National Leprosy & TB Control Program

National TB Strategic Plan

2007 – 2012

Ministry of Health & Social Welfare
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LIST OF ACRONYMS

ACS	Advocacy, Communication and Social mobilization
AFB	Acid Fast Bacillus
AIDS	Acquired Immune Deficiency Syndrome
ART	Anti-Retroviral Therapy
4WD	Four Wheel Drive
CHT	County Health Team
CPT	Co-trimoxazole Preventative Therapy
DOTS	Directly Observed Treatment Short-course
GDF	Global TB Drug Facility
GFATM	Global Fund to Fight AIDS, Tuberculosis and Malaria
GLRA	German Leprosy and TB Relief Association
GNP	Gross National Product
GOL	Government of Liberia
HCT	HIV Counselling and Testing
HIV	Human Immunodeficiency Virus
HMIS	Health Management Information System
INGOs	International Non-Government Organizations
INH	Isoniazid
IPT	Isoniazid Preventative Therapy
IUATLD	International Union Against Tuberculosis and Lung Disease
MDGs	Millennium Development Goals
MDR-TB	Multi-Drug Resistant Tuberculosis
MOH&SW	Ministry of Health and Social Welfare
MOU	Memorandum of Understanding
NACP	National AIDS Control Program
NGO	Non-governmental Organization
NLTLCP	National Leprosy and Tuberculosis Control Program
PLWA	People Living with HIV and AIDS
PPM	Public-Private Mix DOTS (also known as PPP)
PPP	Public-Private Partnership for DOTS
PSM	Procurement and Supply Management
QCA	Quality Control Assurance
TB	Tuberculosis
TBL	Tuberculosis and Leprosy
VCT	Voluntary Counselling and Testing
WHO	World Health Organization

1. Executive Summary

Tuberculosis (TB) is a major public health problem in Liberia. The WHO estimates for incidence rate for all forms of tuberculosis is 301 per 100,000 populations and smear positive is 132 per 100,000 populations[1]. The most productive age group 15-54 years accounts for more than 87%[2] of all TB and this has obvious consequences for the socio-economic growth of this population in particular and country in general.

TB control activities have been organized and coordinated by the National Leprosy and Tuberculosis Control Program (NLTCP) since its establishment in 1989. DOT strategy was introduced in 1999. Liberia has now endorsed and adopted the Global STOP TB strategy. The NLTCP has received significant external financial and technical support on its TB control activities, in which GFATM Round 2 in 2004, GDF, GLRA and WHO have been major partners. Other partners provided support ranging from running public health facilities or using their private facilities to provide TB services, payment of incentives to health workers and in-kind contributions.

The DOTS (Directly observed Treatment Short Course) service coverage by county is 100%. However, both microscopy and drug distribution services are only available at 98 of the 389 functioning health facilities. These 98 facilities are cover 72% of districts, catering to less than 40%[3] of the population. New smear positive case detection rate in 2006 was 60.6%, which is still below the WHO target of 70%. The treatment success rate for the cohort of 2004[4] for all cases and smear positive cases has been 72.3% and 73.6% and the same for the cohort of the 1st three quarters of 2005 has been 74.8% and 75.8% respectively.

However, the dual epidemic of TB and HIV threatens the gains in TB control in the past few years. Consensus estimates developed indicate a national HIV rate of 5.2%. Greater Monrovia where over 33% of Liberians live has 9.5% rate of HIV infection. Counties in the south east, particularly Grand Gedeh and Maryland, which border Cote d'Ivoire are estimated to have HIV rates in the range of 10-15%[5].

2007-2012 Strategic Plans

Expansion of high quality DOTS to additional health facilities, Public, Private, Corporate Sector Partnerships, Community DOTS, scaling up and effectively integrating TB/HIV services, health systems strengthening by supplementing and capacity building of existing and recruited staff in the technical and management areas of TB control, improvement of laboratory services and drug distribution and storage are necessary to achieve higher TB case detection and treatment success rates. Information, education, communication, behavioural change communication strategies, ACSM and community participation in TB care will play a critical part in supporting these activities. Supervision, monitoring and evaluation skills at all levels need to be strengthened in order to improve TB programme outcomes. All these areas form the core of 2007-2012 strategic plan of Liberia requiring approximately US$20 million for its execution.

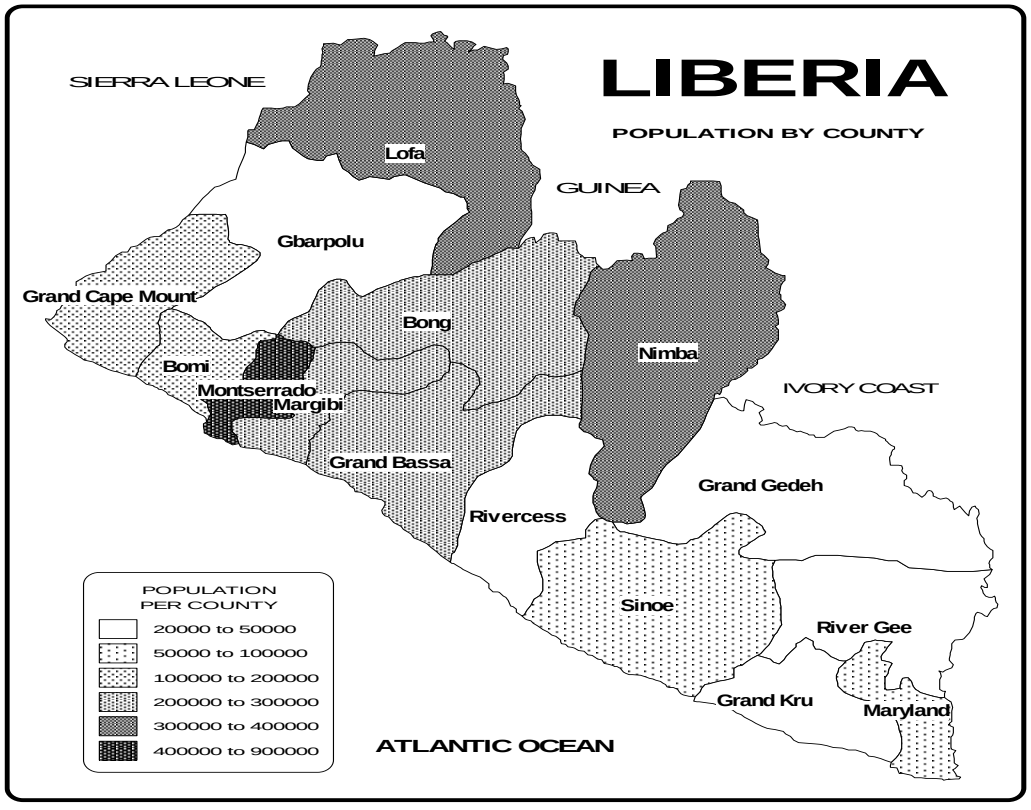
[1] WHO Report 2005
[2] NLTCP data from 2003-2005
[3] Based on catchment populations of DOTS facilities, MOHSW assessment, 2007
[4] Yearly data on treatment outcome for the calendar year in respect of other years is not available with NLTCP. The programme had not been using calendar year cohorts for recording/reporting treatment outcomes
[5] GFATM Rd 6 HIV Proposal

2. Background Information

2.1. Country profile

Liberia is a West African Country that is bordered by the Republic of Sierra Leone (West), Republic of Guinea (North), the Republic of Cote d'Ivoire (North & East) and has 350 miles of Atlantic Ocean coastline. It covers a land area of 43,000 square miles and has a population of 3.6 million[6] with a population density of 83/sq mile. 52.8% of the population is in the productive age group of 15-64 years.

Liberia is one of the oldest Independent Republics in Africa. It became independent in 1847. Repatriated people of color from America founded it. Domination of political power by one segment of the population (Americo Liberians) brought about a coup d'etat in 1980, which eventually led to a civil war in 1989 that only ended in 2003. An estimated 270,000 people died, hundreds of thousands became refugees and internally displaced[7]. The war resulted in a shattered economy, high unemployment and increasing levels of poverty and an infant mortality rate of 157 per 1,000 live births and a life expectancy at birth estimated (2005) as 47.7 years[8].



[6] National Health Plan and Policy, 2007
[7] iPRS, 2006
[8] iPRS, 2006

Liberia has the republican form of government. The government headed by the President has three (3) distinct branches: The Legislative, Judiciary and the Executive. The country is divided into 15 counties, which are further divided into 90 districts.

Poor economic growth, high rates of inflation; massive displacements of the agricultural labor force combined with almost total disruption of farming activities in rural areas and high unemployment rate are manifested in unprecedented levels of poverty. GDP per capita declined from 1,269 USD in 1980 to 163 USD in 2005 – an 87% decline. An estimated 80% of Liberians live below the poverty line. The World Bank Human Development Index (0.276) ranks Liberia as the least developed country in the world. Well over three quarters of Liberian live below the poverty line of $1.00 per day[9]. About half of the nation exists in abject poverty of less than 50 cents per day. The economy is only beginning to stabilise and improve from 2004 onwards.

Socio- Economic Profile [10]

Indicator	**Rate**
Economic growth rate	5.3% in 2005
GDP Per Capita	$163 in 2005
External debt burden	3.7 billion as of mid-2005
Population living below the poverty line of US$1 per day	80% (estimated by UNDP, 2001)
Population with access to sanitary facilities	24% in 2006
Population with access to safe drinking water	32% in 2006
Population in rural/semi-urban areas food insecure	11%
Illiteracy rate	70% in 2004
Employment rate	53.9% (of which 52% is self-employment) [11]

2.2. Health Profile

Liberia's health services have been severely disrupted by years of conflict and looting. While revitalization of the health services has begun, it is still far from satisfactory, as may be seen in the following descriptions of health status, infrastructure, workforce, utilization of services and challenges.

2.2.1. Current Health Status

The present health status of Liberia may be summarized as follows[12]:

[9] iPRS, 2006
[10] Interim Poverty Reduction Strategy, 2006
[11] National Health Policy 2000; a framework for Health Reform in the New Millennium. MOH &SW, Monrovia, Liberia
[12] National Health Plan 2007, iPRS, 2006

1) Infant mortality rate - 157/1,000;
2) Under-Five Mortality rate - 235/1,000;
3) Maternal mortality rate - 580/100,000;
4) Estimated HIV prevalence rate - 5.2 %;
5) Access to safe water and sanitation - 24% and 26% respectively;
6) Widespread malnutrition – 39% of children under five are stunted;
   - 26% underweight and 6% severely wasted[13].

2.2.2. The National Health System

Structure

The Ministry of Health and Social Welfare (MHSW) which formulates health care policy has four departments: Administration; Social Welfare; Planning, Research and Human Resources Development; and Health Services. At the operational level, health teams at counties, districts and community deliver health services at their respective levels. Referrals are from the primary level to the secondary level and from secondary to tertiary level. The private sector, faith-based facilities, facilities sponsored/supported by international and national NGOs, and private individual practitioners are important contributors to the health delivery system. Basic services including maternal and infant care and selected components of HIV and AIDS, Malaria and TB control programmes are available at the community and primary health care level. A full set of services and emergency services are offered at the county and central levels.

Health budget

Liberia has one of the smallest health budgets in Africa. Of the government's current $122 million budget for FY 2006/07, just over $10 million (8.4%) will be devoted to health, 30% of which will be channelled to hospitals for curative services thereby meaning that health programs will continue to be dependent on external funding.

Including external funding for health, current health per capita expenditure is US$4 per capita. Millennium Development Goals recommend US$ 34 per capita. To confront HIV/AIDS and other health challenges, Liberia has committed to increasing health sector spending to 15% of public expenditure by 2015, the target agreed by African Heads of State in Abuja in 2000. This budget is still inadequate: the total cost of the four year National Health Plan 2007-2010 is $283 million (See Appendix 10.x), of which the Government of Liberia will only be able to finance US$89 million (30%).

Input from "emergency actors" (UN agencies, INGOs) was estimated to total at least $15 million in 2005[14]. However, this critical external funding is expected to decline over the next 5 years due to major donors withdrawing as the country transitions from humanitarian/emergency relief to development assistance. The estimated cost of withdrawal – "the transition gap" is $62 million over 4 years, 2007-2010.

[13] Health Sector Assessment Report MOH Dec. 2005
[14] Interagency Health Intervention Liberia. Final Report, September 2005.

Decentralisation
Decentralization of health care delivery services, transferring responsibility and authority for planning and implementing from the MHSW to the counties, districts, and local communities, which has long been a goal of the health system, is emphasized in the National Health 5 Year Plan of 2007. The National Health Policy has called for the establishment of and/or reactivation of the following mechanisms:

1. Community Development Councils responsible for facilitating the creation of health constituencies within communities.
2. District Health Boards responsible for motivating and providing policy guidance to district health workers to forge sustained partnership with stakeholders for the achievement of health outcomes.
3. County Health and Social Welfare boards responsible to provide policy directions to monitor and evaluate general performance of county health teams.
4. A National Health and Social Welfare Council to facilitate the expansion and scale-up of HIV/AIDS services to cover a major proportion of unmet need in underserved counties.

Integration of Vertical Programs
The basic package of health services due to be introduced in July 2007 is designed to integrate common components of vertical programs such as HIV and AIDS, Malaria and TB so as to optimise the synergistic effects. The vertical program units will continue to monitor, supervise, mobilise resources and do advocacy in their specific areas, but at the service delivery point the programs will be integrated to enable delivery of integrated comprehensive health care services package.

Other Organisations in the Health System
Drug delivery is carried out by MOHSW through the National Drug Service (NDS) after procurement through the Global Drug Facility[15]. The National Drug Service is a semi-autonomous body whose role is to procure, store and distribute drugs and consumables to health facilities around the country. Support to the NDS is through the European Union/USAID and the GFATM.

WHO, UNDP and other partners, including NGOs/INGOS, are also supporting capacity building of the Ministry of Health & Social Welfare.

2.2.3. Health Infrastructure and Access to Services

Liberia has a total of 521 health facilities, out of which 389 are functioning that too at a minimal or sub-standard level, e.g., 60% of functioning facilities lack lighting, 46% have no potable water supply and 53% lack cold chain facilities. Out of these 389 functioning

[15] For example for HIV and TB funded under GFATM

health care outlets, 300 are functioning with NGO support. The demand for services will increase as Liberia sees the returns of refugees and resettlement of displaced populations. 41% of Liberians currently have access to health facilities[16].

2.2.4. Human resources for health

90% of Liberia's 450 doctors have left the country because of war. A rapid assessment of the health workforce conducted in 354 health facilities by the Ministry of Health in June 2006 showed that Liberia has only 122 doctors, including 71 foreign nationals, 668 nurses of all kinds, and 297 certified midwives. There will be further reductions with the scheduled departure of MSF and other relief agencies in the next two years. WHO estimates[17] that Liberia should have 1,094 doctors, 5,549 nurses, and 1,634 midwives. In other words, Liberia should have 9 times as many doctors, 8 times as many nurses and 6 times as many midwives to reach the minimum threshold for effective health care delivery.

Table 3: Liberia Unmet Health Workforce Need Estimate[18]

Cadre	Existing workforce	Target workforce	Unmet need (shortage)
Active health workforce size			
Physicians (Doctors)	122	1094	972
Nurses (*includes* all nurses)	668	5549	4881
Midwives (*excludes* trained traditional midwives)	297	1634	1337
Physician Assistants/Medical assistants	236	550	314
Pharmacists (*excludes* dispensers)	24	216	192
Lab technicians (*includes* lab assistants)	261	372	111
Other health workers (*includes* all health trained workers not classified elsewhere)	2358	3175	817
Management & support staff		1324	1324
Total health workers (full-time)	**3,966**	**13,912**	**9,946**

Only two functioning health training institutions (A.M. Digliotti College of Medicine and the Tubman National Institution of Medical Arts (TNIMA) are operating under severe crunch of important resources, including financial constraints, as a result of which, a number of sub-standard private health institutions are thriving.

2.3. National Health Plan and Policy 2007

The National Health Plan sets forward a framework of decentralisation and need based integration. To give more autonomy to the counties, districts and local communities, they

[16] Defined in terms of geographical accessibility - 10 kms from where you live to the facility
[17] Table 3
[18] The target density is derived from the threshold density estimate (2.28 doctors, nurses & midwives per 1,000 population) and the skill mix data for the 36 shortage countries in sub-Saharan Africa. Sources: WHO, Geneva, Liberia Ministry of Health & Social Welfare, August 2006.

have been advised to assess community needs before formulating their need based health related activities. Common activities of the health programs are proposed to be integrated to optimise the synergistic effects taking care that the focus of the individual programs are not diluted. The plan envisages shifting from humanitarian to development. This framework is based on four components.

1) Basic Package of Health Services

A Basic Package of Health Services (BPHS) is the cornerstone of the national health plan. It defines the services that the Ministry of Health and Social Welfare (MOHSW) assures will be available to each and every Liberian. The BPHS standardizes prevention and treatment services throughout the health system to ensure that all individuals, wealthy or poor, living in urban or rural areas, receive the same package of care.

The BPHS is a "minimum package" to be made available as an integrated whole, rather than an assortment of vertical and parallel programs. Additional services not currently included in the BPHS will, once approved by the MOHSW, be added to, but not substituted for, those already included in the BPHS. A fully functional health facility shall be able to offer the complete BPHS to the entire catchment population.

In accordance with MOHSW policy user fees for the services included in the Basic Package will be suspended at all public facilities, at least for the current interim period. To this end, if no other sources of funding are available, public sector health funds will be allocated, preferentially, to implementation of the BPHS.

2) Human Resources for Health

The human resource component of the National Health Plan strives to ensure that the right numbers of health workers are in the right place at the right time, and with the right skills. This workforce, with support from community partners, will ensure delivery of the BPHS to meet community needs

3) Infrastructure Development

The infrastructure component of the National Health Plan sets forth a proposal and estimated cost to make PHC and the Basic Package of Health Services geographically accessible via a decentralized system of health clinics, health centres and hospitals.

According to CHOs, Liberia needs approximately 555 health facilities to make PHC geographically accessible requiring the number of functional health facilities to be increased from 389 to 550. The process would require minor or major rehabilitation of 110 existing facilities. In addition 30 facilities would need to be reconstructed (on a previous foundation) and 30 new health clinics constructed in underserved areas.

Table 6: Infrastructure Priorities and plans of the County Health Offices

CHO Infrastructure Inventory & Plan	Bomi	Bong	Gbar-polu	Grand Bassa	Grand Cape Mt	Grand Gedeh	Grand Kru	Lofa	Mar-gibi	Mary-land	Mont-serrado	Nimba	River Gee	River cess	Sinoe	Total
1) How many facilities exist, including func. & nonfunc, public & NFPP?	20	35	24	36	32	18	16	53	32	23	64	56	15	20	27	471
2) How many facilities are needed to make PHC accessible with 10kms?	**24**	**39**	**23**	**42**	**37**	**31**	**16**	**68**	**35**	**29**	**66**	**61**	**22**	**30**	**32**	**555**
3) How many health facilities are presently functional?	18	33	13	28	22	13	10	42	31	17	50	48	12	18	6	361
4) What are your facility rehabiliation and constructions plans (see below)?	14	12	5	5	11	7	6	11	8	6	7	15	9	21	26	170
Types of Rehabilitation																
Minor Rehab of Clinics or Hlth Centers		6	3		4	3	5	4	3	1	6	6	7	3	4	55
Major Rehab of Clinics or Hlth Centers	2	2	2	5	2	1		4		3		3	1	7		32
Major Rehab Health Center			1				1		2	2	1		1		2	10
Re-Construct clinic near same site	4							3							19	26
Construct clinic in new health area	5	4			5				3			5		10		32
Upgrade from Clinic to Health Center	2		4			2								1		9
Minor Rehab of Hospital	1						1					1			1	4
Major Rehab of Hospital			1			1										2
Summary of Health Facilities by Type																
Clinics	21	34	20	37	34	26	13	57	29	26	52	53	17	27	26	472
HC	2	3	2	2	2	4	2	7	4	2	9	4	4	2	5	54
Hospital	1	2	1	3	1	1	1	4	2	1	5	4	1	1	1	29
Total	24	39	23	42	37	31	16	68	35	29	66	61	22	30	32	555

4) Support Systems to Strengthen Decentralization

The support systems component of the National Health Plan is a strategic program to decentralization power and decision-making closer to the people. It is a critical element of the Government reform agenda for building a new democratic culture and promoting a culture of accountability.

Within the health sector, decentralization will include de-concentration of management responsibilities at the county level and effective support systems at the central level. The local level shall be responsible for primary health services, while the central level will focus on policies, aggregate planning and standard settings. The Ministry will assign responsibilities to County Authorities as they are equipped to assume them and progressively expand these responsibilities.

Resources will be redistributed in favor of local communities, and with the objective of improving the capacity of health services to respond to local health care needs.

Support Health System Component	Current Status	Status Targeted
Policy formulation and implementation	Undertaken at National/Central Level with Specialised Health Program Heads	Involvement of county and district levels, NGOs and community representatives
Planning and budgeting	Proposed and decided at national level	Proposed from all implementation levels

		including peripheral levels and finalised with consensus from these levels
Human Resources Management and in-service training	No comprehensive HR development plan Very limited specialised training, including refresher training of health workers under vertical programmes	Integrated HR planning at central level in consultation with all healthcare implementation levels Integrated training of health workers in areas such as management, finance and logistics Specialised training of priority public health interventions
Health Management Information Systems	Not developed	Integrated HMIS with standardised reporting as well as disease specific reporting based on programme requirements. Establishing two-way time bound flow of information. Starting end 2007
Drugs and Medical Supplies	Standardised and integrated (combining all drugs) through the National Drug Supply (NDS) with centralised distribution and storage. For TB distribution in consultation with programme. Some medical equipment such microscopes for laboratories (many of which serve multiple programs) are common	Standardised and integrated with county level distribution and storage Some medical equipment such as microscopes for laboratories. many of which serve multiple programs and are common
Facility and Equipment Maintenance	Integrated except for specialised facilities	Integrated except for specialised facilities
Logistics and Communications	Integrated	Integrated
Supervision, Monitoring and Evaluation and	No SM&E system and research unit positions.	Establishment of an integrated SM&E and

Research	Adhoc SM&E activities are conducted within the individual programs primarily to satisfy donors.	research unit at central level with appropriate appendages at all implementation levels supported by specific specialists where necessary. Standardised SM&E data collection tools and reporting formats. Decentralised supervisory activities for all levels Starting end 2007
Stakeholder Coordination and Community Participation	At the central level there is the health sector coordination committee (HSCC) chaired by the Minister of Health. This is a committee where all the health partners come together. There are program specific committees as well run by the individual programs. Community Health Workers (CHWs) support a range of health programs.	Involvement of private and corporate sectors in the stakeholder committees. Formation of consortium of donors including NGOs to ensure no duplication of activities and consistency with national policies and framework. Expand the network of integrated CHW activities.

3. TB Disease Burden

TB is a major health burden in Liberia. Although, till date no incidence survey has been conducted on account of technical and financial constraints, the estimated incidence of all forms of TB cases in 2006 is 10,926 and that of smear positives is 4,792[19] based on WHO estimated incidence rate of 301 and 132 per 100,000 respectively[20]. It is with this background that the present strategic plan also envisages undertaking of ARI surveys.

The best available estimates are for smear positives at the rate of 132 per 100,000[21]. It is well known that in addition to new smear positive, smear positives include TAD, failure and relapse. A quick perusal of the country data of the last 6 years reveals that TAD, relapse and failure all combined constitute a negligible - less than 5% of the total smear positive cases. Therefore, for the present, the available WHO notified smear positive rate is taken as the new smear positive rate for calculating the total burden and also for assessing the existing new smear positive case detection rate.

New smear positive case detection rate in 2006 was 60.6%, which is still below the WHO target of 70%. The age group 15-54 years accounts for more than 87% of all TB cases during the period 2001-2006. The treatment success rate of all cases and smear positives for cohorts of 2004 and 2005 (qtr 1 - qtr 3) has been 72.3% and 73.6%; and 74.8% and 75.8% respectively.

However, the dual epidemic of TB and HIV threatens the gains made so far in TB control. Consensus estimates developed indicate a national HIV rate of 5.2%. Greater Monrovia where over 33% of Liberians live has 9.5% rate of HIV infection. Counties in the south east, particularly Grand Gedeh and Maryland, which border Cote d'Ivoire are estimated to have HIV rates in the range of 10-15%[22].

[19] Based on population of 3,630,000
[20] 2004 estimates in Liberia TB Profile, WHO 2007
[21] WHO Global Report 2007
[22] GFATM Rd 6 HIV Proposal

3.1. Case Detection[23]

All forms notification - Number of Cases in Liberia								
Year	New smear positive	New smear negative	New smear unknown	Extra pulmonary TB	Relapse	Failure	TAD	All Notifications
2001	934	326	143	336	12	9	11	1771
2002	1974	839	0	579	27	0	20	3439
2003	1319	377	262	544	9	5	7	2523
2004	2490	545	374	901	27	21	39	4397
2005	2167	360	215	657	33	10	14	3456
2006	2906	456	190	829	66	38	29	4514

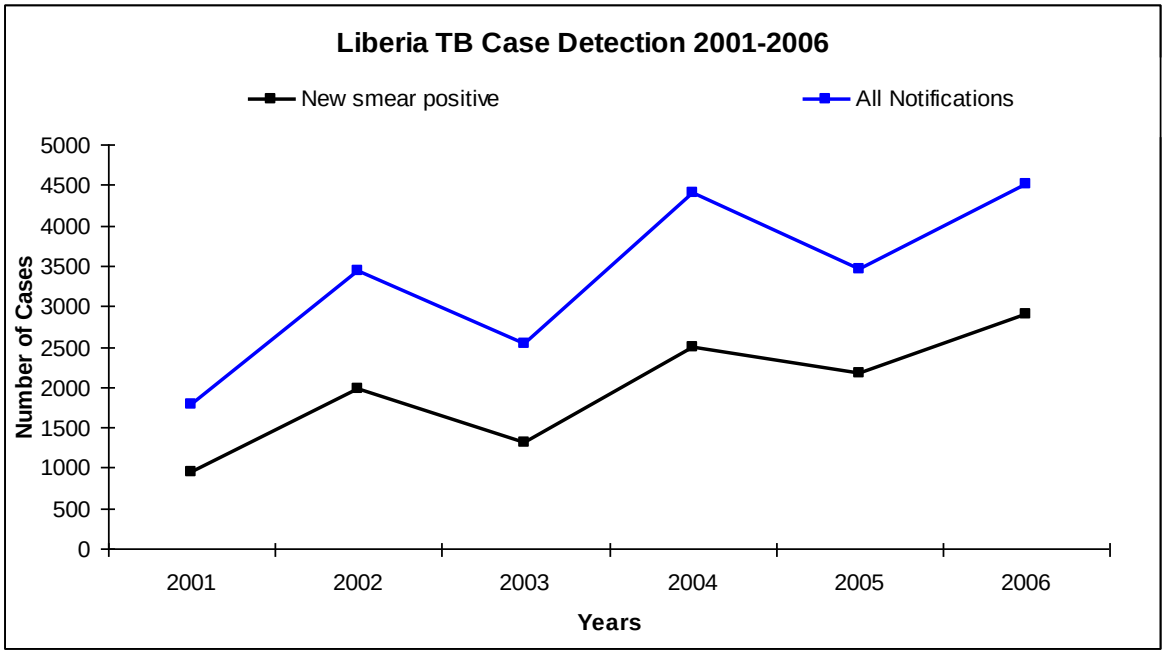


Table 2: Age/Sex breakdown for new smear positive cases

Year	Age grouping in years																		Total
	Male									Female									
	0-14	15-24	25-34	35-44	45-54	55-64	65+	Total	%	0-14	15-24	25-34	35-44	45-54	55-64	65+	Total	%	
2001	16	111	174	132	63	17	11	524	56%	18	108	143	77	35	17	12	410	44%	**934**
2002	20	252	315	295	143	65	49	1139	58%	26	256	250	150	86	41	26	835	42%	**1974**
2003	5	180	215	204	99	49	23	775	59%	12	148	180	109	43	30	22	544	41%	**1319**
2004	32	333	427	285	198	71	51	1397	56%	39	268	397	183	123	41	42	1093	44%	**2490**
2005	26	240	352	333	155	74	65	1245	57%	37	232	297	171	108	52	25	922	43%	**2167**
2006	59	324	442	371	250	125	97	1668	57%	55	292	371	242	125	85	68	1238	43%	**2906**
Total 2001-2006	158	1440	1925	1620	908	401	296	6748	57%	187	1304	1638	932	520	266	195	5042	43%	
%	2%	21%	**29%**	24%	13%	6%	4%	100%		4%	26%	**32%**	18%	10%	5%	4%	100%		

[23] NLTCP 2005-6 reports, based on the population consensus of 3.63 million

3.2. TB Treatment

The programme had not been using calendar year cohorts for recording/reporting treatment outcomes.

Treatment Cohort Outcomes[24]	Smear Positives					
	Registered	Cured and Completed	Failure	Died	Default	Trans Out
2004 Cohort Outcome (qtr 1 - qtr 4)	2577	1898 (73.65%)	18 (0.7%)	154 (6.0 %)	463 (16.8%)	74 (2.9%)
2005 Cohort Outcome (qtr 1- qtr 3)	1659	1258 (75.8%)	12 (0.7%)	108 (6.5%)	199 (12.0%)	82 (4.9%)
	Total					
	Registered	**Cured and Completed**	**Failure**	**Died**	**Default**	**Trans Out**
2004 Cohort Outcome (qtr 1 - qtr 4)	4397	3181 (72.3%)	18 (0.4%)	326 (7.4%)	746 (17.0%)	156 (3.5%)
2005 Cohort Outcome (qtr 1- qtr 3)	2891	2164 (74.85%)	12 (0.4%)	187 (6.5%)	346 (12.0%)	182 (6.3%)

3.3. Drug Resistance Situation, Multi Drug Resistance TB (MDR-TB)

In the absence of any drug resistance surveillance carried out in Liberia, there is no data on the drug resistance pattern in the country. However, given the disruption due to the civil war, drug stockouts and the country being in the state of generalised HIV epidemic, MDR-TB could emerge out to be a significant problem. However, treatment success of around 70% amongst relapse, failure and TAD during the last two years does not strongly point towards MDR emerging as a growing challenge and hence demanding immediate priority. It is in this context that baseline assessement of MDR-TB status is proposed to be undertaken in year 3 of the plan, well after quality DOTS is available to the entire population of Liberia.

3.4. HIV Epidemic and Its Impact on TB

The HIV sero-prevalence among the population was estimated by consensus to be 5.2% in 2006. Of the estimated 190,000 PLWHA in Liberia, 114,000 are in Monrovia. Greater Monrovia where over 33% of Liberians live has 9.5% rate of HIV infection. Counties in the south east, particularly Grand Gedeh and Maryland, which border Cote d'Ivoire are estimated to have HIV rates in the range of 10-15%[25]. More than 7,200 people are estimated to have died because of HIV and AIDS in 2003. The dual epidemic of TB and HIV threatens the gains made in TB control in the past few years. Looking at the present situation, Liberia is considered to be in the state of generalised HIV epidemic.

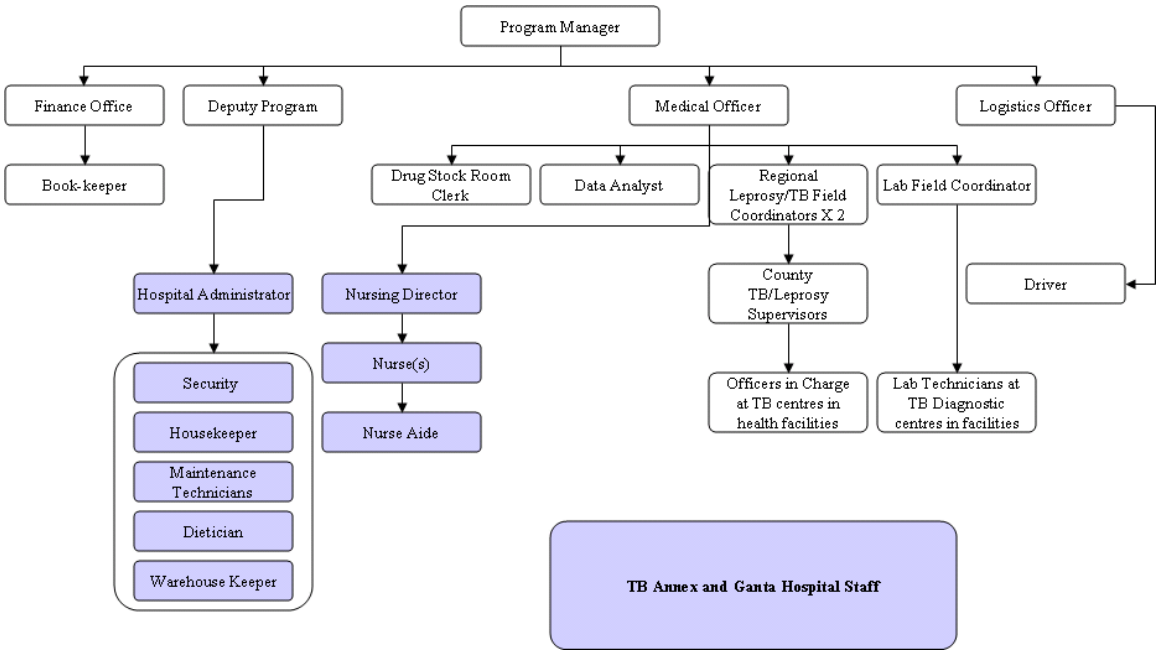
[24] NLTCP data 2004-5
[25] GFATM Rd 6 HIV Proposal

4. The National TB Control Program

4.1. Current Organisational Structure

The National TB Control Program is part of the National Leprosy and TB Control Program (NLTCP) since its establishment in 1989. The NLTCP is part of the MOH&SW and is headed by a Program Manager (PM) who reports to the Deputy Minister of Health Services/Chief Medical Officer. The NLTCP is currently also responsible for the operations of the two specialised TB hospitals in the country: TB Annex Hospital (Monrovia) and Ganta Hospital.

Organogram of TB Programme at Central Level (Current)



The PM's responsibilities include the overall program planning, implementation and coordination and the provision of technical support to the various units within the NLTCP. The PM is assisted by a Deputy PM who oversees the general administration, finance, logistics and other support sub-systems.

The Medical Officer (MO) is in charge of the medical component of the program and the TB Annex Hospital and reports to the PM. The MO is assisted by Field Coordinators who monitors TCP activities in the field and Lab Coordinators who monitor Lab activities.

At the county level, the County Leprosy/TB Supervisors who keep the County Leprosy/TB registers are the first line of referral for the Community health workers (CHWs). The Officer-In-Charge (often a nurse or a physician assistant) of the TB centre

within the health facilities unit is responsible for the day-to-day operations and reports to the County Leprosy/TB Supervisors.

The organisational structure may be revised in the future according to programme and MOHSW strategic needs.

4.2. Goals and Strategy of the National TB Control Program (TCP)

The overall goal is to reduce the national burden of TB in Liberia by 2015 in line with MDG's and Stop TB Partnership targets.

These goals are consistent with and support the Millennium Development Goals and the Stop TB Partnership targets. MDG 6, Target 8 is to halt and begin the reverse the incidence of TB by 2015. The STOP TB Partnership's targets expand on the MDG:

1. By 2005, at least 70% of infectious TB will be diagnosed (under the DOTS strategy)
2. By 2015, the global burden of TB (disease prevalence and deaths) will be reduced by 50% relative to 1990 levels

The strategy to reach the goal is consistent with Stop TB strategy and has the following components:

1) Pursue high-quality DOTS expansion and enhancement through decentralised laboratory and DOT services, thereby improving access to services and increased case detection; quality assured laboratory networks, including facilities for culture sensitivity at selected levels; uninterrupted supply of drugs and laboratory consumables; strengthen supervision and monitoring and improved HMIS with in built two way flow.
2) Expand and implement an effective TB and HIV collaborative mechanism, reducing the burden of TB in PLWHA and of HIV in TB patients and take all other actions, including those recommended for WHO for tackling TB in a State like Liberia, which is in a generalised HIV epidemic.
3) Health systems strengthening by supplementing technical staff, capacity building of the existing and recruited staff in the technical and management areas related to TB control.
4) Create an environment of enticement for the community to get engaged in the campaign to stop TB. Community in general and school children and cured TB patients, in particular to be used as brand ambassadors of TB control.
5) Involvement of all willing existing health care providers of different systems, numbering about 5,000, including faith healers, in promoting DOTS and assigning them appropriate role acceptable to them and beneficial to the community.
6) Undertake ARI and MDR-TB assessment surveys as well as need based operational research.

Section xx contains the full Liberia National TB Strategic Plan 2007-2012

4.3. Current TB Services

4.3.1. DOTS

The DOTS (Directly observed Treatment Short Course) service coverage by county is 100%. However, both microscopy and drug distribution services are available through 98 of total 389 functioning health facilities. These 98 facilities are located in 72% of districts, catering to 34% of the population calling for expansion and extension of DOTS services to make them easily accessible to the entire population.

Summary of TB Services Available

Type	Number	Coverage
DOT centres at health facilities - Treatment Only	101	• 15 counties (100%) • 85 districts (94%) • 26% of 389 public health facilities • 22% of Population in catchment area
Microscopy centres at health facilities – TB diagnosis only	2	• 2 counties (7%) • 2 districts (2%) • 0.5% of total 389 public health facilities
DOTS centres at health facilities – Diagnosis and Treatment	99	• 15 counties (100%) • 65 districts (72%) • 25% of total 389 public health facilities • 40% of Population in catchment area
Total health facilities with TB services	202 (91% are NGO assisted)	• 15 counties (100%) • 85 districts (94%) • 52% of total 389 public health facilities • 52% of Population in catchment area
PPP DOTS (subset of total) including FBOs, Corporates and Private for Profit clinics	17 (12 are DOTS)	• 7 counties (47%) • 11 districts (12%)
Facilities offering TB (DOT or DOTS) and any HIV services (subset of total)	22 22 VCT 3 PMTCT 0 PEP	• 11 counties (73%) • 16 districts (18%) • 6% of total 389 public health facilities

	9 ARV	
Integrated HIV and TB treatment centres (subset of total)	2	• TB Hospital (Annex) and Ganta Rehab run by NTP
Specialised TB facilities (subset of total)	TB Annex in Monrovia Ganta TB hospital	• 2 counties (13%) • 2 districts (2%) • 1% of all 389 public health facilities
Community DOTS	0	0
Corporate Sector Involvement	0	0

4.3.2. Public-Private Mix (PPM) DOTS

It is estimated that there are about 2,000 private practitioners of all faiths working in different parts of the country. Having recognised the enormous potentials of the private sector TB control, a Public-Private Partnership on DOTS in the country has been built up, which is presently being implemented in 7 out of 15 counties and 11 out of 90 districts.

4.3.3. Community Based DOTS

Although there are no Community-based DOTS services in the program at the moment, the potential is well recognised by the NLTCP. With support from Global Fund during the second round, 280 community health workers were trained who worked for the TB control program. Completion of second round of GFATM resulted in stoppage of incentives to them ($10-20 per month), as a result of which less than 50% are still working.

4.4. TB/HIV collaboration

There is a set of systematic TB/HIV collaborative activities conducted at the 2 joint HIV/TB centres where the following are offered:

- VCT is offered routinely to TB patients at TB Annex Hospital and Ganta Hospital
- ARVs and anti-TB drugs are offered to co-infected HIV TB patients at TB Annex Hospital and Ganta Hospital

However, this is limited to 2 centres that are integrating TB and HIV services, although there are another 22 centres offering TB and HIV services; however these services are not integrated.

4.5. Current TB Control Program Operations and Management

Liberia's Current TB clinical protocols are based on WHO recommended protocols.

4.5.1. Case finding and diagnosis

The NLTCP TB control policy is based on passive case detection amongst all those who report to public sector health facilities and treatment of all identified TB cases. This is done through screening of all chest symptomatic reporting to health facilities. Direct sputum smear microscopy of three sputum samples is taken within 48 hours. A smear positive case of TB is defined as the one with two or more positive smears or one positive smear with Chest X-ray consistent with TB or one positive smear plus positive culture. A smear negative pulmonary case is a patient who has three negative sputum smears but has clinical symptoms and X-ray suggestive of TB. Extra pulmonary TB cases are TB of other sites, e.g. Miliary TB, Pleural TB.

4.5.2. Chemotherapy and case holding

The treatment regimens for various forms of tuberculosis are:

- Categories 1 and 3: for all new cases (smear positive and smear negative PTB, EPTB) of 2 months initial phase with 4 drugs daily supervised (2RHZE) and 2 drugs self-administered daily for 6 months (6EH)
- Category 2: for all relapses, failures, TAD – 2 months of 5 drugs including streptomycin injection daily supervised plus one month of 4 drugs daily supervised (2SRHZE/RHZE) in the initial phase followed by 5 months of 3 drugs (5RHE) daily supervised.
- Children under 15 years are treated with 2RHZ/4RH all supervised.

Treatment is administered on an ambulatory basis, except for severely ill patients who are admitted for treatment. Each patient receives health education as appropriate complemented with group education.

The country has been professing that DOT observers can be health professionals or community based health workers and that everyone can be a DOT observer as long as they are willing, are acceptable to the patient, they have been trained and remain answerable to the health system. Till date the programme has not been successful in cured TB patients has DOT observers. Under GFATM Rd 2,280 CHWs were trained and most of them became DOT observers. However, when the grant expired in February 2007, the absence of incentives resulted in many CHWs stopping their activities.

4.5.3. Treatment monitoring

All TB patients are monitored during the course of treatment with sputum follow-up examinations at end of 2^{nd} or 3^{rd} (for re-treatment cases), 5^{th} and between 7^{th} and 8^{th} month in addition to clinical monitoring. If smear is positive at the end of intensive phase, the intensive phase is extended by one month and initiation of continuation phase related to the result of sputum re-examination in accordance with WHO guidelines.

4.5.4. Quality Control of Laboratory Services

There is no nationwide organised Quality Control Assurance (QCA) mechanism in place. However, limited quality control is done at the central reference lab at TB Annex on the slides taken from the peripheral labs.

Existing Quality Control Program for Laboratories			
Step	ACTIVITIES	FREQUENCY	RESPONSIBLE PERSON
1	Individual laboratory visits to select random slides kept for QC during visit. Number of slides selected at random: up to 10 positive and 10 negative slides.	Monthly: for all nearby laboratories (Steps 1,2 &3)	Laboratory Coordinator (2 people)
2	Perform microscopy of selected slides in central laboratory in Monrovia at the TB Annex	Quarterly: for all distant laboratories (Steps 1,2 &3)	
3	Send quality control results with comments/recommmendations to individual laboratory supervisors	Two weeks after slides microscopy.	
Notes:			
1	Lab coordinators do not conduct on-site training due to limited time during their visits		
2	There is no data base set up in the laboratory department to aggregate and analyse QC results across all laboratories		
3	Discordant rates estimated by Laboratory Coordinators working in QC for the past two years		
	Nearby laboratories	15%	
	Distant laboratories	45%	

The major reasons for the high discordance rates, especially in facilities that are far from Monrovia is shortage of staff, too infrequent visits specially for distant laboratories and too short supervision visits, all due to limited mobility and budget for the purpose.

4.5.5. TB drug supply and distribution

Anti-TB drugs are currently being procured by the UNDP through the GDF. The drugs on arrival in the country are stored by the National Drug Service (NDS) in a central depot. Drug distribution is made on a quarterly basis to county hospitals.

Drug requests are made by each DOTS centre based on reported cases and quantity of drugs consumed in the previous quarter to the central office of the NLTCP. 50% of buffer stock is added over the existing utilisation pattern. The request is verified and approved by the central office of the NLTCP. These requests are then compiled and sent to the NDS. Drug collection is the responsibility of the DOTS centres requesting drugs. In the future, this process will be modified so that drug requests go directly to the NDS from the centres, under intimation to Programme Manager and Officer in Charge of County TB Programme and 1st line supervisor for all service outlets. There will be county level storage and distribution of anti-TB drugs in order to make the drug supply more efficient and reliable.

4.5.6. Recording and Reporting

Tools used to record patient treatment and laboratory data

Tool	Type of Data Contained	Frequency	Level	Who is responsible
Patient Identification Card	Brief details of patient related data facilitating his/her identification for supply of drugs	Continuous basis	Patient	Officer in charge
Laboratory Form	Request for sputum	At the time of	Laboratory	Officer in charge

	examination and result of examination	diagnosis, follow up and treatment completion		
Patient Treatment Card	All patient specific data	Continuous basis	Individual DOT centres at health facilities	Officer in charge
TB Transfer Slip	Updated case details of the patient till transfer	At the time of transfer	Transferring County Hospital	Officer in charge
Lab register	Sputum data	Continuous basis	Individual laboratories at health facilities	Laboratory Technician
County TB Register	Case specific information from registration to treatment outcome for all registered cases	Continuous basis	County	County Supervisor
Quarterly reporting form	Data from County TB Register	Quarterly	Central	Central Data Manager

4.5.7. Supervision, Monitoring and Evaluation (SM&E)

Up to the end of 2006, supervision, monitoring and evaluation activities were combined and conducted on a quarterly basis by a team comprising of central staff (Field Coordinator, Program Manager, Chief Medical Officer) and county staff (County TB Supervisor and County Health Officer). 2 days was spent per county and all DOTS and DOT centres are covered in a period of 15 days.

The purpose of the visit was to review the patients' treatment and the relevant knowledge of TB health workers and TB patients. A standardised checklist was used by the team. The checklists were taken back to the central office and compiled into a quarterly narrative report which has summary of each facility visited. The report was sent to the PR of the GFATM Rd 2. No feedback mechanism to the counties and individual facilities was set up.

Tool	Type of Data Contained	Frequency	Level of Data Collection	Who is responsible
Checklist for quarterly supervision, monitoring and evaluation	• Observation of health workers • Interaction with health workers • Interaction with TB patients • Review of patients' treatment cards • Review of county TB register	Quarterly	Facility	Central Office and County Team

Starting at the end of 2006, in response to the weaknesses of the SM&E and the growth of DOTS and DOT centres, the NLTCP is initiating a new process with separate supervision and monitoring and evaluation activities. Supervision will be done on a monthly basis by the County TB Supervisor using a shortened version of the previous

checklist. All facilities will be visited and a monthly supervision report will be compiled by the County TB Supervisor and sent to the central office. Monitoring visits would also include need based hand on training. The County TB Supervisor will then be responsible for giving feedback to the relevant facility and following up on the next supervision visit.

Quarterly monitoring and evaluation of individual facilities will now be carried out by a joint team from the central office and county health office using the previous checklist in a period of 15 days per quarter. The checklists will then be compiled into a quarterly report by the central office as before, but will also be sent to the county health office.

4.5.8. IEC/BCC

There were plans to set up an IEC/BCC unit but this has not materialised. However, IEC/BCC activities took place under the Global Fund Round 2 grant. This comprised of creating and disseminating on a mass scale posters, leaflets, dramas and radio broadcast nationwide.

4.6. Human Resource Development

The NLTCP has no comprehensive human resource development plan yet. However there were objectives and targets for in-service training of health workers, laboratory technicians and program manager in the Global Fund Round 2 TB grant that were successfully met. The National Health Plan contains a process for developing a national human resource plan.

4.7. Major technical, financial and implementation partners of NTLCP

Stakeholder	Area of work
WHO	Technical Assistance and resource mobilization; Support in strategic planning, implementation, monitoring and evaluation to the NLTCP and the County Programs.
German Leprosy Relief Association (GLRA)	Funds for TB control activities, logistics support including provision of vehicles and vehicle maintenance. GLRA provided anti-TB drugs up to 2004 till the Global Fund Round 2 TB grant started.
UNDP and GFATM Rd 2	UNDP were the Principal Recipient of the Global Fund Round 2 TB grant of $US 4.5 million for Liberia. The grant covered funds for technical assistance, DOTS expansion, purchase of vehicles, office and lab equipment, lab consumables, logistics support, incentives for health workers and procurement of drugs.
Christian AID Ministry	Offers food and clothing for TB patients.
MERLIN	Supports TB control program implementation with payment of incentives and use of MERLIN-supported TB care facilities.
MSF (France, Holland & Switzerland)	Supports TB control program implementation with payment of incentives and use of MSF-supported supported TB care facilities.

5. Review of the National TB Control Program 2001-2006

5.1. Summary of Progress 2001- 2006 under the GFATM Rd 2 Grant

The major donors of TB control activities in this period are GFATM and Global Drug Facility (GDF). The GFATM granted UNDP (the Principal Recipient with the NLTCP as the major sub-recipient) the sum of US$4,534,017 in 2004 to implement TB control activities in Liberia: *Strengthening of TB Control Programme and the management of people with TB/HIV coinfection.*

The objectives of the grant were:
1. To expand DOTS (introducing all the five elements of the DOTS Strategy) in the fifteen countries by the end of 2005.
2. To establish selected TB/HIV collaborative activities with National Aids Control Program for co-infection interventions.
3. Strengthen community participation and Monitoring and Evaluation of the TB program

The GFATM grant terminated in Feb 2007 after a no cost extension to allow them to complete activities like the expansion of DOTS.

Despite delays in procurement and infrastructure challenges, targets in case detection, treatment, default retrieval and training were met. However, targets for HIV/TB joint activities were significantly underachieved.

Objective 1	To expand DOTS (introducing all the five elements of the DOTS Strategy) in the fifteen counties by the end of 2005.				
SDA 1	Treatment: Timely detection and quality treatment of cases				
Indicator 1		Period	Target	Actual	0 % 50 % 100 % 150 %
Level 3-People reached	Percentage of smear positive TB cases detected	7	75	90.8	121%
Level 3-People reached	Percentage of smear positive TB cases successfully treated under DOTS	7	75	83.2	110%
SDA 2	Treatment: Timely detection and quality treatment of cases				
Indicator 1		Period	Target	Actual	0 % 50 % 100 % 150 %
Level 2-Service Points supported	No. of treatment facilities implementing DOTS	7	240	105	43%
Level 1-People trained	No. of health workers trained in DOTS strategy (cumulative)	7	237	280	118%
Level 1-People trained	No. of laboratory technicians trained (cumulative)	7	120	120	100%
Level 3-People reached	Defaulter rate (reduction)	7	10	8	80%

Objective 2	To establish selected TB/HIV collaborative activities with National Aids Control Programme (NACP) for co-infection interventions				
SDA 1	Prevention: Behavioral Change Communication - Community Outreach				
Indicator 1		Period	Target	Actual	0 % 50 % 100 % 150 %
Level 2-Service Points supported	No. of health facilities with IEC services	7	300	432	144%
SDA 2	Other: HIV voluntary counseling and testing				
Indicator 1		Period	Target	Actual	0 % 50 % 100 % 150 %
Level 3-People reached	Number of patients visiting TB centers receiving counseling on co-infection	7	900	519	57%
Level 3-People reached	Number of TB patients with HIV co-infection identified and treated	7	200	65	32%

Objective 3	Strengthen community participation and Monitoring and Evaluation of the TB program				
SDA 1	Supportive Environment: Health systems strengthening				
Indicator 1		Period	Target	Actual	0 % 50 % 100 % 150 %
Level 0-Process/Activity Indicator	Number of networks/partnerships involved in TB control	7	14	14	100%

5.2. Evaluation of Current TB Control Programme

A comprehensive programme review was conducted by a joint team comprising of WHO, NLTCP and other stakeholders in July 2006.

Scope of review:

- Assess progress of the national TB control program, including the progress made on GFATM Rd 2 grant for TB
- Make appropriate recommendations for the improvement of TB control services
- Limitations:
    - Low response rate: 186 questionnaires were returned out of 540 that were sent to health care providers sampled. Those from whom the response was received represented only 9 out of 15 counties
    - Poor quality data
    - In the period after the review July 2006 to Feb 2007 including the no cost extension many of the GFATM Rd 2 TB activities, in particular the expansion of DOTS, were accelerated and completed as the backlog in procurement of drugs, medical and other supplies were

addressed. For example, in July 2006 there were only 90 centres providing TB services, which increased to 202 by February 2007.

Specific Challenges against DOTS expansion in Liberia

- Limited organized partnership to support TB Control activities
- Shortage and inadequate trained human resources at all levels on TB management. Most DOTS centres are managed by physician assistants. There are no doctors overseeing the TB programme at county level.
- Most of the staff working at peripheral health facilities are not on the government or any other payroll.
- Unaddressed operational bottlenecks such as inadequate supervision at county and district level, especially during rainy season due to bad road conditions due to financial constraints. This is also one of the important contributory factor for poor accessibility (34%) of TB services26.
- Inadequate drugs and supplies management system
- Inadequate collaboration between TB and AIDS Control Program
- Lack of research on the programme to date
- Poor public awareness and knowledge of TB despite awareness activities at many health facilities
- Poor community participation/support

Key Recommendations

- Accelerate DOTS expansion
- Intensify case finding through PPP and Community based DOTS
- Mobilise additional resources
- Improve collaboration with the National AIDS control programme for TB/HIV co-infection joint interventions
- Strengthen NLTCP managerial and technical capacity and motivate staff
- Improve SM&E
- Intensify public and patient education at the community level
- Strengthen laboratory services

[26] NLTCP data 2007

6. Liberia TB Strategic Plan 2007-2012

6.1. Development of the Liberia TB Strategic Plan 2007-2012

Findings and recommendations from the comprehensive review of the National TB and Leprosy Control Program 2001-2005 provided the framework for the development of the strategic plan. In particular the strategic plan addresses the weaknesses identified (in section 6) in the review of the NLTCP program and responds to the key recommendations:

- Accelerate DOTS expansion
- PPP and Community based DOTS
- Mobilise additional resources
- Collaborate with HIV (NACP)
- Strengthen managerial and technical capacity
- Improve SM&E
- Public and patient education
- Strengthen laboratory services

In addition, the National Health Plan and Policy, 2007 as well as the Liberian Interim Poverty Reduction Strategy, 2006 were used to develop this strategic plan. The strategic plan supports the following key strategies and components of the National Health Plan 2007 as described in section xxx:

1. Basic package of Health Services – by strengthening the TB control component of the BPHS
2. Human Resources for Health – by including significant training and improved supervision and management activities
3. Infrastructure Development – by upgrading health facilities to expand DOTS
4. Support Systems to Strengthen for Decentralisation – by strengthening integrated (integration across different health programs) county level processes, systems and resources e.g. county level drug storage depots.

The strategic plan is also in line with the Global Stop TB strategy and has embraced the targets and indicators set by the Millennium Development Goals endorsed by STOP TB partnership, including 70% case detection rate and 85% treatment success rate. The treatment for TB in Liberia is strictly in accordance with WHO recommendations using the DOTS strategy.

The World Health Organization (WHO) and other development partners provide technical support for the development of the plan.

6.2. Strategic Plan Objectives, Strategic Approach and Main Activities

The strategic plan for 2006-2010 was developed in July 2006 with the primary goal of reducing the consequences due to TB and HIV-TB in Liberia. With the political situation of the country significantly improving, for the first time the country formulated its national health policy and plan in 2007, which has a mission of effectively delivering quality health and social welfare services to the people of Liberia. The vision of the health policy is improved health and social welfare status and equity in health to make Liberia a model of post-conflict recovery in the health field. With this background an expert group was constituted to revise the strategic plan, tuning it with declarations contained in the health policy and plan. Accordingly, a revised strategic plan for 2007-2012 was prepared and approved by the Government for implementation with immediate effect to the extent of available resources and seeking additional resources from all available quarters.

Strategic Plan 2007-2012:

Goals

To reduce the national burden of TB in Liberia by 2015 in line with MDG's and Stop TB Partnership targets.

The strategy to reach the goal is consistent with Stop TB strategy and has the following components:

1) Pursue high-quality DOTS expansion and enhancement through decentralised laboratory and DOT services thereby improving access to services leading to increased case detection; quality assured laboratory networks including facilities for culture sensitivity at selected levels; uninterrupted supply of drugs and laboratory consumables; strengthen supervision and monitoring and improved HMIS with in built two way flow.
2) Expand and implement an effective TB and HIV collaborative mechanism, reducing the burden of TB in PLWHA and of HIV in TB patients and take all other actions including those recommended by WHO for tackling TB in a State of generalised HIV epidemic as Liberia presently falls in that category.
3) Health systems strengthening by supplementing technical staff, social mobilization and capacity building of the existing and recruited staff in the technical and management areas related to TB control.

4) Create an environment of enticement for the community to get engaged in the campaign to stop TB. Community in general and school children and cured TB patients in particular to be used as brand ambassadors of TB control.
5) Involvement of all willing existing health care providers of different systems, numbering about 5,000 including faith healers in adopting/promoting DOTS and assigning them appropriate role acceptable to them and beneficial to the community.
6) Undertake ARI and MDR-TB assessment surveys as well as need based operational research.

Objective 1: To increase access to high quality DOTS targeting 70% NSP case detection and 85% Treatment Success Rate by 2009 and sustain the same at least at that level from 2009 onwards by i) intensified IEC activities and engaging society in the campaign to Stop TB; ii) strengthening and decentralising quality assured laboratory network, including culture sensitivity facilities at selected places; iii) promote decentralised DOT through various partners including private sector and community including cured patients; iv) ensuring uninterrupted quality drug supply; iv) strengthen monitoring and supervision.

1. **ACSM (Advocacy, communication and social mobilization**)

(Detailed in Objective 6)

2. **Improving diagnosis:**
    - Increase laboratory network by establishing x additional MCs in existing public sector laboratories and willing private and corporate sectors and promote referral of chest symptomatics by others; undertaking minor renovations of some public sector laboratories; procurement and supply of microscopes and laboratory consumables and , hiring of laboratory technicians and their training.
    - Establishing a strengthened system of lab supervision and quality control assurance mechanism
    - Introduce culture and DST services at central and selected county levels to improve diagnosis of smear negative TB, specially amongst HIV+.

3. **Decentralised DOT Services**
    - Enroll more DOT providers through involvement of all public sector health care units including its intersectoral allies like social sector/community welfare, private and corporate sector outlets, community volunteers and cured patients.
    - Criteria: anybody can be enrolled as a DOT provider, provided that he/she is willing for the same, is trained, is acceptable to the patient and answerable to the health system.
    - DOT provider would:
        - Function as 1st line default retrieval mechanism
        - Facilitate examination/screening of symptomatic contacts of smear positives
        - Facilitate follow up smear examination
    - Involvement of community in DOT would also function as stigma reduction tool

4. **Food as an incentive for treatment adherence**
    - Food and nutrition support was part of GFATM Round 2 grant and is also a core part of the NTP outside of GFATM.
    - This support to date has promoted compliance as an incentive for TB patients.
    - For getting DOT during IP because of poor accessibility of services, the patient sometimes has to travel long distance, which may result in loss of wages/earning time
    - Immediate phasing out will adversely affect programme performance as this support has been in operation for almost five years.

5. **Uninterrupted quality drug supply**
    - Procurement through reliable source – GDF for drugs
    - Conduct a timely need assessment of drug requirement including the allowance for lead time for procurement
    - Strengthen integrated drugs supply chain management by National Drug Service (NDS) (covered in Rd 6 HIV)
    - Training of key staff of NDS in logistic management
    - Create additional county drug storage and supplies depots promoting decentralize management (there are currently 9 in Rd 6 HIV, so we need an additional 6).
    - Joint supervision of TB programme with NDS of the central and regional depot staff
    - Timely distribution of drugs to all DOT outlets in consultation with TB control authority of that area
    - Buffer stocks to be added on to drug requests.

6. **Supervision and Monitoring**
    - Establish a reliable supervision, M&E system
    - Develop a comprehensive national supervision, M&E plan, which includes TB
    - Develop standardised supervisory checklist
    - Train TB staff at central, county and district level in monitoring, supervision, data collection, compilation, collation, analysis and reporting
        - SM&E and HMIS training for central team
        - Supervision and Monitoring training for county and district teams
    - Procure office equipment and software for central, county and district SM&E activities
    - Input and analysis of field data (data analyst dedicated to TB at every county, training of the data analysts)
    - Regular supervision of TB management activities by trained central, county and district health teams
    - As a step towards formulating a time bound reporting and feedback mechanism;

    - By 20th of the month following the last quarter, all counties will submit their quarterly report including management data electronically to the program manager at central level.
    - By 20th of the second month following the last quarter, central team staff would have reviewed and provided documented feedback to the respective counties, by counties to districts and reviewed in a quarterly review meeting with the counties/districts. The review meeting will include experience sharing, appreciation of good performers and problem solving.
- Follow up to the quarterly review process will include:
    - Poor performers being sent to learn from good performing facilities
    - Good performers being sent out of the country to learn from best practice elsewhere
    - The reviews will be disseminated across the country so that there is accountability
- The quarterly reports will be aggregated to produce an annual reports of the TCP.
- A website will be created so that public can access information about TCP, including the location of service outlets
- A comprehensive independent review of the entire NTP programme shall be undertaken every 3 years and its recommendations suitably utilised for improving programme performance

Objective 2: To assess the status of MDR-TB in the country in 2010, based on its findings appropriately prepare for the establishment of diagnostic facilities and start treating MDR cases from 2011. However, the focus of the program will continue to remain on preventing MDR-TB.

1.MDR-TB

- Recruitment and capacity building of 2 microbiologists, 2 epidemiologists and 1 biostatistician (also in objective 8)
- Prepare a protocol for conducting baseline survey to assess the status of primary MDR-TB and implement it after field testing (also in objective 8)
  Strengthen central reference lab to detect MDR-TB
- Provide MDR treatment at the central level
- Improved adherence to 2nd line treatment of patients by keeping them as inpatients for appropriate period

Objective 3: To establish community TB care in at least three districts per county in the first two years and 80% of total districts by 2012.

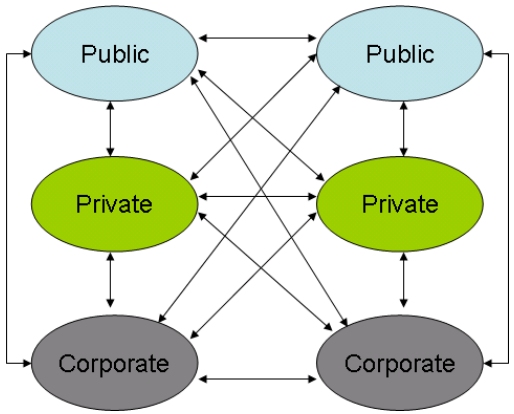
1. **Community TB Care**
   - Instead of just placing services in the community, establish two way communication between health providers and patients as well as communities to improve their knowledge on nature, extent and cure of TB and availability of free TB diagnostic and treatment services in order to foster motivation and share responsibility of TB policies, programs and services
   - Establish local referral/communication system between health facility and community. Involve public health staff and community health workers, NGOs and FBOs in service delivery initiatives
   - Create an environment of enticement for the community to get engaged in the campaign to stop TB. Community in general and school children and cured TB patients, in particular to be used as brand ambassadors as TB control.
   - In addition to CHWs, motivate volunteers from the community like cured patients, school teachers, post man, shop keepers etc. to function as DOT provider for identified patients.
   - Training of all community health workers on TB suspect identification. (and related diseases like HIV)
   - Community health workers organise group talks, and other community activities such as local dance and drama, in line with local and focal needs using them as a platform to communicate key TB messages
   - Strengthen mobility of CHWs for undertaking follow up activities in the community by providing them with a bicycle.
   - Formulation of key messages for mass media campaigns and community based activities incorporating: disease burden, mortality, easy curability, free services, easily accessible service outlets and social stigma (also in objective 6)
   - Maintain regular contact with all community members involved through regular support, drug supply and supervision
   - Community will also help in screening of contacts of smear positives
   - Involvement of community in TB care will facilitate default retrieval
   - Link appropriate TB control activity with community-based HIV/AIDS initiatives e.g., Integrate with community-based treatment compliance initiatives for PLWHAs on ARVs with TB
   - Creation of patient support groups

Objective 4: To have at least 80% of private health care providers participating in DOTS by 2012

1. **PPM / ISTC (Public-Public, Public-Private Mix (PPM) approaches and International standards for TB care)**

- Mapping of private providers (FBOs, corporate and private sector) and NGO run health facilities
- Advocacy amongst private providers to establish partnership by emphasising available partnership windows
- Create a consortium of partners, including NGOs, the private and corporate sectors and communities for a synergistic effect and to avoid duplication of activities as well as ensure consistency with national policies and framework. The partnership to be based on mutual trust and respect.

Proposed inter/intra agency referral system



- Educate and train all existing formal and informal health care providers in all settings, including challenging settings such as refugee camps and prisons, on all aspects of DOTS
    - Ensure that the training does not interfere with patient care timings of private practioner e.g., hold them in the afternoon/ over the weekend

- Offer a cafeteria approach to private, corporate and non profit health care providers, where they select any/ all components of DOTS strategy. Based on acceptability of both partners and patient benefit, the same is assigned to them

- Develop a set of guidelines for involvement of private providers and NGOs
- Sign memorandum of understanding with all willing partners amongst private, corporate and non profit providers.
- Provision of logistics to the private providers as per the role assigned to them with a understanding to be publicly displayed prominently that all TB related services will be provided free of cost.
- Establish an inter/intra agency referral system ensuring that private, corporate and non profit referrers do not lose their patients to the public sector
- Maintain desirable standard of care amongst service providers by various partners by conducting regular supportive supervisory visits

Objective 5: Expand and implement an effective TB and HIV collaborating mechanism reducing the burden of TB in PLWHA and HIV in TB patients by increasing access to integrated TB/HIV services to cover 65% of the population by 2012.

TB/HIV

- Bilateral training and establishing synergistic working relationships would promote partnership strengthening, capacity building and widening of services network between TB and HIV/AIDS programs
- Early detection of HIV amongst TB patients and providing comprehensive HIV and TB care would ensure cure of TB, reduce TB fatality, reduce TB transmission, slow progression of HIV to AIDS, thereby promoting more productive life.
- Early detection of TB amongst HIV positives – timely treatment initiation of TB, thereby reducing TB fatality and TB transmission
- Reduce development of TB amongst PLWHA on account of initiation of timely preventive therapy
- Education of TB patients will also include HIV prevention thereby reducing HIV amongst TB patients.
- Reduced disease burden of HIV and TB will lead to poverty reduction and bring about economic prosperity and overall improvement in the general health system
- Appointing co-infection coordinator at central level to link the TB and HIV program units, development of a joint action plan, coordinate regular HIV and TB stakeholder meetings
- Development of national manual on TB and HIV, making it consistent with WHO recommendations on activities to be undertaken in a generalised HIV epidemic State like Liberia and undertake appropriate for staff of both programs.
- Conduct HIV surveillance amongst TB patients to get baseline data on co-infection rates
- Introduce culture and DST services at central and selected county levels to improve diagnosis of TB amongst HIV+
- Strengthen referral system between HIV and TB services

Objective 6: Increase and sustain IEC/BCC activities in all 15 counties and 90 districts to reach 80% of the population by 2012, to increase knowledge and awareness of TB and foster amongst community positive attitudes and practices around TB prevention, suspect identification and treatment support.

1. **ACSM (Advocacy, communication and social mobilization)**

- Establish two way communication between health providers and community in general and TB patients in particular to engage society in the campaign to stop TB
- Develop IEC/BCC strategy for TB
- Empowering the community to express their needs and take action
- Develop TB related educational messages and materials
- Advocacy activities at all levels, including discussions with policy makers
- Communication/Education through conducting mass media TB educational campaigns: print, TV, radio, billboards.
- Face to face communication using community in general and cured patients and school students as brand ambassadors of TB control

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<u>Schoolchildren and Cured TB patients as TB control brand ambassadors</u>

School children

- Utilise school children from 5th to 10th standard in the age group of 10 to 15 years
- CHWs train school teachers
- School teachers in class sensitize students on the basics of TB and how to recognise symptoms of TB
- School children are given notebooks with some perforated pages, to work as referral slips. Cover on both sides of the notebook will carry simple TB messages like symptoms of TB and that free diagnosis and treatment are easily available
- School children are asked to adopt inaddition to their own household, 5 adjoining households on other side of their house using the notebook with messages as health education material.
    - Taking an average family size of 6, each student on average will adopt for continuous education purposes sixty people of his/her immediate neighbourhood.

- Identified suspects will be given referral slip by the student who shall also inform the teacher who inturn will cordinate with the health worker

Cured TB patients:

- They will spread TB related messages by word of mouth wherever possible and specially on community gatherings.
- Identify suspects who will be referred/facilitated to diagnostic centres
- Wherever possible they will function as DOT provider of self-identified and/ or any other case
- They will monitor the progress towards completion of treatment of all the cases for which they are DOT providers

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- The key messages to be communicated in mass media campaigns and community based activities are: disease burden, mortality, curability, free services and easily accessible service outlets
- Social mobilisation in the community: World TB day, Public events, sensitization meetings for communities utilising community health workers
- Support community in organising community acceptable TB educational activities, focused on various aspects of TB control by using local and focal methods/tools
- Community involvement will also lead to the reduction of stigma

- Strengthen central health promotion unit by training them on IEC/BCC techniques and hiring extra staff as needed
- Training county health promotion teams on IEC/BCC by trained staff from the central health promotion unit
- Strengthen advocacy capacity of the TB program by training central, county and district level TB health workers on advocacy skills
- Procure in-house equipment for the health promotion unit to produce

Objective 7: Strengthen central supervision, monitoring and evaluation and research unit's capacity in order to conduct ARI survey, MDR-TB assessment, HIV-TB co-infection assessment and need based operational research.

1. **M&E (Supervision and Monitoring activities covered in Objective 1)**

2. **Programme-based operational research**
    - Conduct national TB surveillance by formulating and field testing the protocol and undertaking ARI studies to determine an authenticated country specific baseline data in respect of the incidence of TB
    - Undertake country representative studies to assess the magnitude of HIV TB co-infection (covered in Objective 5)
    - Undertake studies to assess the magnitude of primary MDR-TB (covered in Objective 2)
    - Conduct programme based operational research into specific areas such as lab quality control, default retrieval
    - Publish annual country programmatic reports

3. **HSS**
    - Strengthen the infectious disease survelliance capacity by recruiting and training of 2 microbiologists, 2 epidemiologists and 1 bio statistician and training of existing programme and epidemiology unit staff
    - Specialised training of epidemiologists on conducting TB incidence and prevalence studies
    - Strengthen the Supervision, M&E and research unit (covered in Objective 1) (training on impact evaluation and operational research)

Objective 8: Strengthen the managerial and technical capacity of the National Tuberculosis Programme through training at all levels.

1. HSS

- Presently there are no epidemiologists, bio statistician and microbiologists at the MOHSW. 2 microbiologists, 2 epidemiologists, 1 bio statistician and 2 public health specialists with TB background will be recruited on a consultant basis. One of the public health specialists will go after 3 years and the other after 4 years. The microbiologists, epidemiologists and bio statistician will become full time positions
    - The microbiologists will plan, implement and monitor external quality assurance of sputum microscopy and oversee all technical aspects of culture sensitivity; plan and undertake studies on MDR-TB and undertake culture sensitivity for assessing MDR-TB, as well as monitoring of progress of patients on MDR treatment.
        As a synergistic effect, these microbiologists will provide laboratory support in HIV and AIDs, Malaria and other public health programmes as well as clinical care in the country.
    - The epidemiologists will plan, undertake, analyse and interpret the ARI studies to assess the burden of TB and monitor trends of the disease and the programme performance. The epidemiologists will also plan, undertake, analyse and interpret the HIV-TB studies and assess the burden of TB and HIV in the country. They will help in developing protocol, including design of MDR-TB studies
    - The public health specialist with TB background will work directly with the NLTCP team at all levels for capacity building, help in planning, programming, implementation, monitoring and supervising the programme. One of them will work at central level and the other at county level.
- Training of NLTCP central office and county and district health team staff in TB management, information technology and general program management, utilising existing program mgmt training at the Mother Pattern College of Health Services developed by the Clinton Foundation

6.3 Target groups/Beneficiaries of the strategic plan:

The prioritised beneficiaries of the strategic plan are:

- Liberians 15 – 54 years – the most economically productive age groups where the majority of TB smear positive cases occur. Special focus will be given to this age in terms of messaging and communication
- People living with HIV/AIDS
- Inmates at prisons and other congregate settings compounds, who are more vulnerable to TB
- Underserved communities, which do not have access currently to TB services

6.4 Gender Equality, Social Equity, Stigma and Discrimination

Gender is not a barrier to program implementation. The strategic plan will address both males and female who are at risk of TB. The program is integrated into national health system which stringently adheres to the universal rights of the client.

The program is cognizant of the issues of stigma and discrimination against people, especially women, suffering from the disease, and will develop and implement a comprehensive behavior change communication strategy that will address the issues of stigma and discrimination at facility and community levels on long term basis. Social mobilisation and community participation, sensitization of school teachers and cured TB patients as brand ambassadors of TB control will help in reducing stigma associated with TB with immediate effect

6.5 Partnerships and Stakeholders:

Successful implementation of the strategic plan involves partnership and collaboration with the following stakeholders:

The private and corporate sector: The strategic plan encourages and involves private and public health sectors along with its intersectoral allies in the implementation of the PPP DOTS strategies;

Community Organizations: Community organizations will be partners in implementing activities such as community mobilisation, increasing knowledge and awareness amongst the community as well as training the community and community health workers to recognise TB symptoms, refer TB suspects to a nearby health facility and function as DOT provider as well as support in defaulter retrieval and screening of symptomatic contacts of sputum positive cases. All these will also automatically reduce the stigma associated with TB.

Civil Society: This group is involved in the advocacy and social mobilizations of resources for the successful implementation of program. Health NGOs are also involved in the training of health facility personnel in PPM DOTS.

World Food Programme: The provision of nutritional support to TB patients on a declining basis will be carried out by World Food Programme, which already provides nutrition support to TB patients.

6.6 Key assumptions/risk factors of the strategic plan:

- Stable political environment
- Improved socio-economic conditions of the country
- Continued funding and technical assistance by GFATM, WHO, GLRA and other current and would-be donors

6.7 Health Systems Strengthening

The National Health Plan 2007 identifies 9 support health system components that will need to be strengthened to support all health programs and activities.

1. Policy formulation and implementation
2. Planning and Budgeting
3. Human Resources Management and in-service training
4. Health Management Information Systems
5. Drugs and Medical Supplies
6. Facility and Equipment Maintenance
7. Logistics and Communication
8. Supervision, Monitoring and Evaluation, Research
9. Stakeholder Coordination and Community Participation

These components are in line with the GFATM definition of health system strategic actions.

To implement the TB Strategic Plan 2007-2012, improvements in the following health system components are essential. The improvements will support the delivery of other health programs as well as strengthen community and private sector TB activities

1. Human Resources Management and Development:
   a. Pre and in-service training at central, county and district levels of health workers (public and private) in the following areas:
      - Program management
      - Supervision, monitoring and evaluation
      - IT and data management
      - Laboratory technology
   b. Training of community health workers
2. Drugs and Medical Supplies: strengthening of procurement, drug distribution and storage processes
3. Supervision, Monitoring and Evaluation and Research:
   a. Strengthening SM&E systems, including HMIS, and processes
   b. Recruitment of 2 microbiologists, 2 epidemiologists, 2 public health specialists and 1 bio statistician
4. Health Promotion: strengthen IEC/BCC capacity

7. Targets and Indicators – TO BE DEVELOPED

2007-2012 Strategic Plan Financing

There is insufficient financing for the strategic plan currently:

- With GFATM Rd 2 expiring in Feb 2007, there is no external funding for specific TB activities currently or confirmed in the future:
    - There will be a supply of anti-TB drugs until xxx from this grant.
- National/Government funding was $40,000 for 2006-7 – this covers all TB activities except for personnel salaries
- Future National/Government funding will increase in proportion to the increase in the overall national health budget
- Although the proportion of Government budget being allocated to health is projected to increase significantly, the overall economic status of Liberia in the next 5 years means that total Government funding for the health sector will be insufficient to fund the strategic plan to any significant level.

Appendix

Human Resource Table

Annex 2A: Liberia Human Resources by County
Human resources in 354 facilities surveyed (government, government owned/NGO operated, faith-based hospitals, etc.)
Rapid Assessment, June 2006[1]

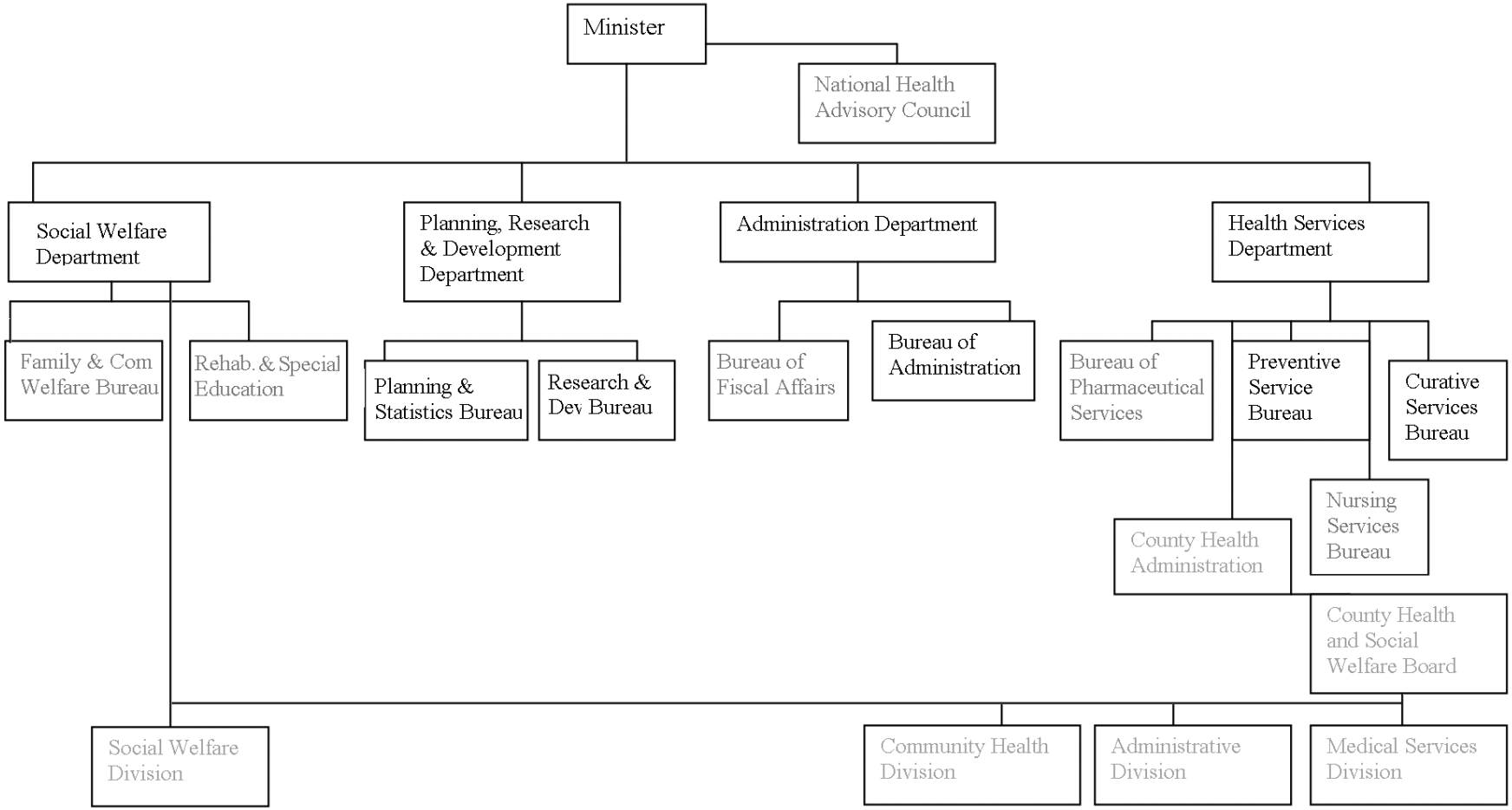
County	Medical Doctors		Physician Assistants		Nurses RNs/LPNs		Midwives/ TTMs		Pharmacists/ Dispensers		Lab technicians/ Lab aides		Other health workers		Total	
	Full time	Volunteer/ Part time	Full time	Volunteer/ Part time	Full time	Volunteer/ Part time	Full time	Volunteer/ Part time	Full time	Volunteer/ Part time	Full time	Volunteer/ Part time	Full time	Volunteer/ Part time	Full time	Volunteer/ Part time
Bomi	1	0	5	1	11/7	9/3	10/149	5/46	0/13	0/7	1/0	0/0	25	20	222	91
Bong	6	3	10	2	48/32	3/6	28/21	5/11	3/34	1/9	9/9	1/3	110	38	310	82
Gbarpolu	0	0	4	0	2/10	2/2	8/11	2/10	0/13	0/3	1/1	0/1	31	9	81	29
Grand Bassa	2	3	10	6	6/6	2/3	8/17	8/12	1/13	0/14	6/1	3/2	65	38	135	91
Grand Cape Mount	0	0	12	2	20/15	8/0	13/7	3/0	0/21	0/2	1/5	0/0	45	7	139	22
Grand Gedeh	0	0	7	1	10/0	3/4	1/11	0/9	0/11	0/11	0/0	0/0	33	30	73	58
Grand Kru	0	0	3	1	2/1	0/0	2/15	0/7	0/11	0/1	2/3	1/0	61	11	100	21
Lofa	6	1	18	1	3/25	0/2	26/68	1/13	4/24	0/2	12/7	0/0	134	9	327	29
Margibi	5	3	11	2	19/16	1/5	18/14	10/0	2/23	1/7	13/13	2/2	128	22	262	55
Maryland	0	0	6	0	16/7	5/1	4/22	0/3	0/11	0/5	3/2	0/0	51	20	122	34
Montserrado	97	35	106	9	218/59	20/3	140/58	11/13	14/68	2/12	65/52	11/5	580	95	1,457	216
Nimba	5	1	33	0	96/20	0/0	30/69	1/37	0/54	0/4	11/38	2/4	208	23	564	72
River Cess	0	0	9	9	1/8	5/8	2/19	9/20	0/11	0/11	0/1	1/1	21	20	72	84
River Gee	0	0	2	3	2/7	2/6	5/21	3/21	0/15	0/13	2/3	2/13	34	48	91	111
Sinoe	0	0	0	0	0/1	0/0	2/3	0/3	0/2	1/2	0/0	0/0	3	3	11	9
Total	**122**	**46**	**236**	**37**	**454/214**	**60/43**	**297/505**	**58/205**	**24/324**	**5/103**	**126/135**	**23/21**	**1,529**	**403**	**3,966**	**1,004**
Total Full-time + part-time/volunteer	168 Physicians		273 PAs		514 RNs/257 LPNs		355 Midwives/ 710 TTMs		29 Pharmacists/ 427 Dispensers		149 Lab techs/ 156 Lab aides		1,932 Other HWs		4,970	

Medical Doctors: 6 years (5 years medical education + 1 year internship)
Physician Assistants: 3 years
RNs/Registered Nurses: 3 years (Nurse Anesth. + 1-2 years)

LPNs/Licensed Practical Nurses: 2 years
Nurse aides: 3-6 months (included in all other health workers)
CMs/Certified Midwives: 2 years
TTMs/Trained Traditional Midwives: 6 months
Source: Liberia Rapid Assessment of the Health Situation in Liberia
Republic of Liberia
Ministry of Health & Social Welfare

Organisational Structure of the Ministry of Health and Social Welfare at the Central Level and at the Senior County Level

The grey boxes indicate structures that are not yet set up but are proposed under the National Health Plan, 2007



Health Sector Budget and Financing (National Health Plan, 2007)

Costing the National Health Plan

Table 10 shows a four year National Health Plan budget of $283 million that is part of the GOL multiyear planning. The total five-year budget would be $382 million. In order to avoid service gaps as implementing partners' transition from humanitarian to developmental assistance, a special budget line is included for the Transitional Gap and Health Plan Implementation Cost.

Table 10: Proposed Budget for Health and Social Welfare: 2007-2010

AREA	INTERVENTIONS	YEAR				Total
		2007	2008	2009	2010	
Human Resources for Health	Conduct HRH Needs Assessment	0.30	-	-	-	0.30
	HRH Unit, Plan & Database Development	1.00	0.15	0.11	0.08	1.34
	Training Service Providers (scholarships & workshops)	5.00	6.00	6.25	6.25	23.50
	Support current Training Schools (6-schools)	5.00	6.00	6.25	6.25	23.50
	Strengthening County Health Teams (Capacity Building)	1.00	2.50	2.50	2.25	8.25
	Health Personal Employed	3.00	4.50	4.50	5.25	17.25
Sub-Total Human Resource for Health		**15.30**	**19.15**	**19.61**	**20.08**	**74.14**
Health Support System	Health Financing Assessment & Trust Fund	0.50	0.50	0.25	0.23	1.48
	Logistics (Ambulances, Bicycles, Motorcycles,	2.50	3.00	3.50	5.00	14.00
	HMIS Development (National & County levels)	0.80	0.25	0.13	0.13	1.31
	Community Level Support System	0.50	0.50	0.50	1.49	3.00
	County/District Support Systems (vehicles, equipment)	1.00	1.21	1.25	2.50	5.96
	Central Level Support (Admin, Plans, Policies, etc.)	1.50	1.50	1.50	1.60	6.10
Sub-Total Health Support System		**6.80**	**6.96**	**7.13**	**10.95**	**31.85**
Basic Package (PHC)	Reduce maternal, infant & <5 mortality rates	2.00	1.50	1.50	2.33	7.33
	Routine EPI	1.50	2.00	3.00	3.00	9.50
	Nutrition interventions	0.25	0.50	0.50	0.50	1.75
	Quality PHC Services (drugs, equipment, etc)	1.00	1.50	2.00	2.50	7.00
	Malaria treatment, IPT & ITNs (facility & home-based)	1.00	1.15	2.00	1.00	5.15
	Referral Services & Treatment	0.50	1.00	0.50	0.50	2.50
	STIs/HIV/AIDS	2.00	3.00	3.00	4.00	12.00
	Scaling up TB & Leprosy control	1.50	1.50	1.50	2.00	6.50
	Strengthen Reproductive Health (Safe Motherhood)	0.30	1.00	1.50	2.00	4.80
	Selected social welfare services	0.25	0.50	0.71	1.00	2.46
	Emergency Preparedness Respond (EPR)	1.00	1.50	0.40	0.25	3.15
	Essential Drugs and Medical Supplies	4.00	4.00	3.00	1.00	12.00
Sub-Total Basic Package (PHC)		**15.30**	**19.15**	**19.61**	**20.08**	**74.14**
Infra-structure	Infrastructure Assessment & Planning	0.20	-	-	-	0.20
	Rebuilding Health Infrastructures (201- facilities)	0.50	0.50	4.50	6.00	11.50
	Rehabilitate Health Infrastructures (70% of 354 facilities)	0.50	0.50	3.50	5.00	9.50
	Logistical Support (vehicles, furniture, etc)	0.20	0.25	0.31	0.75	1.51
	Rehabilitate 3-mental health facilities	0.15	0.25	0.30	0.50	1.20
	Re-construct, equip and support 3- midwifery	0.15	0.24	0.30	0.53	1.22
Sub-Total Infrastructure		**1.70**	**1.74**	**8.91**	**12.78**	**25.13**
Social Welfare	Rehabilitate 3-Special Rehab Facilities	0.75	0.50	0.50	0.50	2.25
	Support 150 orphanage homes	0.50	0.50	0.50	0.50	2.00
	Logistical Support	0.20	0.25	0.28	0.30	1.03

AREA	INTERVENTIONS	YEAR				Total
		2007	2008	2009	2010	
	Social Work Service, eg., Mental Health	0.15	0.25	0.25	0.27	0.92
	Capacity Building for Social Workers	0.10	0.24	0.25	0.30	0.89
Sub-Total Social Welfare		**1.70**	**1.74**	**1.78**	**1.87**	**7.08**
Total Excluding transitional gap		**40.80**	**48.74**	**57.04**	**65.76**	**212.34**
Transitional Gap		12.00	14.25	17.00	19.00	62.25
Health Plan Implementation Cost		1.60	2.00	2.02	2.86	8.48
	Grand Total	**54.40**	**64.99**	**76.06**	**87.62**	**283.06**

Financing the National Health Plan

The financing plan (see Table 11) must identify adequate sources of funds to implement the budget. It is assumed that funding will come from a number of primary sources:

1) The Government of Liberia budget;
2) Special budgets for National Vertical programs;
3) Bilateral/Multilateral funding for Humanitarian and Developmental Assistance; and
4) Other funding sources

Table 11 Financing of the National Health Plan (in US$ millions)

Source of Funding	2007	2008	2009	2010	Total
MOHSW + JFK (increasing to 15% of Nat.	10	18	28	33	89
National Programs, Humanitarian & Development	40	40	40	40	160
Other Funding (NGO, FBO, User Fees)	4	7	8	15	34
TOTAL	**54**	**65**	**76**	**88**	**283**

1. The Government of Liberia Budget

In is anticipated that funding for the MOHSW from the national budget will provide approximately 30% of the total funding for the four-year National Health Plan. This estimated revenue is based on the following assumptions:

- That the current budget of the MOHSW is approximately 10 Million USD (including funding for JFK hospital) and represents 8% of the total national budget of 129 million.
- That the national budget will grow yearly by a factor or 20% resulting in a budget of 245 million in 2011.
- That the MOHSW share of the national budget will increase to 12% for the 2008 budget (July 2008-June 2009) and to 15% in subsequent budgets.
- Based on those assumptions, the MOHSW contribution to the National Health Plan would be 89 Million over a four year period.

2. National Programs, Humanitarian and Development Funding

There are four major national programs that are already receiving significant yearly funding, i.e., EPI, Malaria, TB and HIV/AIDS. In addition there is a more modest

funding level provided annually for other programs, e.g., River Blindness and leprosy. The funding of these programs should be considered as a contribution to the National Plan, especially since some key components of the BPHS are funded by these programs, e.g., immunizations. The financing of bilateral and multilateral funding for both humanitarian and developmental programs must also be taken into consideration.

Humanitarian funding will be phased out by the end of 2008, and the developmental funding needs to be phased in as soon as possible. It is proposed that funding partners should maintain the current US$40 million funding level over the next four years by replacing humanitarian funding dollar per dollar with developmental funding.

4. Other Sources of Funding

There are other sources of funding for the Liberian health sector. Faith based organizations currently manage 44 health facilities, including a number of county hospitals, under the auspices of the Christian Health Association of Liberia (CHAL). This contribution should be factored into the financing of the health sector.

Table 2. An Abridged Summary of Key Elements of the BPHS

INTERVENTIONS and SERVICES	Community	Clinic	Health Centre	County hospital	Referral Hospital
I. MATERNAL & NEWBORN CARE					
1.1.1. ANTENATAL CARE					
Diagnosis of high-risk pregnancy	Yes	Yes	Yes	Yes	Yes
IPT with SP, Iron Supplementation, ITNs	Yes	Yes	Yes	Yes	Yes
Treatment of malaria, Tetanus toxoid immunization	-	Yes	Yes	Yes	Yes
1.1.2. LABOUR and DELIVERY CARE					
Identify foetal malpositions	Refer	Refer	Yes	Yes	Yes
Normal vaginal delivery	Yes	Yes	Yes	Yes	Yes
Emergency Obstetric Care	Refer	Refer	Yes/Refer	Yes	Yes
PMTCT Package	Yes	Yes	Yes	Yes	Yes
1.1.3. POST PARTUM CARE					
Prevention and detection of puerperal infection	Yes	Yes	Yes	Yes	Yes
Detection and treatment of anaemia	Yes	Yes	Yes	Yes	Yes
Counseling on birth spacing and FP service	Yes	Yes	Yes	Yes	Yes
1.1.4. CARE OF THE NEWBORN					
Emergency neonatal care	Refer	Yes	Yes	Yes	Yes
Manage neonatal infections and sepsis	Yes & Refer	Yes & Refer	Yes	Yes	Yes
HIV care/Replacement feeding, Immunizations	-	Yes	Yes	Yes	Yes
2.0. CHILD HEALTH					
Vaccine security/cold chain	-	Yes	Yes	Yes	Yes
EPI, BF, GM, Vit. A, Deworming, ITNs, ORT	Yes	Yes	Yes	Yes	Yes
Management of pneumonia, fever and malaria	Yes	Yes	Yes	Yes	Yes
Identify & manage dehydration/ severe diarrhea	Yes & Refer	Yes & Refer	Yes	Yes	Yes
3.0 ADOLESCENT, SEXUAL, and REPRODUCTIVE HEALTH					
3.1 FAMILY PLANNING					
Distribute oral Contraceptives and condoms	Yes	Yes	Yes	Yes	Yes
DMPA injection	-	Yes	Yes	Yes	Yes
Intrauterine devices	-	-	Yes	Yes	Yes
3.2 ADOLESCENT HEALTH					
Substance abuse prevention, Family life education	Yes	Yes	Yes	Yes	Yes
Oral contraceptives and Condom distribution	Yes	Yes	Yes	Yes	Yes
4.0 DISEASE PREVENTION, CONTROL & MANAGEMENT					

INTERVENTIONS and SERVICES	Community	Clinic	Health Centre	County hospital	Referral Hospital
4.1 HIV/AIDS					
ABC Promotion and Condom distribution	Yes	Yes	Yes	Yes	Yes
Home-based Care	Yes	-	-	-	-
Treatment of opportunistic infections	-	-	Yes	Yes	Yes
VCT, PMTCT	-	Yes	Yes	Yes	Yes
Blood Screening and Antiretroviral therapy	-	-	-	Yes	Yes
4.2 Control of Malaria					
Clinical diagnosis	Refer	Yes	Yes	Yes	Yes
RDT/Microscopy, Treating uncomplicated cases	-	Yes	Yes	Yes	Yes
Distribution of ITNs and IPT	Yes	Yes	Yes	Yes	Yes
4.2 Control of Tuberculosis					
Case detection - sputum smear	Refer	Yes (but not compulsory)	Yes	Yes	Yes
DOTS and Active case-finding in community/OPD	Yes	Yes	Yes	Yes	Yes
BCG vaccination	-	Yes	Yes	Yes	Yes
5.0 Essential Emergency Treatment					
Shock, Injuries, Poisoning	Yes & Refer	Yes & Refer	Yes & Refer	Yes	Yes

The table below gives some highlights of the performance of the NLTCP in 2001-2005.

Major Areas of the NTP 2001-2006	**Status at February 2007 (end of no cost extension to GFATM Round 2)[27]**
Establishment of additional DOTS Centres (baseline of 16 in 2004) • Procure and equip TB labs with lab equipment and consumables • Establish a lab quality control system • Procurement of anti-TB drugs	All fifteen counties covered with DOTS services 99 DOTS: microscopy/TB diagnostic and DOT treatment centres – covering 72% of districts and <40% of the population A lab quality control system is functioning, but with limited resources A further 101 DOT centres (treatment only) have been established Anti-TB drugs procured through GDF
Training Health Professionals and Community Health Workers to implement DOTS	Refresher training was conducted: • 100 General health workers • 120 lab personnel • 280 Community Health Workers (CHW) • 100 Offers-in-charge (OICs) • 15 county supervisors
Conduct regular supervision and monitoring of DOTS services	24 vehicles, 32 motorbikes and 60 bicycles purchased and distributed in the 15 counties for SM&E activities A basic data processing unit set up at the NTP to manage quarterly reports Regular monthly and quarterly supervision activities conducted by central TCP team
Introduce PPP DOTS and Community based TB Care	16 private DOTS health facilities, including 6 corporate health facilities 180 community sensitization meetings were held with 18,000 participants in all counties on a rotational basis in 2005/6 No Community-based DOT services e.g., trained DOT providers yet.
Develop and distribute IEC/BCC materials to increase knowledge and awareness of TB amongst the public	No IEC/BCC unit set up yet. However, there are plans to establish the unit. Posters, leaflets, radio spots and drama and TB were created and disseminated on a large scale in 2005-6. Access to TV and Radio limited to Monrovia

[27] End of no cost extension as reported in the 2 year GFATM Active Report, NLTCP, May 2007

Establish collaborative TB/HIV activities with NACP	Integrated HIV and TB services in only 2 facilities. 550 TB patients counselled and screened for HIV in 2006 with 101 identified TB/HIV co-infected cases. 6 of these people were eventually put onto ARVs.

Complementary Interventions/Services

Interventions/Services	NTCP 2001-2005	Strategic Plan 2007-2012
Provision of DOTS Services in public health facilities • Microscopy centres and TB diagnostic services • A lab quality control system • Provision of free to the end user anti-TB drugs	99 DOTS: microscopy/TB diagnostic and DOT treatment centres – covering 100% of counties, 72% of districts and <40% of the population A lab quality control system is functioning, but with limited resources Anti-TB drugs provided	Expansion of DOTS to 100% of counties and districts, providing access to DOTS to the majority of the population Introduce culture sensitivity testing services Strengthening the lab quality QC system to lower discordance rates Decentralise drug and lab consumables storage and distribution
Training of Health Professionals and Community Health Workers to implement DOTS	Refresher training was conducted for general health workers, lab personnel, Community Health Workers (CHW), Officers-in-charge (OIC), County supervisors	Training of new health professionals and CHWs involved in DOTS, both public and private sector
Regular supervision and monitoring of DOTS services	A basic data processing unit set up at the NTP Regular monthly and quarterly supervision activities conducted by central TCP team	Strengthen supervision and monitoring system, incorporating feedback and performance management mechanism.
PPP DOTS and Community based TB Care	Some private DOTS operating (16 facilities) Communities sensitised but no Community-based DOT services e.g., trained DOT providers yet.	Implement a PPM approach with interagency referral Implement community-based DOT services, including community-based DOT providers
Develop and distribute IEC/BCC materials to increase knowledge and awareness of TB amongst the public	Posters, leaflets, radio spots and drama and TB were created and disseminated on a large scale in 2005-6. Access to TV and Radio limited to Monrovia	Strengthen the health promotion unit Complement mass media IEC/BCC with community-based face to face educational activities
Integrated TB/HIV activities	Integrated HIV and TB services in only 2 facilities. A small portion of TB patients given VCT	Increase access to integrated, comprehensive set of HIV and TB services, including TB preventative therapy for PLWHAs

New Interventions/Services

Interventions/Services	NTCP 2001-2005	Strategic Plan 2007-2012
Operational research	None	ARI to establish baseline TB incidence MDR-TB status TB-HIV co-infection
MDR-TB	None	Assess status of MDR-TB and appropriate preparation for MDR-TB diagnosis and treatment