatory to various international declarations and resolutions on HIV/AIDS. These include: the United Nations General Assembly Special Session on HIV/AIDS (UNGASS) of June 2001, the Millennium Development Goals, the Abuja Declaration and Framework for Action on HIV/AIDS, Tuberculosis and other related Diseases, and several conventions on Human Rights.

4.1.1 Political Commitment

In the last 2-3 years Sudan has witnessed the emergence of strong political commitment to HIV/AIDS prevention and care. As already mentioned, the president himself officiated at the launch of the current Strategic Plan document. Furthermore, the Federal Minister of Health made a formal request for Sudan to be included in the WHO 3by5 Initiative. A link between the emergence of epidemiological evidence that the epidemic was worsening and the increase in political commitment has been cited in SNAP documents¹¹. The government started ART triple therapy in selected facilities in Khartoum in October 2003, by providing funding for the treatment of 100 patients for an initial 12 months. This funding has been extended and is still ongoing, although it currently appears to be more formalised in the Ministry of Defence. During March 2005, this ministry made available an additional 50 doses of ARVs to be used for soldiers in Juba, beginning the first formal ART program in the Southern part of the country.

During a visit to Sudan by the WHO Director General in July 2004, the Government committed itself to a national policy to integrate ART within primary health services. It also had set an initial target of treating 100,000 people with ARVs by the end of 2005, but during early 2004, the figure was adjusted to 20,000, in consultation with WHO, for the parts of the country administered by the government, as part of the 3by5 target of 40,000 for the entire country. As part of the national strategic plan, the government maintains a longer term target of 40,000 people on ART by the end of 2009, for the parts of the country under its administration. The political commitment seen at Federal level is not yet matched in all states, but some State ministers of health such as in Bahr el Jabal have shown very strong commitment, and are demanding for ART to be urgently made available to the general population. At hospital level, there have been indications of commitment such as the recent allocations of space for ART and

¹¹ FMoH. Sudan National AIDS Program Annual Report, 2004.

VCT at both the Khartoum Teaching hospital, the Omdurman hospital and at the Juba teaching hospital.

4.1.2 National Institutions

In May 2001 the *National Council on Communicable Diseases and Epidemic Control*, was established as the high level policy and advisory body to the government, on control of all communicable diseases. With the advent of the global Fund, a *Country Coordinating Mechanism (CCM)* was also started in 2002. It is currently chaired by the Undersecretary of the Federal Ministry of Health, with an NGO representative appointed as Vice Chairperson by the April 2005 CCM meeting.

The *Sudan National AIDS Program (SNAP)* is the technical department of the government responsible for HIV/AIDS national level policy, planning, and coordination. At state level there are SNAP State Coordinators, who are responsible for planning and implementation of activities at State level. SNAP also liaises with several government ministries that have HIV/AIDS activities, including the Ministries of Defence, Interior, Education, Higher Education, information and Communications, Youth and Sports, and Welfare and Planning. SNAP has a Clinical Management and Counselling department that is responsible for treatment and other care and support. The department has a staff of 7 that include a physician, 3 pharmacists and 3 counsellors.

There is a functional Country Theme Group on HIV/AIDS (CTG) which is currently chaired by UNFPA. Other agencies participating include WHO, UNDP, UNICEF, UNAIDS, WFP and OCHA. Technical Officers for these agencies also meet in a technical working group that is also attended by SNAP and representatives from several international and national NGOs.

The *National Policy on HIV/AIDS* published during 2004, is premised on the various international commitments of the government of Sudan. The policy upholds the right of PLWHAs to holistic care, access to counselling and information to protect themselves and others from further HIV transmission. It also re-iterates the duty of health care providers to attend to PLWHAs without any discrimination on account of their HIV sero-status, and calls for the formulation of a national care and treatment plan, with due attention to strengthening health systems, and enhance availability to ARVs. Furthermore, the policy provides guidance on required legislation related to HIV/AIDS, stating that while wilful transmission of HIV is a crime, laws should enhance community mobilisation efforts to live positively with HIV/AIDS and should protect PLWHAs against discrimination and social injustice. The policy also recognises the need for further review of existing laws to conform to the above principles.

The National AIDS Program (SNAP) of the Federal Ministry of Health has also put together the first draft of an *Anti Retroviral Treatment Policy*. Setting equity and universal access as its core values, the ART policy sets its overall goal as being to “improve the longevity and quality of life of PLWHA so as to contribute to economic development and to prevent further HIV transmission”. The policy sets out criteria for eligibility for beginning ART, the role of counselling, the importance of adherence to treatment, as well as some guidelines on ARV supplies management.

The *Sudan National Strategic Plan for HIV/AIDS (2002-2007)* that was launched by the President of Sudan includes activities for VCT, ART, along with PMTCT interventions. The proposed targets for 2009 are rather ambitious, and include covering 4 million VCT clients, the treatment of 3,000 mothers with PMTCT interventions. An ART target of up to 40,000 is also included.

4.2 Government health services set up

Sudan operates under a federal system of governance, with each state being governed by a *Wali*. The states are further subdivided into Localities.

Available data indicates that only 45% of the Sudanese population have access to health services. Data, for the year 2000, indicated the presence of 915 health centres, 200 general / rural hospitals, and 109 Provincial/specialised / teaching hospitals. In addition to these were over 5,200 facilities now classified as basic health units¹². However a survey by the FMoH and WHO during 2003 suggested that the active health infrastructure network was smaller than had been earlier reported¹³. Furthermore, this latter survey revealed significant inequalities, for instance, with the number of the population per health facility in Darfur being one tenth what it is in Northern and River Nile states. Government health services are provided through three ministries, namely the Ministries of Health, Interior and Defence.

4.2.1 Ministry of Health

In the case of the health sector under the ministry of health, at the central level, the Federal ministry of Health (FMoH) formulates national policies, oversees supervision, development and management of human resources, manages donor relations, and allocates central resources to the states. The state ministries of Health (SMoHs) are responsible for planning, administration and financing within the framework of national policies, and oversee Health Centres and Rural Hospitals. Localities also have some role in planning and implementing health programmes, and assume administrative responsibilities for first level contact health facilities: Health units, dispensaries and dressing stations, under the technical supervision of the SMoH.

¹² Federal Ministry of Health, Annual Statistical Report, 2001.

¹³ FMoH and WHO, Health Survey 2003, preliminary results.

4.2.2 Health services under the military and police authorities

The ministry of Defence operates a network of 35 military hospitals and over 180 dispensaries. The Police service also has 16 hospitals and 54 health centres. Both health services provide care for the civilian population who are not related to any of its personnel. In fact, in some localities, police services are the only health facilities available to the civilian population.

The police hospitals include the Al Ribat university teaching hospital in Khartoum which had provided ART in the past, but had ceased doing so in mid 2003 when it had run out of ARVs. On the other hand, as of March 2005, the military was continuing to provide ART for about 80 of its personnel with a new ART service was just opening in Juba. Despite the general policy of the hospitals being accessible to civilians, the provision of the ARVs was still more or less limited to members of the military.

4.2.3 Human Resources in general

On paper, Sudan has a relatively good health manpower capacity, totalling to 45,000 by 2003. This force includes highly skilled cadres of about 5,000 doctors, 6,200 Medical Assistants, 17,500 nurses and 9,300 midwives. These numbers translate into a ratio of 1.6 skilled health workers per 1,000 population which ought to be reasonably adequate. However, structural problems of physical government facility degradation, funding inadequacy and personnel management constrain the benefit of the population from these personnel. In addition, low salaries and poor working conditions overall have led to staff moving from the government service into the private sector, and the departure for better opportunities in other countries continues. The latter is indicated by the statistic that only 5,000 of the 16,000 doctors registered with the Medical Council are working inside Sudan. This indicates a significant outward flow of physicians¹⁴.

Recent trends in health worker training suggest inadequate planning of human resource development. Most notable has been the rapid increase in the number of medical schools, resulting in an increase in general practitioners from 9.0 in 1995, to 16.0 per 100,000 of the population by 2000, while there was a decline for nurses from 64.0 to 56.0, for this indicator, over the same time period.

4.2.4 Human resources for HIV/AIDS treatment

The initial IMAI training/ tools adaptation workshop held in September 2004 involved the training of 20 doctors, 16 nurses and Medical assistants and 12 PLWHA expert patient trainers. The training covered ART, Opportunistic infections (OI) care and involved the introduction of the concept of expert patient trainers. However, the training lasted only 8 days, some of the participants felt additional information on ART was

¹⁴ Joint Assessment mission for Northern Sudan, The Health sector, Draft 2. 15th October, 2004.

still needed, particularly for nurses and medical assistants for whom facilitators felt the training was particularly inadequate. Furthermore, it was not followed by availability of ARVs at the health facilities of most of the participants, limiting the benefit of immediate application of learned skills. Also, the trainees did not include HIV/AIDS counsellors. Therefore overall, while the course was a vital step forward in the development of ART care capacity, particularly for the physicians from facilities where ARVs are available, the above limitations leave room for additional training of comprehensive HIV/AIDS trainer teams. These teams would need longer hands-on clinical exposure to ART service delivery, to develop the practical skills needed in setting up such services.

The country is fortunate that some universities are passing out graduates with specific skills in counselling, making it relatively easier for them to be given additional HIV/AIDS counselling training. Several states are currently placing counsellors in their payrolls. However, the counselling course is run by Afhad University in Khartoum, a women's only institution, resulting in a scarcity of similarly qualified male counsellors. Afhad University has a policy of reserving entry quotas for students from southern Sudan, making it potentially feasible to identify graduates who can speak the languages of the IDPs originating from there. The need for specific training of male counsellors remains outstanding.

The apparent abundance of higher skill cadre medical workers in Sudan indicates that counselling delivery models using health workers do both the counselling, the phlebotomy and even the conducting of rapid HIV tests may be appropriate in settings of low client loads, or in home based, and family counselling outreach activities.

Stigma against PLWHAs is present even among health workers and incidents of refusal to provide care on account of ignorance, fear or judgemental attitudes to PLWHAs have occurred.

4.3 Treatment guidelines

SNAP has published *Clinical Management Guidelines for HIV/AIDS Infection*. Drafted in 2003, and printed in 2004, these guidelines provide guidance on first and second line regimens overall, when to start treatment, how to monitor ART adverse effects. The guidelines also include information on ARVs for prevention of mother to child transmission of HIV (PMTCT) as well as some information on post exposure prophylaxis (PEP) in settings of occupational exposure. For first line ART regimens, there are details of recommended drug substitutions in the event of intolerance, pregnancy, and TB co-infection, but not on drugs to be used in the event of hepatitis co-infection. The information on second line regimens is even less, with no guidance

on drug selection in the event of toxicity or specific contraindications such as TB or hepatitis co-infections, pregnant women, use in children, or, specific drug substitutions in case of intolerance. The use of fixed dose combination is mentioned, but not recommended with any emphasis, and overall no preferential regimens are named.

In September 2004, the Sudanese adaptation of the WHO HIV/AIDS treatment manuals based on the Integrated Management of Adult and Adolescent Illnesses (IMAI) was started, by holding an adaptation / training workshop. Currently, draft Sudanese adaptations of two of the four modules (those for Acute and Chronic Care), as well the original versions of the other two have been circulated to national experts and a workshop to complete their adaptation is planned. Current thinking is that the IMAI tools will serve as the main clinical training tool, while the Clinical Management Guidelines, which are also to be updated, will serve for further reference.

As part of the IMAI guidelines adaptation process, a meeting was held in February 2005 with leading physicians on ART in Khartoum, and it was agreed that the current WHO recommended regimens for resource-poor settings be adopted for the country until experience with their use indicates otherwise. Accordingly, the regimens on which the order of ARVs to be procured with 3rd round Global Fund resources for Adults/adolescents and children are as follows:

ARV REGIMENS (A+B+C): Adults and Adolescents

Category	A.	B.	C.
1st line	Stavudine (d4T) or Zidovudine (ZDV)	Lamivudine (3TC)	Efavirez (EFV) or Nevirapine (NVP)
2nd line	Abacavir (ABC) or Tenofovir (TDF)	Didanosine (ddl)	Nelfinavir (cold chain uncertainties) ¹⁵

ARV REGIMENS (A+B+C): Children

Category	A.	B.	C.
1st line	Stavudine (d4T) or Zidovudine (ZDV)	Lamivudine (3TC)	Efavirez (EFV) or Nevirapine (NVP)
2nd line	Abacavir (ABC)	Didanosine (ddl)	Nelfinavir

4.4 Health Financing

Data for 2003 indicates that government spending on health added up to US \$ 3.50-4.20 per capita, or up to 0.6% of GDP. This spending is less than the 2.2% of GDP

¹⁵ Sudan gets to be very hot, with temperatures rising to over 45 degrees centigrade most of the year.

seen in other countries of incomes of less than US \$ 500 per capita. Moreover, this includes that through the national health insurance system, catering for 8% of the population, of whom three quarters are government employees. The limited government health spending is partly a result of a user fee policy, one of the austerity measures introduced in the 1990s. This policy dictates that medicines are not provided free of charge in the government health facilities, with the exception of emergency drugs for the first 24 hours after admission.

Although equity and universal access are declared as the core values of the ART policy, this has not yet been translated into government spending, with the possible exception of the military whose personnel can consistently access ARVs procured with government resources. For the rest of the 400 patients currently on ART, access to ART procured by public resources depends to a large extent on the influence of the physician with the local *Zakat* fund office. In the case of VCT, SNAP has put in place a policy by which clients are exempted from paying for the service if they come in on voluntary basis. Unfortunately this privilege is not automatically extended to symptomatic AIDS patients who are referred for testing in order to confirm their HIV sero-status, although, clearly, such patients are less able to afford the user fees than their still-healthy colleagues. In some cases laboratory personnel have exempted symptomatic clinically referred patients from the fees for the test, but an official policy directive is yet to be issued.

Probably on account of projected exploitation of oil reserves, Sudan's economy is projected to grow dramatically in the coming years, leading to more than doubling of the GDP to over US \$ 1,300 by 2010¹⁶. For this economic growth to effectively alleviate resource shortages for health, it needs to be accompanied by increase in proportion of public spending for health, as well as redressing inequalities in distribution between states, and between primary and secondary and tertiary level care.

4.5 Treatment activities by partners other than the Ministry of Health

4.5.1 The Military and Police

The military is already providing treatment to its personnel in Khartoum and Juba, and the police hospital in Khartoum was involved in ART provision in the past. Moreover, both types of services also provide some care for civilians who are not dependants of members of their forces.

4.5.2 NGOs

MSF-Holland is planning to start provision of ART in Malakal by the middle of the year. However, because of their capacity limitations, they will only cater for their Kalazar patients who also have advanced HIV/AIDS. They are going to use regimens

¹⁶ Joint Assessment mission for Northern Sudan, The Health Sector, Draft 2. 15th October, 2004

recommended by the current national guidelines. Several NGOs are reported to be providing ART for PEP, for Gender based violence (GBV) victims in Darfur. However, because of political sensitivities around GBV, further details of these activities are yet to be made available.

4.5.3 The Private Sector

Currently, Marwaco, a private pharmaceutical company acts as the agent for CIPLA, importing drugs including *Trimune* (4dT/3TC/NVP), which it sells to the Ministry of Defence, as well as to individuals whose payments are covered by the *Zakat* Fund. The current market price for *Trimune* at Marwaco adds up to an annual cost of US\$ 600 (about 4 times the current lowest prices for low income countries), but the company has indicated willingness to avail the drug at a lower price, if there are assurances of sustained larger demand volume. There are contacts between SNAP and Marwaco as SNAP negotiated the price for the initial stock of drugs for HAART that were procured by the government during 2003. However, SNAP does not regularly have a budget for ARV procurement, although it sometimes does stop gap purchases for FMOH ART centres in Khartoum.

Marwaco also appears to be the main source of drugs for a few private practitioners providing ART. The company has also in the past offered to train physicians free of charge if the government were to procure ARVs from them¹⁷. Given the vibrancy of the private health sector in Sudan and a growing middle class, the provision of ART through the private sector has potential to meet the needs of a section of PLWHAs. The largely conservative culture and strong stigma may be some of the factors leading to a demand for services by private practitioners, where confidentiality and privacy may be expected to be better served. Therefore the need to promote active participation of the private sector in ART remains.

4.6 VCT services

The delivery model for VCT in Sudan is predominantly alongside or within hospital health services, with only rare occasions of stand alone VCT centres, such as the one in Juba, supported by WHO. In the recent past, there has been an upsurge in the opening of VCT service delivery. This is indicated by reports of 48 VCT centres in Khartoum State alone, with another 20 in other states, all under the SNAP. Some HIV counsellors have shown considerable motivation for instance printing cards and brochures with their personal telephone number for distribution at universities in Khartoum, and making personal initiative to provide counselling to the immediate families of newly diagnosed clients.

¹⁷ WHO. Joint HQ and EMRO Mission to the Republic of Sudan. 3-6 November 2003.

The enthusiasm in starting VCT services has occurred in the absence of clearly defined standards, and the services are still underutilised. For instance the 68 centres under SNAP provided testing for only 1,775 during 2004, and yet this number includes patients referred for testing by clinicians because of symptoms of AIDS. However there is evidence of potential for rapid growth in demand, as indicated by reports of 886 pregnant women who have completed the VCT process at three hospitals during three months (Feb- May 2005) at the beginning of a pilot PMTC project.

The use of VCT services for testing of clinically symptomatic patients accounts for the rather high HIV positive rate reported by VCT centres, standing at 23.9% during 2004. This referral of symptomatic patients to VCT services has the potential benefit of exposing patients with advanced HIV/AIDS disease to counselling, something that should facilitate other aspects of subsequent care such as adherence counselling. It also ensures that symptomatic AIDS patients have the opportunity to receive counselling before the diagnosis is confirmed. Despite an official policy that VCT services be provided free of charge, many AIDS-symptomatic clinician-referred clients get asked to pay for the service, because like all other patients, they are supposed to pay for the HIV tests as any of the lab tests paid for under cost sharing. Some counsellors and lab personnel, seeing this conflict of the cost sharing and VCT policy have taken the rational decision to exempt even the symptomatic, referred clients, but a formal policy pronouncement to this effect is yet to be issued.

Although there are guidelines for training of counsellors, there are no similar guidelines with detailed standard operating procedures to ensure confidentiality or anonymity of clients. In addition, absence of defined minimum requirements for establishing a VCT delivery point have resulted in situations where the mere presence of a trained counsellor and HIV testing kits has been assumed adequate to declare VCT services open. As a result in most instances the space requirements for counsellors to both plan their work as well as actually conduct counselling with the required privacy are not met. In many instances, counsellors work out of single shared rooms and in one extreme case even a passageway, this being a serious constraint to the quality of counselling delivered, and may be turning off prospective clients.

Recent training courses conducted by SNAP have endorsed use of rapid HIV testing algorithms as recommended by WHO. However as of March 2005, detailed guidelines to this effect were yet to be issued with the result that some lab technicians still believed it necessary to send a confirmatory blood sample to the central laboratory in Khartoum, even from as far away as Juba or Port Sudan, before a positive result could be given to a client. There is as yet no system in place for training of counsellor trainers and supervisors or for systematic ongoing support for counsellors, and career development beyond the initial HIV/AIDS counselling training and deployment is yet to be defined. The participation of the NGO sector in VCT is still limited to a couple of

initiatives in Malakal, run by MSF Holland, and another in Red Sea state run by Ockenden. Plans for widening NGO participation are part of the work plan of the 3rd round GFTAM proposal that are due to start shortly.

4.7 Laboratory capacity

Several government hospitals own ELISA machines, using them for screening of blood for transfusion. However supplies of reagents are often irregular and the trend is to turn to Rapid tests, even for Hepatitis B and C screening. These rapid tests are part of the order of health products to be procured with GFATM 3rd round grant resources, through WHO, in the next few weeks. There is no CD4 count capacity in any government health facility, this service being currently available in one private laboratory in Khartoum for a fee of US \$ 25 per test. There is no viral load testing facility in the country, and no plans for its availability have been made.

4.8 Prevention and Treatment of Opportunistic Infections

PLWHAs who are diagnosed with OIs are provided the available treatment, but they do face cost barriers even in the government health services, due to a cost-sharing policy. Some Khartoum-based clinicians have reported recent improvement in the ability to recognise AIDS cases on the basis of opportunistic infection presentation in response to refresher training. However, such training has not been done on a large scale leaving clear need for its scale up

4.9 ART services

In October 2003, the government started ART triple therapy in selected facilities in Khartoum. As of the beginning of April 2005, only 400 patients were on ART in the Northern part of the country. The cost for treating these patients thus far has been met from internally mobilized funds. These funds include out-of pocket spending for purchase of ARVs from the private sector, subsidies of up to 75% by the Zakat Charity fund, and provision of free drugs by the Ministry of Defence, mostly for soldiers. Ad hoc contributions from the SNAP budget have also been made.

A grant agreement for the approved 3rd HIV/AIDS proposal by Sudan was signed in January 2005. This proposal has as one of its objectives the strengthening of VCT services as well as supporting the establishment of 12 ART service delivery points in the country. However, the funding for ARVs is limited to US\$ 400,000 per year, being enough to cover around 1,300 patients including 50 children, at lowest internationally published prices. This provision falls far short of the national targets such as the interim 3by5 target of 20,000 patients on ART by the end of 2005. In the specific case of ART,

the advocacy efforts are needed to ensure that allocation of government funds for ART is increased and expanded beyond the scope to cover employees of Ministries other than that of Defence as well as non-government employed Sudanese.

4.9.1 ARV drug resistance surveillance

As yet, there is no mechanism to monitor ARV drug resistance in Sudan. The history of shortages of various drugs from time to time indicates the need for establishing an ARV drug resistance surveillance system.

4.10 Post Exposure prophylaxis (PEP)

SNAP has also produced a first draft of *guidelines for PEP*, to provide guidance on what to do in the event of sexual violence or other non-occupational risk of exposure to HIV. The draft is under discussion, for further development to fully adapt it to situations outside of health care setting exposure. In particular, specific guidance for the situations of sexual violence in emergency/displacement settings that may occur in conflict situations needs to be elaborated. In the meantime, several NGOs are reported to be providing PEP as part of their Gender Based Violence (GBV) care interventions, but because of the political sensitivities around the issue, these agencies are reluctant to freely share their experience, for possible incorporation of any lessons learned into the national PEP guidelines.

4.11 Prevention of Mother to Child Transmission (PMTCT)

SNAP has produced guidelines for PMTCT and a pilot project for provision of PMTCT plus was launched in March 2005. The project seeks to inform on the applicability of PMTCT in the Sudanese context, and will explore perceptions of health care providers and beneficiaries, identify potential strengths and weaknesses, and compare results to those obtained internationally. It is being implemented in five teaching hospitals located in the capitals of 3 states: Khartoum, Juba and Gadaref, and is to provide VCT for 50,000 women in order to identify 500 women as pilot recipients of ARVs for PMTCT.

4.12 Community based care and support and Palliative Care

Because of low awareness and possibly stigma, many AIDS patients are reported to stay and die in their homes without ever reporting to the health services. However, no formal home based medical care activities have started, apart from the counselling, food distribution and limited training in income generation by the PLWHAA association in Juba.

4.13 Participation of People living with HIV/AIDS

Cultural and religious sensitivities have resulted in a situation where PLWHAs are viewed in a judgemental manner, as deserving the suffering caused by the infection. This has translated into discrimination and alienation within families, at places of work, in schools, in health care settings and even during travel, resulting in being sent away from home, dismissed from work, or denied health care¹⁸.

However, the National HIV/AIDS Policy recognises the limitations caused by stigma and discrimination on utilisation of care and support services, and recommends that provision of HIV testing be anchored in a Human Rights approach. The policy states that HIV testing should be only done with informed consent, be accompanied by counselling, and that confidentiality shall be observed except where an HIV-positive client refuses to willingly notify their sexual partner. Work on a draft of a law on HIV/AIDS addressing legal and ethical issues has been started.

A Sudanese Association for People Living with HIV/AIDS was formed in 2003, and now has branches in seven states. However because of stigma, in some states no PLWHAs have come out to join the associations, and they still consist entirely of HIV negative sympathisers. However some PLWHAs have come out very actively, such the branch in Juba, which as of February 2005, had 123 registered PLWHAs who had disclosed their sero-status, and two of these PLWHAs were already active as counsellors in the community. Treatment for opportunistic infections is ongoing, but there have been drug shortages from time to time. There is strong demand for ART, particularly from states with organised PLWHA associations. For instance, as of March 2005, the state Minister of Health in Bahr el Jabel state had registered over 120 of them on a "waiting list" for ARVs.

HIV/AIDS is known to aggravate food insecurity by undermining the productive capacity of households. Moreover individuals who require ART are at the point in their illness when their personal ability to work and support their dependents is clearly getting compromised. It is therefore essential that ART provision be complemented with food distribution. Food distribution among members of the PLWA association is already being undertaken in Juba, with the assistance of WFP. Additional activities to support PLWHA included training on entrepreneurial skills, communication skills and public speaking, organised by SNAP and the Ministry of Labour.

4.14 Procurement and Supplies management

Sudan is not a member of the World Trade Organisation, and its laws allow the free importation and use of generic drugs. Importation and supply of medicines and medical

¹⁸ FMOH. Sudan National AIDS Program Annual Report, 2004.

supplies is under the responsibility of the Central Medical Stores Public Corporation (CMSPC). Overall, the institution is hampered by inadequate resources in the face of high prices of drugs, sometimes resulting in stock outs. The CMSPC has been involved in the procurement of ARVs, buying to meet requests by government hospitals or pharmacies, but without consultations with SNAP. About 80% of the drugs procured are generic, with 20% being brand names. Those procured include only two fixed dose combinations (d4T/3TC/NVP and 3TC/ZDV).

Under the current system, the CMSPC operates on a cash and carry basis, whereby States are responsible for organising the transportation, storage and distribution of the medicines they procure centrally. This applies to hospitals as well who similarly are responsible for their individual procurement system after purchase from the CMSPC. The absence of a centrally coordinated storage and distribution system in the states leaves room for wide variation in practices and possible breaches of quality requirements.

Unlike the ministries of Defence, Social Welfare and Interior who in total may receive about US \$ 120,000 of public funds annually, the Federal Ministry of Health has no resources allocated to ARVs in its budget. Nonetheless, SNAP has on occasion used some of the funds at its disposal to procure ARVs as stopgap measures when treatment centres in Khartoum had shortages.

4.15 Tuberculosis treatment program activities

Tuberculosis (TB) has been a recognised major public health problem since the 1950s, and still remains a health priority in Sudan. By the end of 2002 the country had achieved the target for DOTS all over and moved towards *quality of DOTS*, with special focus on four areas: quality of drugs, quality of microscopic network, strengthening partnerships with NGOs and the private sectors and addressing TB control challenges such as HIV/AIDS, and drug resistance. As a result TB/HIC co-infection is an important area of work for the TB program.

There are 109 Tuberculosis Management Unit (TBMU) which is a centre of diagnosis and treatment and 304 DOTS centres where supervision of treatment takes place in all 22 states accessible from Khartoum (There is a separate program for the rest of the southern states based in Nairobi). TBMUs are run by TB coordinator, a microscopist and a statistical clerk. DOTS centres are run by a Medical Assistant or a nurse.

During 2004, 18,055 cases of TB were reported. Monitoring of HIV prevalence TB cases was not determined, but a rate of 5.8% for the 1988 – 1996 period has been cited (NTP annual report 2002).

The following are the regimens recommended by the National TB program:

Treatment Category	Patients	Initial (intensive) phase	Continuation Phase
I	- New smear-positive Pulmonary TB; - New smear-negative pulmonary TB severely ill; - New extra-pulmonary TB severely ill	2RHZS	6HT
II	- Relapse; - Treatment failure; - Treatment after default;	2 SHRZE \ 1 HRZE	5 H R E
III	- New smear-negative pulmonary TB; - New extra-Pulmonary TB.	2 STH	10 HT
IV	- Chronic Case (still sputum-positive after full course of supervised re-treatment)	- Put patient on a fully supervised 2 nd course of re-treatment of category II and if positive again refer to specialised centre.	

As can be deduced they are all based on streptomycin a drug requiring injection, and therefore not preferable among HIV positive patients. In addition, two of the regimens use Thiacetazone a drug that is associated with a high rate of adverse reactions including the Steven Johnson syndrome. In recognition of the above, the program issued a recommendation for 2EHRZ / 10HE for HIV/TB co-infection.

Use of this regimen limits the window within which ARVs may have to be used concurrently with Rifampicin to just two months. It is not clear to what extent this recommended regimen is currently being used among HIV positive TB patients. Some HIV testing has been reported to be part of the activities of 70 centres TB treatment service delivery points¹⁹. However, reports of the results of this testing are yet to be generated, and there is a need to ensure the integration of quality counselling services into such testing.

5 GOAL OF THE TREATMENT PLAN

In keeping with the ART policy, the goal of this treatment plan is **to improve the longevity and quality of life of PLWHA so as to contribute to economic development and to prevent further HIV transmission**. A target of having 40,000 people on ART by the end of 2009 will be pursued by widening the availability of ART as well as prophylaxis and treatment for opportunistic infections, in an equitable manner, guided by disease burden. Accordingly, it is intended that ART is made available in all states in the medium term, but with more service points being created in states with higher infection rates, and /or to enhance access by particularly vulnerable or high risk groups.

¹⁹ Al Sonni, A. Personal Communication, March 2005.

6 STRATEGIES FOR SCALE UP OF HIV/AIDS TREATMENT

The HIV/AIDS Treatment scale-up plan will be implemented along the following strategies:

- Developing infrastructure to meet the requirements for wider, equitable access to treatment.
- Fighting stigma and promoting an environment that is supportive for care and support of people living with HIV/AIDS.
- Enhancing the quality and reach of voluntary counselling and testing (VCT) services.
- Developing human resource capacity and systems for ART and other HIV/AIDS care.
- Enhancing coordination between TB program activities and the HIV/AIDS treatment scale up at national, state and health facility levels.
- Strengthening the procurement and supply management system for drugs, diagnostics in general, with specific attention to the requirements of ART scale-up.
- Broadening and supporting the participation of partners from all sectors for treatment scale up.
- Establishing a monitoring and evaluation (M&E) system and integrating it into the national HIV/AIDS M&E plan.
- Mobilising internal and external resources for treatment, combined with efforts to access the lowest available international prices for drugs and diagnostics.

7 DESCRIPTION OF ACTIVITIES BY STRATEGIC AREAS

7.1 Developing infrastructure to meet the requirements for wider, equitable access to treatment.

While some centres are already providing ART, it is clear that in most instances the infrastructure available is inadequate for even the volume of patients currently treated.

7.1.1 Developing the physical infrastructure for treatment

- Minimum physical infrastructure requirements for ART service provision will be defined. These will include space requirements for the various ART activities such as patient education, counselling clinical examination, laboratory, records, drugs and supplies management, and clinical team meetings and planning activities. These minimum standards will also form the basis of capacity assessments in planning and providing support to ART infrastructure development from both government and donor funds.

- Efforts will be made to ensure that HIV/AIDS treatment scale up requirements are included in the post conflict planning and reconstruction in the country.
- For the establishment of ART centres at already existing health facilities, the management of prospective facility will be encouraged to provide commitment to avail the minimum of necessary space, before activities begin at the site.
- Options of stand alone ART services as well as those located within hospitals, adjacent to other services will be piloted and suitable models set up in respective locations.

7.2 Fighting stigma and promoting an environment that is supportive for care and support of people living with HIV/AIDS.

A range of advocacy activities will be explored for various target groups, employing various emissaries and exploiting Sudan's stated commitments to the right of PLWHAs to care and treatment. Specific activities will entail combinations of the following broad approaches as appropriate for various target groups and stakeholders:

Leadership advocacy This will entail the mobilization of political and financial support to ensure that ART is sustainable, secure, equitable, accessible and acceptable.

Public Advocacy Mass media, group education, as well as interpersonal education and sensitisation will be undertaken to counter stigma and discrimination. This will include information, education and communication with local communities about HIV/AIDS, including prevention and treatment (treatment literacy).

Direct support and participation in ART service provision Testing, counselling, nutritional support, treatment adherence, IGA, spiritual care.

Legislative and policy review This will be done to ensure that the necessary legislation to protect the rights of PLWHAs is in place, and that policies and actions of government officials are in line with standards of International Good practice.

Specifically the following activities will be undertaken:

7.2.1 Countering stigma

- Input will be made to ensure that the law protecting the rights or PLWHAs conforms to International Good practice standards, and fully reflects Sudan's international commitments on HIV/AIDS.
- Educational materials to counter stigma and discrimination will be developed and regularly updated for dissemination to various target groups in the community, using the mass media and interpersonal communication.
- Specific sensitisation will be undertaken to secure the support and participation of faith-based stakeholders, including Muslim religious leaders in care and

prevention activities. This will be done at national, state and at community level around the sites where treatment is provided.

- Platforms for dialogue and debate on ART will be facilitated, with resource persons and Civil Society opinion leaders such as respected physicians, academics, and Human Rights activists trained and deployed to argue the case for compassionate care of PLWHA, drawing from appropriate cultural and religious value systems in Sudan.
- Community groups with potential to take on advocacy roles in ART care will be identified and supported to conduct sensitisation activities using approaches such as popular music and theatre.
- Training will be provided to media networks, using targeted training and provision of resource materials for them to propagate positive messages on ART.
- Individual PLWHAs who are willing to go public about their status will be supported for wider participation in the mass media, to give a public face to HIV/AIDS.
- The community in general, as well as PLWHAs will be educated about the availability and benefits of ART, the importance of adherence to treatment, and messages countering stigma and discrimination will be communicated. Special IEC materials for ART and other treatment education will be developed.
- Assessment of the awareness and perception of the community on various aspects of ART will be integrated in related periodic studies such as the Demographic and Health Surveys, as well as special evaluation studies. This ongoing assessment will help identify information needs, and guide subsequent communications activities to mobilise support for ART.

7.3 Enhancing the quality and reach of voluntary counseling and testing (VCT) services

7.3.1 Strengthening and expanding VCT

- Minimum standards for staffing, and physical facility requirements will be defined, and standardised guidelines and operating procedures for counselling, testing, as well as clinical referral, will be developed. These guidelines will be further adapted to specific contexts such as high and low volume (e.g. rural and urban) settings, as well as varied cultural settings in the country.
- Standardised data collection and management tools will be developed in consultation with all stakeholders, to feed into VCT monitoring and evaluation, and these will be promoted for use by all VCT service providers in maintaining confidentiality and providing regular reports to SNAP.

- Human resource capacity and management for VCT services will be strengthened through training new staff, establishing formal mechanisms for on going support and supervision by training counsellor and lab technologist supervisors.
- Review and ongoing support to VCT service activities within the national TB program facilities will be undertaken and clear linkage to national and state level VCT supervision and training defined and operationalised.
- Active creation of awareness and demand for VCT services will be done at both national and local level, preferably after adequate minimum standards of quality have been met at the accessible health service.
- Specific efforts will be made to make VCT services accessible to members of vulnerable and high risk groups, and adapting counsellor training to meet the needs of those groups, through greater participation of the target groups in VCT site activities. For instance, these efforts will include the training of IDP community members as counsellors, and opening service delivery outlets for greater access to specific vulnerable groups, as needed.
- The participation of faith based organisations and individual resource persons, in VCT service delivery will be promoted and facilitated, for instance through technical support and enhanced access to resources. Special efforts will be made to promote the active participation Muslim FBOs that are yet to get actively involved in the HIV/AIDS Sudan response.
- Links between VCT site activities to ongoing counselling and support services such as those by PLWA associations will be defined and formalised.
- Logistic systems procurement and supplies for VCT consumables will be established and strengthened as part of overall PSM strengthening.
- Criteria and processes for formal VCT site accreditation will be established, and modalities and nature of incentives to reward well-performing service delivery teams defined.

7.4 Developing human resource capacity and systems for ART and other HIV/AIDS care

Training and development of treatment supervision capacity will be essential to the development of human resource capacity. This training will be planned to start with health facilities in the higher HIV/AIDS burden localities and states, and will be synchronised with making ART available at facilities accessible from these higher burden communities. The selection and training of physicians will prioritise those individuals that have demonstrable ties to the communities where they are practicing.

Retention of all staff trained in ART care, will be further enhanced by enhancement of management and remuneration practices at the treatment centres.

- Regional HIV/AIDS care teams to cover the countries main regions will be constituted and provided with hands-on clinical training in their areas of work. The teams will consist of a physician, a senior nurse, a laboratory technologist, a counsellor and pharmacist. Based at tertiary / secondary or teaching hospitals at the initial ART centres, they will support pre-service and on-the-job training of health workers. From these initial centres, ART services will be extended for wider coverage, with the goal of members of these teams eventually functioning in treatment supervisors roles.
- A high quality of personnel working in treatment and VCT will be promoted through the issuing of certificates of competence for those who complete training. In addition, a system of continuing education and competency assessment will be developed with establishment of incentives to facilities and individuals who maintain certification of competence.
- Full integration of ART and OI care and prevention into the training curriculum for health worker training entrants. SNAP will coordinate to ensure that standardised curriculum components are developed and used by all institutions, private and public. Reference materials on ART and OI care and prevention will also be developed and distributed to training institutions, with regular updates with the latest guidelines in AIDS care.
- Clinicians will be given pre-service and in-service training to enhance their capacity to identify clinical AIDS, provide treatment for opportunistic infections, and refer patients for counselling and testing. This training will also contain clear elements against stigma and discrimination as well as accurate information on precautions against nosocomial HIV/AIDS infection.
- As the extent of the epidemic becomes more clearly defined in geographical and population group terms, an assessment of the human resource needed for further scaling up HIV/AIDS treatment to meet the treatment needs will be undertaken. This assessment will take into account the overall Human resource situation in the public, private and NGO sectors.
- Shifting of tasks such as treatment adherence education, to other cadre such as auxiliary nurses and expert patients or other community volunteers, as has been tried in other countries, will be explored to relieve any burden on higher skill staff, as well as to promote community and lay participation in ART.
- A review of human resource management and remuneration will be undertaken to develop recommendations to enhance motivation, performance, and retention of staff trained in HIV/AIDS care, in the specific context of Sudan.

- Training guidelines, job descriptions, and motivation mechanisms will be developed to encourage the participation of non health workers in care delivery both at health facilities and in the community. These will include PLWHA peer educators, religious leaders and other community volunteers. Motivation mechanisms to be explored and will include performance-based monetary and non monetary options.
- Specific attention will be paid to the training of procurement and supplies management personnel at national, state and service delivery facility levels, to ensure full understanding of roles required to achieve and maintain uninterrupted supplies of drugs and diagnostics.

7.4.1 Quality assurance for ART services

- Quality of ART services will be assured through ensuring that services meet minimum standards for physical space, personnel, standard operating procedures for confidentiality and privacy. These minimum standards will be established by a treatment scale up task force in partnership with SNAP, WHO, UNAIDS, among others.
- Standard operating procedures (SOPs) will be set up for establishment of a system of certification all aspects of HIV/AIDS clinical care. An independent body such as team of academics will be tasked with conducting the certification inspection of facilities. SNAP, WHO and other selected stakeholders will have representatives on the certification team. However, full care will be taken to ensure that the work, recommendations and reports of the team remain fully objective and independent.
- Compliance with these standards will be supervised every three-to six months to maintain vigilance, and incentives will be defined and established to reward well performing facilities, and motivate those that fall short to improve rapidly. For instance staff working at facilities that are certified could be given a top up allowance, whose continuity would be subject to maintenance of the standards of care.

7.4.2 PEP

- Modalities for review of the current PEP provision in the emergency setting in Darfur will be agreed with NGO partners. Thereafter, the national PEP guidelines will be reviewed with specific recommendations included on the provision of PEP in emergency settings.
- PEP training will be part and parcel of the HIV/AIDS training package for all health workers. In addition, clinical staff attending to HIV/AIDS patients will be trained further in PEP, and ARVs for PEP will be made available at accessible points in the states. It is intended and hoped that these measures will provide reassurance and discourage discriminatory practices against PLWHAs.

- Drugs and educational materials for PEP will be made available in all HIV/AIDS treatment centres and staff will be educated in their use.

7.4.3 PMTCT

- A review of the ongoing pilot project on PMTCT will be undertaken to guide development of a PMTCT delivery that is suitable for Sudan's epidemic state and socio-cultural situation. This will be followed by appropriate scale up of PMTCT activities.
- It is nevertheless foreseen that as a basic starting point, availability of VCT services will be enhanced at maternity service outlets, with priority to those outlets serving populations at greater vulnerability to HIV/AIDS or determined higher prevalence rates. In this way more and more vulnerable pregnant women will be given VCT with HIV/AIDS education, and as guided by sero-positive rate yields, provision of ARVs for PMTCT will be placed at service points, to optimise both access and cost effectiveness.

7.4.4 Home and Palliative Care

Home base care is a strategic intervention for supplementing health facility-based care, providing psychosocial support, and for reinforcing treatment adherence for PLWHA.

- A model for home based care of HIV/AIDS that is appropriate for Sudan's epidemic state and social cultural context will be developed. This model will include education of family members on treatment adherence support, support against stigma, self-protection from infection during the provision of care, among others. It will also include linkages to other PLWHA support such as food distribution. The model will be piloted for one year with two selected NGO partners.
- Sensitisation and consultation with civil society partners will be conducted on home based and other community care and support, and partners to pilot model will be identified, and piloting undertaken.
- After validation, more civil society partners will be identified, trained and supported to deliver home based and other community care.

7.5 Enhancing coordination between TB program activities and the HIV/AIDS treatment scale up at national, state and health facility levels.

In general, ART service delivery points will be planned to take full advantage of referral from entry point services such as VCT, TB services, and medical wards that see cases of clinical AIDS. In the particular case of TB services, the following specific activities will be done:

- Staff at TB treatment centres will be provided refresher training to cover the special regimens required for treating TB among HIV/AIDS patients, particularly highlighting the potential interactions with ARVs
- Joint HIV/AIDS-TB coordination will be undertaken by ensuring the participation of either program in the planning and monitoring of treatment activities, by the other. In addition, the TB program will be invited to participate in the 3by5 Task Force for closer partnership in treatment planning.
- A review of ongoing HIV testing and counselling activities currently undertaken by the TB program will be done, to guide ongoing technical support leading to observance of the developed minimum standards in VCT.
- An assessment of the human resource requirements for provision of quality VCT services in TB treatment centres will be done, to guide subsequent training of staff as HIV/AIDS counsellors. Where workload allows, the existing medical staff such as nurses will be trained as counsellors, and where this is not possible, additional counsellors will be trained / recruited, and the modalities of their management and remuneration defined.
- Using the developed standardised tools for VCT centre data collection as a starting point, necessary adaptations will be made to ensure that data collected at TB-service based VCT centres is compatible with, and reportable along with that from the other VCT centres. This will be followed by the training of staff in the use of the tools. Data generated will be copied to the SNAP offices for monitoring and evaluation.
- Supervision of HIV counselling and testing activities will be integrated into the routine supervision of the TB program. In addition, on going support by will be provided by the trained HIV/AIDS counsellor supervisors providing support to other VCT sites in the states.
- In view of the need for lifelong treatment with ARVs, the emphasis will be on early introduction of VCT and treatment adherence education among HIV positive TB patients, thereafter ensuring their transfer to ART services as their clinical condition warrants, for additional pre-ART and long term ART services.
- Screening for active tuberculosis will be done among all AIDS patients in chronic care, before and after commencement of ART, through inclusion of its criteria in standard symptom and clinical sign evaluation forms at each visit.
- As much as is feasible, the location of ART delivery points will be planned to facilitate cross referral of patients, coordination of counselling and treatment adherence education, as well as coordination of on going supervision. However, due care will be taken to avoid or minimise potential exposure of patients on ART AIDS patients to infectious tuberculosis.

7.6 Strengthening the procurement and supply management system for drugs, diagnostics in general, with specific attention to the requirements of ART scale-up

Uninterrupted availability of assured quality AIDS drugs is crucial for preventing the emergence of ARV resistance. The continuous availability of supplies for HIV testing is also necessary to ensure that created demand for services is not frustrated. To this end, the procurement and supplies management system will be strengthened as follows:

7.6.1 Logistic and physical infrastructure system

- A review of the tools and systems for procurement and supply management in the state ministries for health and in hospitals will be conducted to inform the formulation of standard guidelines for PSM of HIV/AIDS care-related products. This will include the revision / formulation of tools for drugs and diagnostics stock management, to ensure that they meet the requirements for ART scale up.
- The roles of SNAP and other stakeholders with activities relating to PSM for products relating to HIV/AIDS care at national, state, and health facility levels will be reviewed and clearly defined, and modalities for coordination of that role with those of other stakeholders agreed and established.
- The necessary physical infrastructure rehabilitation / construction will be undertaken to ensure that there is adequate and appropriate space for PSM activities relating to HIV/AIDS treatment at national, state and health facility levels.

7.6.2 Human Resource capacity

- Staff will be trained and distribution and supervision mechanisms established to ensure that there will be no stock outs. At each level of the distribution node a buffer stock will be maintained, while at the same time paying close attention to avoidance of expiry by using the first-in first out principle.
- A PSM training plan for staff in national, state and health facility levels, initially focused on the hospitals and states providing ART and other HIV/AIDS care will be developed and implemented. Staff to be trained will include PSM supervisors, and a system for supervision of PSM activities will be developed to support uninterrupted supplies while limiting wastage due to expiry.

7.6.3 Product Selection

- Products will be selected with the overall principle of obtaining assured quality at the lowest available prices. Internationally procured drugs will be from the WHO pre-qualified list, and only products that are registered with the national drug regulatory authorities will be purchased in country.

- Currently, SNAP is following the WHO recommended first and second line regimens in the selection of products to be procured with the secured 3rd round Global Fund resources. This policy will be continued, and the national Essential Drugs List and the national HIV/AIDS treatment guidelines will be regularly updated, in line with WHO recommendations, and the accumulated clinical experience with the various drugs in country. Preferential regimens will be determined with options for substitution in the event of toxicity or co-morbidities defined clearly
- Coordination between SNAP and the CMSPC will be strengthened to ensure that the selection of ARVs purchased with public funds is in accordance to the products recommended in the treatment guidelines.

7.6.4 Quantification and forecasting

- The consumption of the various products procured through the 3rd round GFATM grant will be monitored to make adjustments in the estimates of parameters used to estimate the first order of ARVs under GFATM resources. These parameters include weight characteristics of patients, projections of rates of tuberculosis, pregnancy, hepatitis, and the frequency of adverse events for various drugs.
- Data on numbers of PLWHAs identified, counselled and treated will be factored into the forecasts of estimates for the subsequent periods.

7.6.5 Procurement: Distribution and storage management

- Discussions will be undertaken with a goal to have the CMSPC adopt and follow a policy of importing generic WHO pre-qualified preparations for all drugs whenever they are available on the international market, instead of brand-name products. The aim will be to make this mandatory for all items procured with public resources.
- On importation of products, order sizes that maximize benefit from economies of scale will be placed, based on realistic forecasting of consumption. A buffer stock of three months' supply of drugs will be maintained at each node of the supply chain.

7.6.6 Inventory Management and distribution

- At all levels, the principle of first-expiry/first-out will be applied to stock control, and expiry dates of products will be checked on arrival, and regularly thereafter as part of inventory management, at all levels.
- A system to monitor usage and prevent diversion of products will be set up to minimize possible losses. At each supply chain node, records of registration quantities of drugs received, and dispatched, with dates, names and signatures of delivering and recipient personnel will be maintained. At the treatment centres,

records of all drugs dispensed will be kept, using as appropriate, unique patient identifiers. Such identifiers may include a serial ID number, age, gender, parish and district of residence, prescribing doctor names. These records will be available for regular and random checks by supervision and monitoring staff.

7.6.7 Rational Drug use

- Sudanese-adapted clinical treatment guidelines, based on the WHO IMAI tools will be disseminated to care providers, and training in their use provided.
- Availability of treatment will be publicized in the mass media, and directly to health care providers, to encourage uptake of services.
- Patients will be counselled and educated on treatment adherence and whenever agreeable to the patient, one or more family members will be counselled to provide support for the patient. Whenever available, fixed dose, blister packed preparations will be procured in preference over other preparations, to further enhance patient compliance.

7.6.8 Quality Assurance

- As a basic quality assurance measure, only WHO pre-qualified ARVs and diagnostics will be procured. Samples will be systematically drawn from each batch of the products on arrival in the country, and subsequently from the batches at national, state and health facility levels. Quality control testing for ARVs will be done using WHO-recommended laboratories in the region, and adverse drug reaction reporting will be incorporated into caregiver and patient education and training.
- Drug efficacy will be monitored through clinical response of the patients, as indicated by weight gain, as well as laboratory markers of disease such as CD4 counts. Patients will also be monitored for re-emergence of any AIDS defining illnesses (indications of treatment failure), as well as for adverse effects. Substitution of individual drugs or switching to new regimens, will be done as appropriate, in accordance with the treatment guidelines.

7.7 Broadening and supporting the participation of partners from all sectors for treatment scale up.

The current involvement of the three government health services (under the ministries of: health, interior and defence) will be complimented by promoting further NGO and private health sector activities.

7.7.1 Military and Police services

- Where health facilities run by the police or the military have clear operational advantages such as staff capacity, infrastructure and accessibility by civilian

personnel, treatment centres will be established in them. At the very minimum, their facility network will be used to reach military and police personnel and their dependents with treatment services.

- Military and police personnel will be trained as HIV/AIDS counsellors to enhance access to their colleagues with clear on the voluntary nature of the service as well as confidentiality, for potential clients.
- The military health services will be provided with technical support to increase the numbers on treatment at the current services in Khartoum and Juba, as well as to open new services in other areas.
- Police and other law enforcement personnel will be provided training on the rights of PLWHAs, as enshrined in Sudan's commitments, and hopefully in the special law that is to be passed.

7.7.2 The private and NGO sectors

- The participation of the private and NGO sectors in HIV/AIDS treatment will be promoted and supported through well-targeted sensitisation and training activities. Competence certification standards and procedures as well as modalities for recognition and rewarding quality explored and established. Such rewards may include access to low cost drugs and diagnostics procured through the bulk purchasing organised by the public sector, on condition that they will be provided to patients in the private sector at agreed prices, and that they provide standardised data on the utilisation of their services. Monitoring such prices and the quality and completeness of submitted data would be part of the overall ART monitoring and evaluation.
- Health insurance caters for 8% of the population in Sudan, two thirds of who are government employees. Given the demonstrated ability for HIV/AIDS to decimate the ranks of even skilled health workers, assessment and dialogue will be conducted to explore the inclusion of coverage of HIV/AIDS care for those members of the population covered by the health insurance. This assessment will cover, among others, the issues of cost implications for the insurance companies, the confidentiality of patient records, and possible modalities for provision of the cost of at least the some of the inputs like ARVs, from available donor resources like the GFATM.

7.8 Establishing a monitoring and evaluation (M&E) system and integrating it into the national HIV/AIDS M&E plan

Monitoring and evaluation of the treatment programme will be integrated into routine SNAP reporting, and indicators will be reflected in the national M&E plan for HIV/AIDS.

7.8.1 The M&E framework

The following activities will be undertaken as part of development of a national M&E framework for ART:

- Treatment M&E indicators will be agreed with stakeholders and integrated into the national HIV/AIDS M&E framework. This process will include agreement on standard indicators to be used by all partners involved in HIV/AIDS treatment in Sudan, and the formulation of common forms for use by all partners.
- Particular care will be taken to define Standard operating procedures and tools that protect the confidentiality of individual patient records at each ART site, and during referral.
- Local adaptation of IMAI ART monitoring tools will be done, followed by training in their use, and incorporation of the use of reporting tools among the parameters for supervision and certification of the quality of services.
- In the case private and NGO ART service providers, consent to submit to regular certification inspections will be required before their facilities are licenced to provide ART, and maintenance of certification status will be a requirement for continued benefit from any incentives set up.
- In the case of the military and police services, procedures for access to the essential information needed for certification of the care facilities will be agreed with the respective leadership, out of respect for any additional security sensitivity of such data to these institutions.

7.8.2 Indicators

The following indicators will be used:

Input

The formulation of the following outstanding national level policies, strategies and guidelines will be monitored:

- A confidential patient tracking system,
- The enactment of the law protecting the rights of PLWHAs,
- Guidelines to ensure equitable access to ART for the poor, marginalised, vulnerable and high risk groups.

Process and Output

a. VCT and other care and support

- Number and percentage of hospitals providing voluntary counselling and testing services in accordance with defined national standards.
- Number, percentage of people who complete the counselling and testing process.

b. ART

- Number and percentage of facilities providing ART that also have laboratories to monitor ART in accordance with national guidelines.
- Number and percentage of States with at least one health facility providing ART services, in accordance to defined national standards.
- Number and percentage of selected indicative hospitals that are providing ART services, in accordance to defined national standards.
- Number and percentage of ARV storage and delivery points having no stock outs in the preceding 6 months.
- Numbers of Health workers trained on ART in accordance with the defined national standards.

c. TB/HIV collaboration

- Number of TB patients who receive counselling and testing
- Number of registered TB patients who are HIV positive
- Number of HIV positive TB patients who have begun or are continuing ART during or at the end of TB treatment

Outcome

- Number of PLWHA receiving diagnosis and treatment for opportunistic infections
- Numbers of people who are started on ART
- Percentage of patients remaining on ART at 6, 12, 24 etc months
- Percentage of patients continuing first line regimens at 6, 12, 24 months after initiation of ART.
- Percentage of adults on ARV who gain at least 10% of body weight 6 months after initiation of ART.

Impact

- Percentage of people who are still alive at 6, 12, 24, 36, etc months after initiation of ART.

7.8.3 HIV drug resistance surveillance

It is critical that HIV drug resistance is kept to a minimum to reduce the necessity to revert to more expensive higher regimen drugs, higher health care costs, treatment failure and even the transmission of drug resistant virus to treatment-naïve subjects. HIV drug resistance will be monitored by:

- Early warning indicators such as the proportion of patients who remain on first line treatment over time, will be monitored. Staff will be trained to look out for, identify and report clinical treatment failure, to provide the earliest indication of possible emergence of resistance.

- Where early warning indicators of possible drug resistance such as clinical treatment failure are detected, its determinants such as adherence issues and drug quality will be characterised and early remedial program measures instituted.
- WHO technical expertise will be obtained to support the establishment of a system for baseline measurement and ongoing surveillance, of HIV drug resistance prevalence in the country.

7.8.4 Operational Research in support of ART

Operational research questions will be identified as ART scale up gets underway. Support for operational research activities will be included in the budget provisions, and collaborations with academic and other research institutions will be fostered to ensure that local issues are adequately explored and fully taken into account in ART implementation.

7.9 Mobilising internal and external resources for treatment, combined with efforts to access the lowest available international prices for drugs and diagnostics.

Given the inadequacy of the available resources for treatment scale up, particular attention will be paid to mobilisation of resources.

7.9.1 Resource mobilisation

- A full analysis of financial resources required will be done, including the costing of the treatment scale up plan, in order to quantify the resource gaps.
- Advocacy to raise resources will include consultations with donor and UN agencies, national and international NGOs, as well as local benevolence agencies. This will lead to identification of specific roles that various individual stakeholders could play in supporting the treatment scale up plan with resources.
- Mobilisation will also include exploration of additional national resources in Sudan that could be put to the disposal of treatment scale up. Sources to be explored will include government budget allocations, contributions by individuals and companies, for example through the Zakat Fund.
- Discussions promoting the inclusion of HIV/AIDS treatment in the coverage offered subscribers to the health insurance scheme will be undertaken. To the extent possible, these discussions will be supported with cost-benefit evidence such as detailed quantification of costs for ART and other treatment in comparison to other conditions that are already covered by the insurance.

7.9.2 **Price Reduction Strategies**

- A review of Sudan's laws and patent registration system and records will be done to ensure that there are no unforeseen obstacles to full generic competition for HIV/AIDS treatment products. Where such obstacles are found, the necessary legislative reform will be promoted.
- The possibility of Sudan joining existing bulk purchasing schemes will be actively explored. In addition, the possibility of forming new bulk purchasing partnerships along lines of the existing regional frameworks such as the IGAD will also be explored. If feasible, the latter would allow Sudan to benefit from lower prices from economies of scale, by joining up with other higher HIV prevalence neighbouring countries that have higher demand for drugs.
- These efforts will be supplemented with price negotiation with manufacturers and their representatives which should, hopefully, result in lower prices even in the private sector.