NATIONAL LEPROSY AND TUBERCULOSIS STRATEGIC PLAN 2014 - 2018

REPUBLIC OF LIBERIA

MINISTRY OF HEALTH

Forward

Tuberculosis (TB) is a major public health problem in Liberia. WHO estimated the prevalence and incidence rate for all forms of tuberculosis to be 453 and 299 per 100,000 population in 2011[1]. Mortality during the same period was estimated at 45 per 100,000 population. The most productive age group of 15-54 years accounts for more than 87% of all forms of TB with obvious consequences on the socio-economic development of the country.

TB control activities in Liberia are organized and coordinated by National Leprosy and Tuberculosis Control Program (NLTLCP) since its establishment in 1989. DOTS strategy, the adopted global strategy to control TB, was introduced in Liberia in 1999. NLTCP has received significant external financial and technical support for its TB control activities, in which GFATM Rounds 2, 7 and 10, 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 other in-kind contributions.

The Stop TB Strategy is being implemented and a number of new initiatives have been started including increasing access to high-quality DOTS, addressing TB/HIV, MDR-TB, increasing ACSM activities, health system strengthening and engaging all care providers.
In implementing the just concluded NTLCP strategic plan 2007-2012, a lot of achievements have been made. The program has extended microscopy centers from 90 centers in 2008 to 160 centers in 2012 covering 100% of the fifteen Counties. The case detection in 2011 was 64%, the treatment success rate 87% and the default rate decreased from 10% in 2008 to 4% in 2012.
However a lot still needs to be done to accelerate achievement of the global targets. The main areas are low detection of smear negative cases, low accessibility to quality services, commodity security, TBHIV collaborative services especially ART and IPT uptake, Drug resistant TB, Childhood TB, addressing TB in vulnerable populations and the weak health system.

Leprosy remains a major public health problem in Liberia. It is also one of the few countries that have not attained the global target for leprosy elimination of less than 1 case per 10,000 populations.

[1] WHO 2012 Global TB report

The country data over the last three years show a trend of continuous transmission of the disease with high notification of new cases.

This strategic plan is therefore designed to overcome these challenges and put Liberia on the road towards achieving international TB and control targets. It aims at increasing access to TB diagnosis and provision of comprehensive high quality treatment services for TB patients across the country. The plan also aims to improve health-seeking behaviour among people with TB and TB/HIV. Investment in strengthening the health system will improve its management capacity at all levels, while partnerships with the private and other collaborating sectors will be strengthened to broaden the alliance for halting the two diseases.
This plan is made having in mind that the Global stop TB strategy will change for the post 2015 period. It is made along the outline of the current stop TB strategy with a view to align with the post 2015 strategy once it is adopted. There will be a midterm review of this plan in early 2016 that will also facilitate a revision in line with the post 2015 global strategy and extension of the plan to 2021 to align it with the National health plan.

Under leprosy, the aim is to reduce the burden of leprosy in Liberia. This can be achieved through improved and sustained integrated quality leprosy control services and early case detection and treatment taking into account the global and national targets.

The Ministry would like to extend its gratitude to all stakeholders who provided valuable inputs towards the writing and finalizing this plan. The Ministry would like to specially thank the WHO for providing and availing technical support for the process and KNCV Tuberculosis Foundation for providing technical assistance for finalizing the plan.

Acknowledgement

This new National Tuberculosis and Leprosy Strategic Plan, which focuses on the programmatic, technical, and laboratory management of tuberculosis in Liberia, was developed under the leadership and guidance of Dr. Bernice Dahn, Chief Medical Officer/Republic of Liberia and the National Leprosy and Tuberculosis Control Program (NLTCP).

Special thanks is extended to all the NLTCP staff and partners for their tireless involvement in the development and editing of this document.

The Ministry of Health also wishes to acknowledge with deepest appreciation, the World Health organization (WHO), GLRA, Global Fund and Dr. Victor Ombeka , KNCV consultant who dedicated his time to the development of this strategic plan.

As we continue in the fight against TB,

Thanks for your support.

Catherine Cooper, MD
Program Manager
National Leprosy & TB Control Program

List of Acronyms

ACSM	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 Drug Facility
GFATM	Global Fund to Fight AIDS, Tuberculosis and Malaria
GLI	Global Laboratory Initiative
GLRA	German Leprosy and TB Relief Association
GNP	Gross National Product
GOL	Government of Liberia
HCT	HIV Counseling and Testing
HIV	Human Immunodeficiency Virus
HMIS	Health Management Information System
HSS	Health System Strengthening
INGO	International Non-Government Organization
IPT	Isoniazid Preventative Therapy
IUATLD	International Union against Tuberculosis and Lung Disease
MDGs	Millennium Development Goals
MDR-TB	Multi-Drug Resistant Tuberculosis
MOH	Ministry of Health
MOU	Memorandum of Understanding
NACP	National AIDS Control Program
NGO	Non-governmental Organization
NLTCP	National Leprosy and Tuberculosis Control Program
PLWA	People Living with HIV and AIDS
PPM/PPP	Public-Private Mix (also known as PPP)
PSM	Procurement and Supply Management
QA	Quality Assurance
QC	Quality Control
TB	Tuberculosis
VCT	Voluntary Counseling and Testing
WHO	World Health Organization

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Executive Summary

Tuberculosis remains one of the major public health problems in Liberia though no definitive studies have been conducted to determine the exact burden of the disease. TB is one of the health priorities in the national health plan and the essential package of health services, and is integrated into the Primary Health Care (PHC) services.

The World Health Organization estimated the TB prevalence in Liberia to be 453/100,000 population in 2011 compared to 341/100,000 in 1990. The estimated TB incidence in Liberia currently is 299/100,000 population. There has been on an upward trajectory since 1990 with no evidence yet of any tendency to decline. The annual increase in estimated TB incidence is 2% since 2005.

In recognition of the challenges related to Tuberculosis, the Ministry of Health through the National Leprosy and Tuberculosis Control program plans to strengthen TB control in the country through a robust plan which is aligned with the Global STOP TB strategy.

The new strategic plan covers the period of five years commencing from 2014 to 2018. It will be aligned with the National Health and Social Welfare Plan through a revision in 2016. The plan will be used to strengthen the NLTCP as well as being an advocacy tool for mobilising resources for TB control.

The overall goal of this plan is to reduce the TB prevalence and incidence rates by 2018. The strategic objectives were formulated based on the six core strategies of the STOP TB strategy with emphasis on DOTS expansion, TB/HIV , MDR-TB and other vulnerable populations, community TB care, health system strengthening and promoting research.

The amount required to implement this plan is approximately US$ 32,081,120 million to be mobilized by both government and partners. While the Ministry of Health will provide the leadership and oversight, the NLTCP will fulfil the technical, and monitoring and supervisory role. In addition, the County Health and Social Welfare Teams, partners and communities will play a crucial role in successful implementation of the plan.

Chapter 1 Background

The country Profile

Liberia is located on the west coast of Africa, with a land area of 110,080 square km and a coastline of 560 km along the Atlantic Ocean. It is bordered by Sierra Leone to the West, Guinea to the North, and Côte d'Ivoire to the East and the Atlantic Ocean in the South. The country is divided into 15 counties that are further subdivided into 137 districts.

Demographic information

The country's population is estimated to be 3,777,972[2], with an annual growth rate of appropriately 2.1%. Approximately, 47% of the population resides in the urban areas. About 32% of the national population lives in Montserrado County which hosts the capital, Monrovia. In terms of sex ratio, women constitute 51% of the population while men account for 49%.

The country has a relatively young population structure with 52% of the country below 19 years of age. The relatively young population combined with factors such as high rates of teenage pregnancy (32%) and low levels of contraceptive prevalence (11% overall, and 7% in rural areas), contribute to Liberia's high total fertility rate of 5.9 children per woman.

The impact of civil war posed a significant challenge to Liberia's efforts to attain some of the Millennium Development Goals (MDGs) although progress is being made in areas of gender empowerment, universal primary education and reduction of child mortality.

Socio-economic situation

Liberia is classified as a low income country by the World Bank. The GNI per capita is US$ 480 (2012 estimate) with an estimated 76% of the population said to be living below the poverty line of less than US1 per day.

The country is however endowed with natural resources including Iron ore, rubber, timber, diamonds, gold, which constitute the main export and foreign exchange earners.

[2] LISGIS, 2008 projection

Liberia completed the Heavily Indebted Poor Countries (HIPC) process and a total external debt burden of US $4.6 billion (equivalent to 800 percent of GDP) was cancelled in June 2010. The debt relief will enable Liberia to finance vital infrastructure that will underpin future economic growth. While the economy is growing, gradual reduction in donor support coupled with increasing recovery and development priorities, the amount of funds available for the health and social welfare priorities are not expected to increase significantly in the coming years.

The 2013 Human development report indicates that Liberia has the second highest multidimensional poverty index at 84% and fifth highest intensity of poverty at 58%. It was ranked 174 out of the 186 countries included in the UNDP's Human Development Report. Average life expectancy was 57 years, adult literacy rate was 55 percent and the combined gross school enrollment was 57 percent. The serious economic challenges that usually accompany chronic conflict were also experienced in Liberia, where an estimated 76% percent of the population now lives in poverty.

The recent global economic downturn has contributed to the slow economic recovery and will stunt future economic growth for some time. However, due in part to the very low economic baselines, Liberia has made economic progress in recent years. The GDP has resiliently grown at an estimated rate of 6%-7% from the end of the conflict and the current global economic meltdown.

Health

Following a protracted period of conflict, the health status of people in Liberia is recording gradual improvement as the recovery progresses. Infant mortality rate witnessed a declined from 144 deaths in 1986 to 73 deaths per 1,000 live births in 2012. Similarly, the under-five mortality rate has also declined from 220 per 1,000 live births to 110 per 1,000 live births in 2012. Malaria prevalence in children has declined from 66% in 2005 to 32% in 2009[3], and access to prompt and effective treatment for malaria has increased.

Concurrently, full immunization coverage remains inadequate (51%) and the HIV prevalence (1.5%)[4] poses a potential threat to the population of which 52% are 19 years of age or younger and 47% live in urban areas. The HIV prevalence amongst antenatal clients has however shown a decline from 5.7% in 2006 to 2.6% in 2011 (ANC Sentinel Survey Reports).

Other preventable disease conditions that are commonly prevalent in Liberia include tuberculosis, sexually transmitted infections, worms, skin diseases and under-nutrition.

[3] LMIS - 2009
[4] LDHS 2007

Table 1: Summary Country profile of Liberia

Geographic Size	111,369km2
Annual Rainfall	4,000mm (One of the highest in the world)
Natural Resources	Iron ore, rubber, timber, diamonds, gold
Founded	July 26, 1847
Executive President	President: Ellen Johnson-Sirleaf (2018)
Legislature	Bicameral (Senate and House of Representatives)
Per Capita Gross Domestic Product	US$247 (2010 estimate)
Gross Domestic Product Growth Rate	1.8% (2001-2010 estimate), 5.9% (2010 estimate)
Population Living on Less than a Dollar a Day	76.2%
Population	3,777,972 LISGIS Projection
Population Growth Rate	2.1% (2008 census)
Life Expectancy	57.3 years (2013 UNDP Human Dev Report)
Under Five Mortality	110/1000 live births (2007 DHS)
Maternal Mortality Rate	994/100,000 live births (2007 DHS)
Access to Improved Drinking Water	75% (93% urban, 58% rural) (2009 LMIS)
Access to Adequate Sanitation	44% (63% urban, 27% rural) (2009 LMIS)
HIV sero-prevalence	1.5%
Supervised Childbirth	46% (2007 DHS)
Institutional Deliveries	37% (2007 DHS)
Vaccination Coverage (full)	51% (2010)

Health Policy

In 2007, the Ministry of Health established the Basic Package of Health Services (BPHS) with the ultimate intention of expanding equitable distribution of health care services for all Liberians. As of January 2011, coverage of the (BPHS) had increased from less than 10% in 2006 to over 80%, far above the target of 70% expected by the end of 2011. The BPHS accreditation assessed a total of 550 government and private facilities (378 government and 172 private facilities). The number of functioning health facilities increased from 354 in 2006 to almost 550 in 2010 thus reducing the health facility to population ratio from 8,000 populations to one health facility in 2006 to 5,500 in 2010.

In 2011 a new policy, the National Health and Social Welfare Policy and Plan were developed. The policy and plan run from 2011 to 2021. The goal of this policy is to improve the health and social welfare status of the population of Liberia on an equitable basis. The focus of the policy is to: (1) Increase access to and utilization of a comprehensive package of quality health and social welfare services of proven effectiveness, delivered close to the community, endowed with the necessary resources and supported by effective systems; (2) to make health and social welfare services more responsive to people's needs, demands and expectations by transferring management and decision-making to lower administrative levels; and (3) make health care and social protection available to all people in Liberia, regardless of their position in society, and at a cost that is affordable to the Country.

The service delivery system is based on three main levels of service delivery: primary, secondary and tertiary. Two distinct packages of services serve as the cornerstones of the national strategy to improve the health and social welfare of all people in Liberia: the gender-sensitive Essential Package of Health Services (EPHS) and a planned Essential Package of Social Services (EPSS). The EPHS builds on the achievements of the BPHS. It provides a more comprehensive set of services that strengthen key areas that continue to perform poorly in the current system and adds new services necessary to address needs at all levels of the health care system and prioritizes services that reflect the prevailing disease burden and health conditions affecting the population. The EPSS prioritizes those services that are necessary for the social well-being of the population, especially those considered most vulnerable. The components of the two packages are affordable, sustainable, high-impact interventions that have been chosen due to their effectiveness at preventing or treating the major causes of morbidity and mortality or increasing social welfare.

In line with the 2011–2021 National Health Policy and Plan, the Ministry is not only focusing on expanding services across the country but also improving and standardizing the health systems in order to provide quality health services to the entire population in Liberia.
The Ministry of Health with support of partners has completed the first year of implementation of the national health policy and plan, and the essential package of health services (EPHS) with nationally estimated coverage of 17%. The target set for EPHS

coverage is 80% by 2015. However, variation exists among counties with respect to access the southern eastern region of the country having a relatively lower coverage.

The policy highlights the need to invest in Health and Social Welfare Financing, Infrastructure, Human Resources, Pharmaceuticals and Health Commodities and other Support Systems.

Health System

The national health system is based on three main levels of service delivery primary, secondary and tertiary. Each level screens patients and social welfare clients for care requirements using clear criteria before transferring to the next level of care. The health system comprises of both public and private sectors, and several non-governmental organizations working mainly at the community level. There are 657 health care facilities in the country (404 government and 253 private facilities), distributed all over the country. The number of functioning health facilities increased from 354 in 2006 to 657 in 2013. The public health system has a network of health facilities consisting of 573 clinics, 49 health centres, 33 county hospitals and 2 national referral hospitals.

Chapter 2 Institutional Frame work

National Leprosy and TB Control Program

The Leprosy and TB Control Program was merged in 1989 and has been supported by the government and international partners until 1990s, when financial assistance declined in the face of political instability. The government asked the German Leprosy Relief Association (GLRA) in 1988 to incorporate TB into its leprosy control programme support, but the reorganizing was also interrupted when the first civil war started in 1989. The TB program was revived in 1994 and had to survive through the years of political instability.

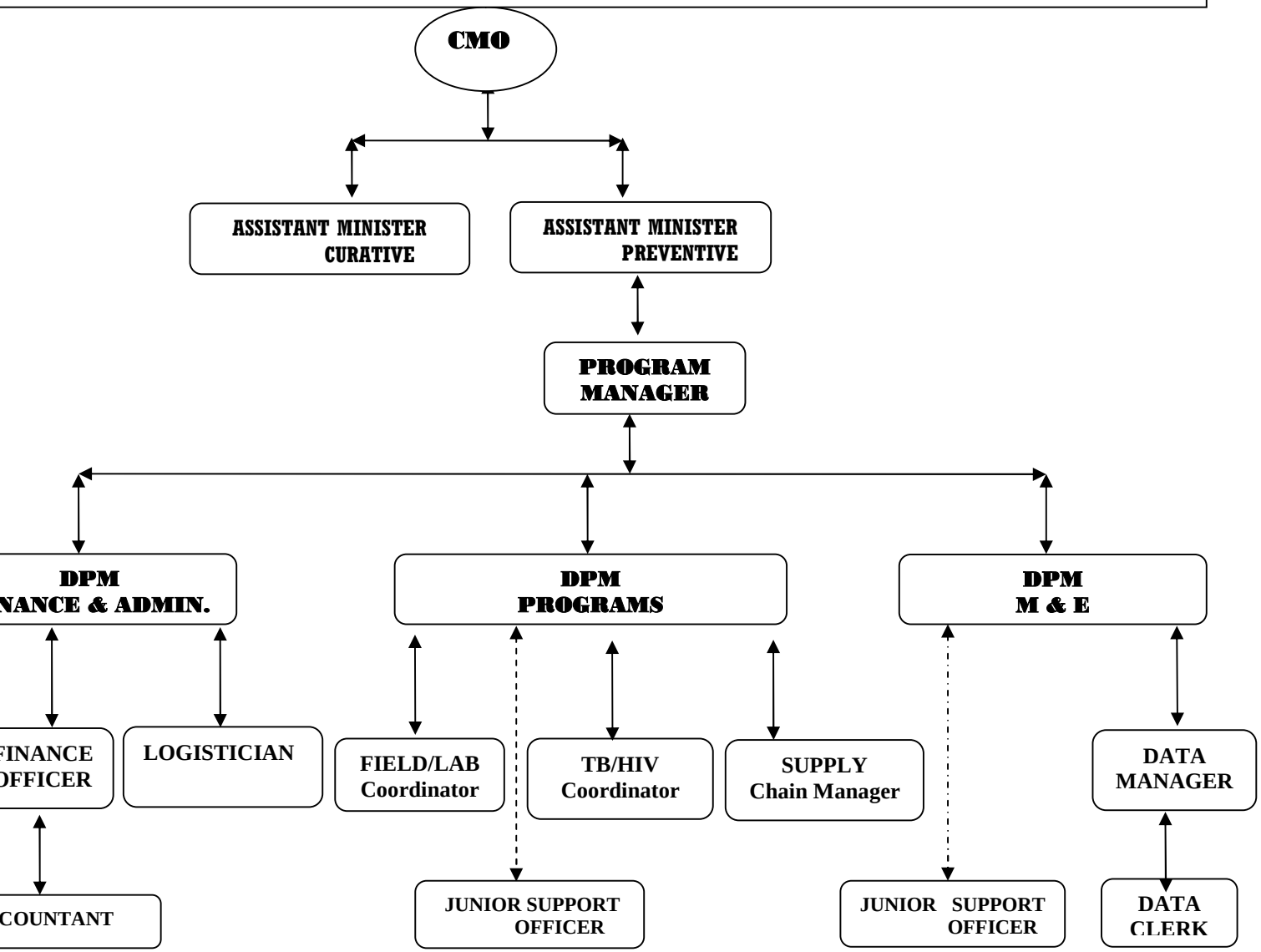
The program is headed by the Program Manager who reports to the Assistant Minister of Health for Preventive services. There are three deputy program managers (Programs, Monitoring and Evaluation, Finance and Administration) who work with the Program Manager in support of achieving the Programs Goals and Objectives.

Core Activities at National Level

The main function of the NLTCP is:

- formulation of leprosy and TB control policy and strategies
- resource identification and mobilization
- coordination of the procurement and distribution of anti-TB drugs and other commodities
- coordination and implementation of training
- supervision of leprosy and TB field activities
- quality assurance of AFB microscopy
- surveillance of drug resistance
- health promotion
- collection and collation of leprosy and TB related data
- data aggregation and analysis
- operational research
- Coordination of the central TB reference laboratory with the National Public Health Reference Laboratory.

The Organizational Structure of the NLTCP at Central Level



Core Activities at County Level

The County Leprosy/TB Focal Persons, who work under the Community Health Department within the County Health Teams (CHTs), are the first line of referral for the officers in charge of the clinics, health center and hospitals providing TB/Leprosy services. The Focal Persons perform the following functions:

- Maintain the County Leprosy/TB registers and report the data to the central level
- Coordinate with CHTs in planning TB activities in order to align county work plans with the national leprosy and TB work plan
- Organize training and conduct supervisory visits to facilities that perform leprosy and TB control activities, including laboratories and pharmacies.
- Coordinate and establish community-based Directly Observed Therapy- Short Course (DOTS) programs, including training of Community Health Volunteers (CHVs)
- Ensure a continuous supply of leprosy and TB drugs, forms and laboratory materials to the county health facilities
- Supervise record keeping of the leprosy and TB case registers and laboratory registers.
- Collaborate with staff working in the HIV/AIDS program to ensure better management of patients with TB/HIV co-infection.
- Collaborate with other agencies and NGOs, as well as private doctors, who provide care for leprosy and TB patients.

Core Activities at District/Health Facility Level

TB treatment, through delivery of DOTS services, is integrated into the general health services provided at health care delivery points. However, the district health officers are not fully integrated in TB services at the District levels; in this new strategic approach to TB services, the Districts Health Officers are going to form a strong link in the management of TB services at the peripheral levels.

The Officer-In-Charge (OIC; often a nurse or a physician assistant [PA]) of the leprosy and TB center within the health facility is responsible for the day-to-day operations and reports to the County Leprosy/TB Supervisors. The OIC's main functions are:

- Supervise community-based DOTS program with community health volunteers (CHVs) conducting community outreach activities and serving as liaisons between the patients and OICs
- Develop an efficient patient referral system to ensure continuity of care.
- Submit monthly and quarterly reports on case finding and treatment outcomes.
- Ensure continuous supply of diagnostic supplies and drugs
- Participate in advocacy and social mobilization activities.

The organizational structure and core activities may be revised in the future according to program and MOH&SW strategic needs.

Chapter 3 Review of the 2007-2012 Strategic Plan.

The National Leprosy and Tuberculosis Control Program concluded the implementation of the 2007 – 2012 National Tuberculosis strategic plan in 2012. A Programmatic review of the National Strategic plan was conducted in 2013 with support from the WHO and other partners. The strategic plan which was developed in 2007 implemented the following strategies:

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 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.

Review findings by strategic objectives:

Strategic objective 1: High quality DOTS expansion and enhancement

- The programme has been able to expand the AFB microscopy laboratory network from 90 laboratories in 2007 to the current 160 throughout the 15 counties. These laboratories are situated in public, FBO and corporate sectors;
- Laboratory supervision and quality assurance systems have been initiated at the central level. The review established that about 60% of laboratories participated in the Quality Assurance system.
- Steps towards development of an in-country Mycobacterial culture and drug susceptibility testing (DST) is being developed in Liberia. However, while the

cultures have commenced at the National TB reference lab, the DST component is not yet ready.

- The programme also made significant progress in its efforts to decentralize DOTS services. The DOTS treatment network was expanded from 200 in 2007 to 450 by end of 2012.
- The NLTCP with support of the SCMU and NDS established a system of procurement of quality assured anti-TB drugs through the GDF mechanism. This has ensured a relatively stable un-interrupted supply of anti-TB medications in the country;
- The NLTCP has, within the context of the current MOH integrated supervision strategy, maintained supervision of DOTS activities in the country. However, the review established that, while the programme has made significant progress in DOTS supervision especially at the county level, the feedback, mentoring and follow up actions aspects were found to be weak.
- The programme recording and reporting tools have been developed and are widely used in DOTS units throughout the country. However, the need remains to align some materials to the current WHO recommendations.
- The National TB data reporting witnessed some improvement during the period, and TB data has been integrated into the national MOH HMIS system.

Strategic Objective 2: MDR-TB management

- The national burden of MDR-TB has not been established as planned in the national strategic plan 2007-2012;
- The provision of MDR-TB treatment has also not commenced. However, the Government of Liberia has taken steps to procure second line anti-TB medications for treatment of 14 cases;
- Hospitalization facilities have been established in two centres namely the TB Annex in Monrovia and Ganta Hospital.
- The additional technical staff earmarked were recruited and deployed to respective positions within the NLTCP.

Strategic Objective 3: Community TB Care

- The programme made considerable progress establishing community TB care initiatives as evidenced by the increased participation of FBOs, community volunteers, and community health care workers in TB care and control. Key organizations involved include BRAC, Africare and a number of local FBOs.
- The NLTCP however, has not developed a national framework for community TB care that defines the referral linkages.
- The NLTCP has also developed a number of IEC materials particularly posters, which are widely distributed throughout the country.
- The review established that 77% of patients interviewed have seen a TB/HIV health education poster compared to 10% who indicated they have not seen any.

68% of the patients indicated that they saw the posters at health facilities while 10% saw them within the community;

- The screening of contacts of TB patients, particularly smear positive cases remains a gap in the programme.
- 45% of patients did indicate that TB affected their ability to perform their normal activities;

Strategic objective 4: Engage private health care providers

- PPM approaches have developed in Liberia with various providers collaborating in service provision and notifying TB cases through the national TB programme. Currently, 27 of the 143 TB diagnostic sites are located within facilities owned by Corporate, private and faith-based sectors in the country.
- A national technical working group for TB is in existence, which includes membership of key strategic partners supporting TB care and control.

Strategic objective 5: Effective integrated TB/HIV care

- A strong collaboration has been established between the National TB Programme (NLTCP) and the National HIV/AIDS Programme (NACP). This is further strengthened by the strong policy on integration at the ministerial level where the two programmes operate under the same Bureau for Preventive services in the MOH;
- All the counties have dedicated TB/HIV County Focal Points. The TB/HIV collaboration mechanism is however not optimally operational especially at the sub-national (County) level.
- Of the 31 HIV Care clinics visited by the review team, 77% of facilities had no TB/HIV Coordination Committee in existence;
- 58% of HIV Care clinics visited indicated that HIV clients access TB treatment at TB clinics located within the same premises but not necessarily under one roof, while in 29%, HIV clients are said to access TB treatment from a TB clinic located outside the premises.
- Only 58% of the facilities visited are said to be conducting routine TB screening among new HIV clients (including pre-ART), while 32% do not conduct this on a routine basis.
- 55% of facilities visited conduct routing screening among patients already enrolled clients, while 42% do not conduct this on a routine basis;
- In terms of frequency of TB screening, 39% of the clinics were said to be conducting TB screening on HIV clients on every visit, 10% quarterly and the rest had no defined intervals;
- The numbers of HIV clients screened for TB is not routinely reported.
- 87% of HIV clinics visited do not provide IPT to HIV clients with no TB with only 6% indicating that the intervention is provided.

Strategic objective 6: Increase and sustain IEC and behaviour change activities

- The National TB Programme has made considerable achievements in creating awareness about TB through development and dissemination of IEC materials;
- The review team interviewed a total of 31 patients from various clinics, and established that knowledge of the cause, transmission and curability of TB is at a satisfactory level as 52% of patients attribute TB to germs while 6% to dust, 6% don't know and the rest indicated other causes.

- 74% understand its airborne transmission, and 80% seek medical attention first in appropriate facilities. However, the review findings suggest a considerable patient-related diagnostic delay of an average of 3-6 months from development of symptoms to being diagnosed with TB.
- 84% of interviewed TB patients indicated that TB is curable compared to only 3% who thought it cannot be cured, while the others were not sure of its curability.
- Patients seem to have received considerable education of TB prevention methods as 45% of interviewed patients acknowledged cough hygiene as essential in reducing TB transmission; 23% recognized the importance of getting infected individuals cured as a means of preventing transmission, 6% didn't know to prevent transmission, while the others indicated other means.
- There seems to be a positive health seeking behaviour among the patients interviewed as 74% of patients had preference for Government health facility as the first point of consultation in the event of sickness, while 6% preferred a Private facility and 20% other outfits including Pharmacies.55% of patients indicated that their preference was informed by their conviction of it being the best available option, while 19% were influenced by strong advice, 3% due to economic considerations while the rest were due to other reasons.
- The review also found the patient's knowledge on TB/HIV interaction to be fair as 58% of patients interviewed knew the existence of relationship between HIV and TB, while 19% felt there isn't any.39% of patients know that not all people with HIV have TB, while 43% didn't know at all and 3% of patients think that all HIV positive individuals invariably have TB;
- 81% of patients understand that everyone can be affected by tuberculosis
- 80% indicated that a health care worker talked to them about TB and HIV in the course of their treatment; and 48% of patients knew their HIV status prior to being diagnosed with TB. 55% of the interviewed patients indicated that they had HIV testing while on TB treatment; and 42% of patients interviewed believe that TB can be cured successfully in people living with HIV, 26% were not sure, and 19% think it cannot be cured;
- With respect to stigma and discrimination reduction, the programme also recorded some achievements as only 19% of patients indicated that TB affected persons

tend to face rejection in the community, 26% indicated the community may just avoid the patient; 29% felt community is usually supportive.

- 23% of patients felt embarrassed when told they had TB, 32% felt sad, 16% felt surprised and the rest had other experiences.

Strategic objective 7: Strengthen supervision, monitoring and evaluation

- The national TB programme has an established M&E system at health facility, county and national levels. The recording and reporting forms and registers are consistent with national guidelines.
- The NLTCP has an M&E Plan which was developed to monitor mainly Global Fund supported activities.
- The data collection and reporting system at the health facility level are being integrated into the wider Health Management Information System (HMIS) in line with the MOH integration policy.
- So far recording and reporting system at health facility levels are manually done and data is transmitted simultaneously to the county HMIS and the NLTCP Central level. At the NLTCP Central level, data is collated electronically using Excel spreadsheets. An electronic system is being developed for the entire HMIS
- Quarterly onsite data validations (OSDVs) are conducted by the NLTCP M&E with reports are written and feedback provided on-site as well as during quarterly programme review meetings. Reports of such OSVDs are made in triplicate such that 1 is retained by the health facility, 1 with the County TB/HIV focal point and 1 with the NLTCP Central level.
- Random data quality checks are also carried out where facilities are selected randomly and counter-check for discrepancies. Discrepancies are resolved by cross-checking the source documents.
- TB focal points generate reports in collaboration with facility staff. Quarterly meeting is used to discuss data analysis findings per county and checking of registers for completeness.
- Training of data managers and focal persons on TB case management and M&E have been conducted. Trainings on M&E issues are also conducted during OSDVs
- The NLTCP reports are disseminated to Partners, MOH, during Annual meeting, Annual review meeting. The national TB reports are also accessible via the web through the MOH website.
- A surveillance system for MDR-TB has not been established yet.

Strategic objective 8: Strengthen NLTCP Technical and managerial capacity.

- The National TB Programme capacity has been built at the national and county levels. Currently, the programme has a dedicated National TB Programme Manager supported by deputies responsible for key strategic areas including Programmes, M&E, TB/HIV, Laboratory, PPM and MDR-TB.
- All counties have dedicated TB/HIV Focal Points responsible for coordinating programme activities at their level.
- All 17 County TB/HIV focal points in the country were interviewed by the review team. However, the results indicated that only 40% of the County TB/HIV focal points had seen a copy of their job descriptions;72% of the focal points have been in their positions for longer than 12 months indicating some stability; and 40% have received training later the previous 12 months; and 28% have not received any kind of training in the last 12 months.
- The County focal points appear to have adequate level of TB Knowledge to perform their functions. 80% of focal points understand the correct treatment regimen for new TB cases; 40% properly understood the retreatment regimen, while another 40% failed to demonstrate clear understanding of the national regimen for retreatment and 76% of focal points have no knowledge of MDR-TB treatment regimen.

Despite challenges faced in the full funding of the Plan, targets in case detection, treatment success, and training were met. However, targets directed at Community Participation, e.g. Default Retrieval, Monitoring and Evaluation and TB/HIV joint activities were not fully achieved. Below are the strength to date, gaps identified during the review and recommendations.

Strength

- Application of national guidelines for TB case finding and diagnosis in most DOTS units;
- Most pulmonary TB patients are diagnosed on the basis of direct smear microscopy
- availability of basic requirements for microscopy (functional microscopes and at least one lab technician)
- Availability of national TB management guidelines, which is largely adhered to in the management of TB patients in the country.
- High treatment success rates nationally and in most of the Counties;
- Good storage conditions for anti-TB drugs
- Inclusion of childhood TB management in the national TB management guidelines
- Availability of child-friendly anti-TB drugs formulations

- Integrated TB and HIV services
- High uptake of HIV testing among TB patients
- Availability of PMDT Expansion plan
- Training of some programme staff on PMDT recently in Rwanda
- Existence of a recently developed National TB Infection Control guidelines
- Existence of waiting areas for patients in some health facilities
- Detailed assessment of TB Infection control situation in the country recently conducted with report detailing improvement actions.
- Experience in implementing community-based TB care program
- Availability of the community health care workers cadre and willing volunteers;
- High government commitment
- Existence of an extensive network of microscopy laboratories that provides a reasonable population access to TB microscopy services;
- Free of charge TB diagnosis and treatment
- Availability of at least one technician trained in microscopy in laboratories and 3 technicians in the NRL;
- Existence of a quality assurance system (Panel testing)
- Strong collaboration between the SCMU, NDS, LMHRA and the National TB Programme;
- Availability of drugs warehousing facilities at the county levels
- The commencement of regulatory processes to clean up the drugs market in Liberia
- Good collaboration between the MOHSW and the college of Health Sciences

Gaps:

- Limited organized partnership to support TB activities
- Inadequate reporting of TB quarterly data in the HMIS
- Lack of Lab consumable report in the LMIS
- Weak Referral linkages among health facilities
- Weak feedback system among health facilities
- Lack of Patients based TB recording and reporting system
- Lack of country specific TB related disease prevalence data
- Inadequate facilities support for diagnosis of smear negative and extra pulmonary TB
- Shortage of trained TB human resources at all levels
- Inadequate collaboration between TB and AIDS Control Program
- Inadequate program based operational research
- Poor public awareness and knowledge of TB
- poor community participation in TB Prevention and care services
- Inadequate MDR-TB diagnostic and treatment services

Main thematic recommendations:

Laboratory strengthening:

- There is need to develop a Laboratory strengthening Plan as part of the National Strategic Plan that will include adaptation of new diagnostic tools and define clear time-bound roll-out.
- Develop a plan for reorganization of the National TB Reference Laboratory Plan (equipment, rooms, etc.) to maximize performance and laboratory safety;
- A resident Technical Assistance to be sourced for a minimum one year period to strengthen laboratory services including supporting the national reference laboratory and establishing full range of quality assurance systems

TB case finding, diagnosis and treatment

- Urgently review the National TB Management guidelines to align TB case finding, diagnosis and treatment with current WHO recommendations. This should include revision of the TB diagnostic algorithm to reduce the selectivity of the screening process.
- There is need to introduce systematic screening of all OPD attendees especially in hospitals. The TB diagnostic algorithm should be revised to reduce the selectivity of the screening process.
- Develop protocol and implement contact investigation particularly for contacts of smear positive TB cases.
- Revise the national pediatric TB diagnostic algorithm and management guidelines to relax the criteria for TB suspicion in children and include Ethambutol in the regimen in line with the most recent WHO recommendations;
- NLTCP to develop action plan to re-establish community linkages with DOTS providing health facilities.

Childhood tuberculosis management:

- NLTCP to develop a definitive Childhood TB plan with specific objectives and key activities coordinated by an inclusive technical working group (TWG) at national level. Technical Assistance for development of such a Paediatric TB Plan could be sourced through WHO.

Integrated TB/HIV care:

- Consider building capacity of TB Clinic staff to perform HIV testing and provision of ART thereby enabling scale up of ART access.

MDR-TB Expansion:

- There is need to urgently review and update the National Expansion plan for Programmatic Management of Drug-resistant Tuberculosis. This should include consistent case finding using rapid resistance testing.

- Conduct nation-wide DRS as soon as possible to establish extent of MDR-TB burden;
- Organize in-country training of clinical teams in TB Annex and Ganta for clinical management of DR-TB (WHO to provide support towards such training).
- Institute an Occupational Health Monitoring policy, which ensures annual screening of health care workers for TB with consistent records of implementation.

Government stewardship and funding:

- The need to ensure a comprehensive costing and resource mapping that ensures full expression of demand with a strong domestic focus in the next strategic planning cycle;
- The Ministry of Health to advocate for progressive increase in domestic funding allocation to the National TB Control programme to minimize dependence of the Global fund as the main source.

Anti-TB drugs Procurement and Supply Management system (PSM)

- Improve the quality and consistency of consumption data from health facilities, which is used in quantification of anti-TB drugs need. Specific emphasis should be given to high volume facilities to ensure a well-functioning pull-system of supply.
- Need to strengthen capacity of health facilities in drug management. It is essential to clearly designate a responsible person for ordering anti-TB drugs as opposed to the current situation where various staff assumes such responsibilities.
- Sustained action by the **LMHRA** is needed to contain the practice of selling key anti-TB drugs in the open market to prevent the development of MDR-TB.

Programme management:

- Strengthen quality of TB care through sustained mentoring of health facility staff by TB/HIV County Focal Points. There is need to re-orient the TB/HIV County Focal points towards this mentoring approach in the context of the integrated supervision to ensure consistent follow up and feedback.

Disease epidemiology (Operational Research):

- The country could consider TB Prevalence survey by mid-term of the next strategic plan period to establish a more accurate national TB disease burden. This could be used in the possible re-adjustment of the national strategy to align with post-2015 agenda.
- Conduct anti-TB Drug resistance survey as soon as possible to establish burden of MDR-TB in the country (as soon as laboratory capacity for culture and DST established);

The program review conclusions were that objectives 1, 5 and 8 have largely been achieved, objectives 3, 4, 6 and 7 have partially been achieved and objective 2 has not been achieved.

The overall goal of TB Program has been revised to meet country needs based on the National TB Programmatic Review. The program has agreed to adopt these recommendations to form part of the core strategy of the 2014 – 2018 strategic plan in an effort to achieve MDGs and the Stop TB Partnership targets.

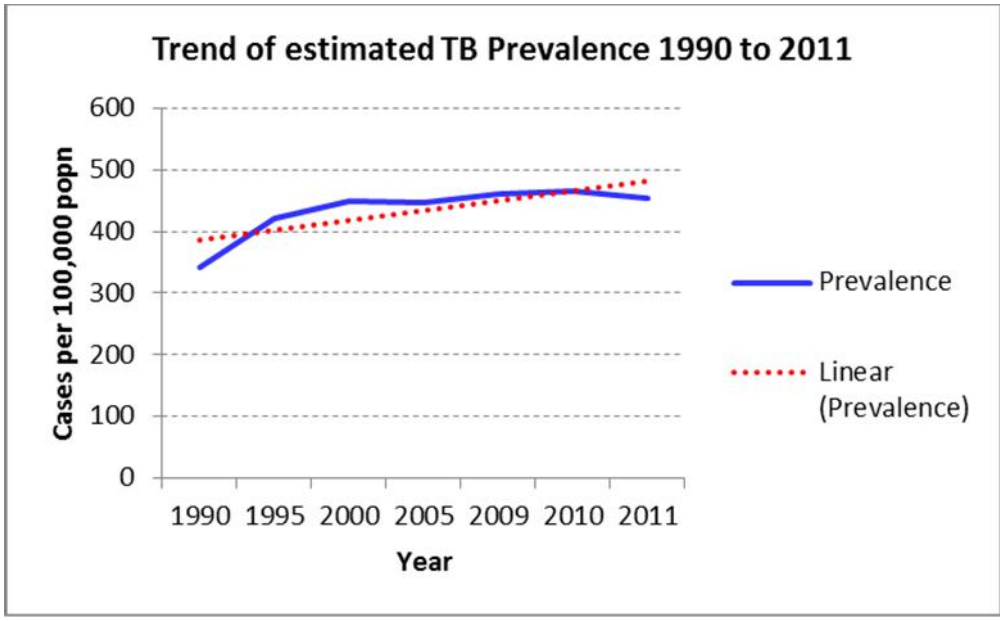
Chapter 4 The Burden of Tuberculosis

Tuberculosis is one of the major public health problems in Liberia though no definitive studies have been conducted to determine the exact burden of the disease. TB is one of the health priorities in the national health plan and the essential package of health services, and is integrated into the Primary Health Care (PHC) services.

Epidemiological progress, impact & outcomes of TB services

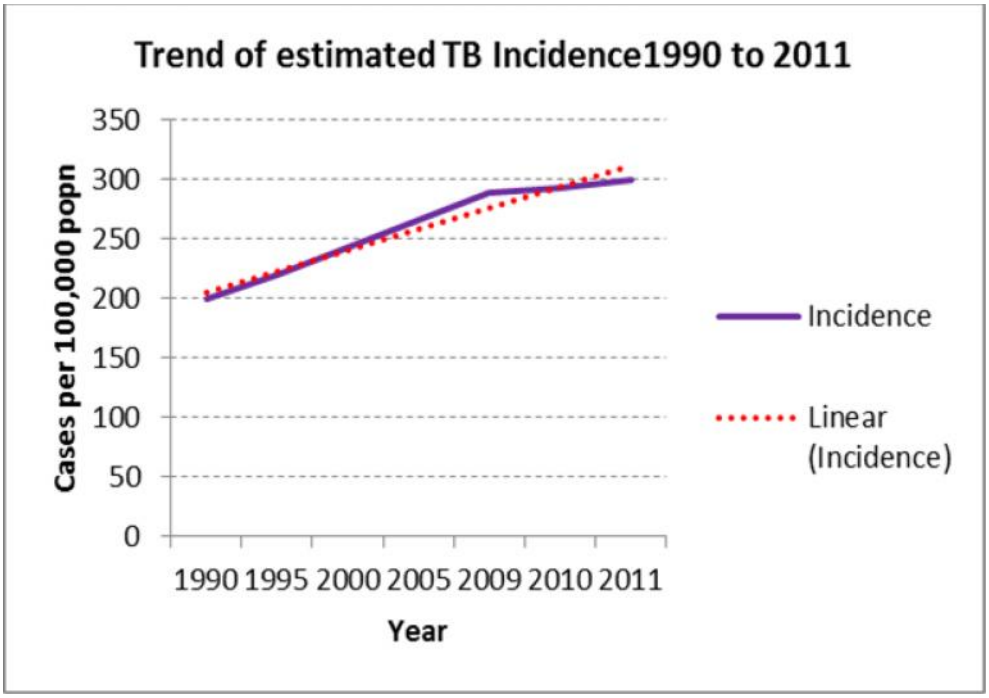
TB Prevalence

The World Health Organization estimated the TB prevalence in Liberia to be 453/100,000 population in 2011 compared to 341/100,000 in 1990. The trend of the country's TB prevalence has been on the increase since 1990. Although beginning to level off since 2010 it has nonetheless maintained an upward trajectory



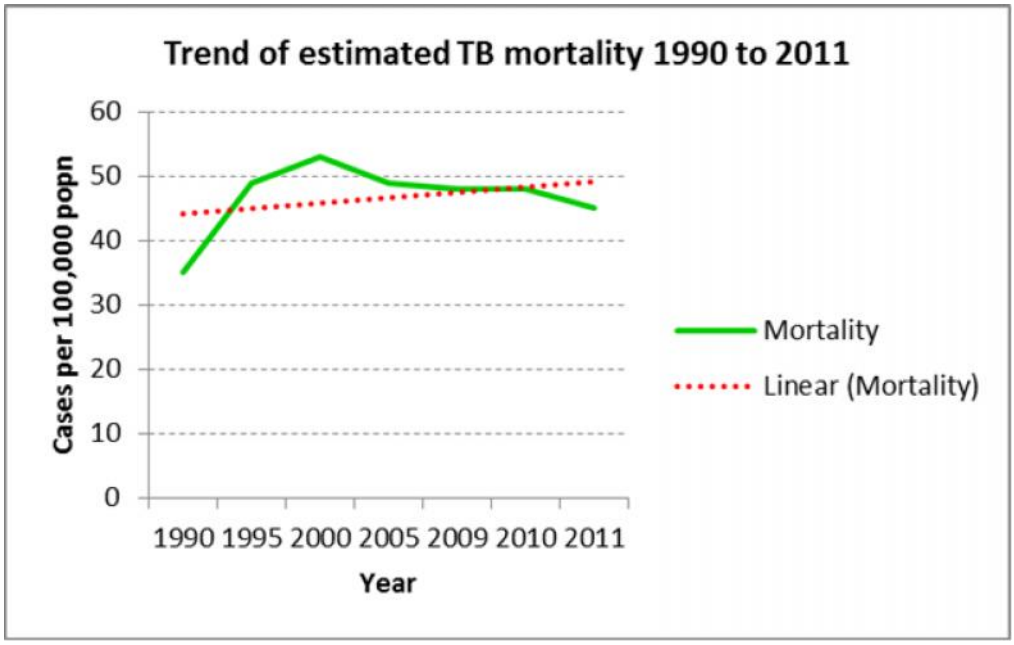
TB Incidence

The estimated TB incidence in Liberia currently estimated at 299/100,000 population by WHO has been on an upward trajectory since 1990 with no evidence yet of any tendency to decline as shown by the linear trend line in the figure below. The annual increase in estimated TB incidence is 2% since 2005.



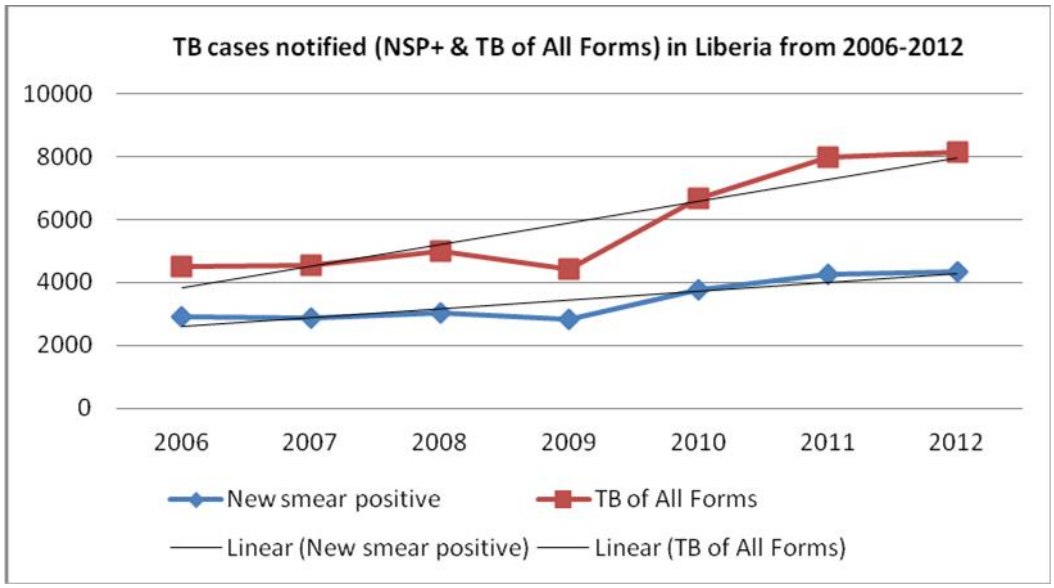
TB Mortality

The TB mortality on the other hand, currently estimated at 45/100,000 population by WHO compared to 1990 level of 35/100,000 reached a peak in the year 2000, followed by a slight decline, and has remained stable since 2005 although the linear trend line does not suggest a real decline.



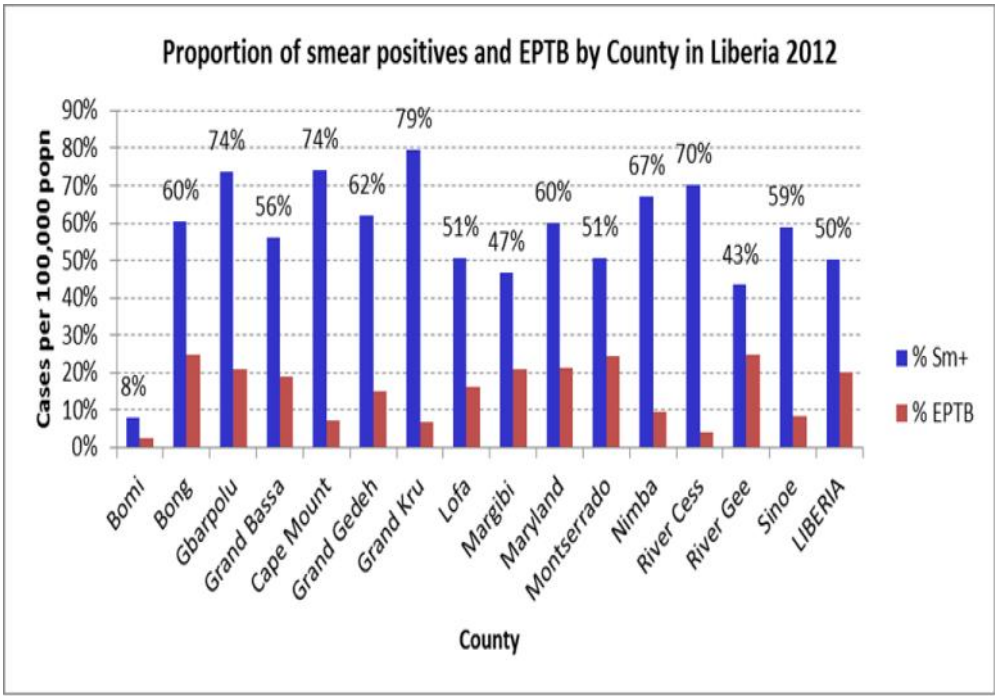
TB Case notification

In 2012, the program registered and notified the total of 8,132 TB cases of all forms of which 4,342 (53%) were pulmonary smear positive TB cases. Montserrado County alone accounts for about 60% of the total notifications in the country. The figure below shows the trend in notification of all and new smear positive cases between 2006 and 2012.

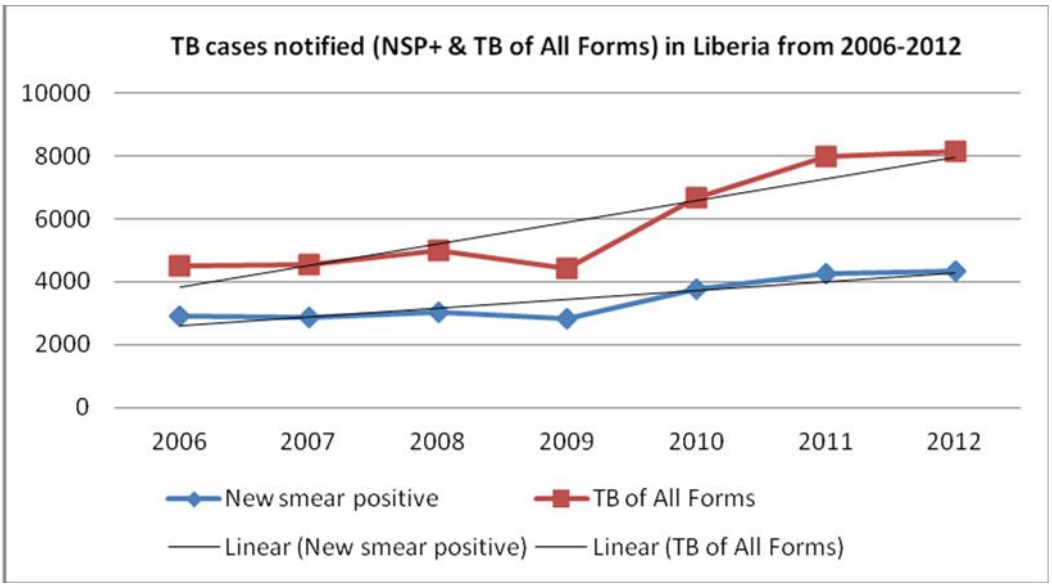


The figure below shows the proportion of new smear positive and extrapulmonary TB (EPTB) cases by county. The rural counties have a higher smear positive proportion and

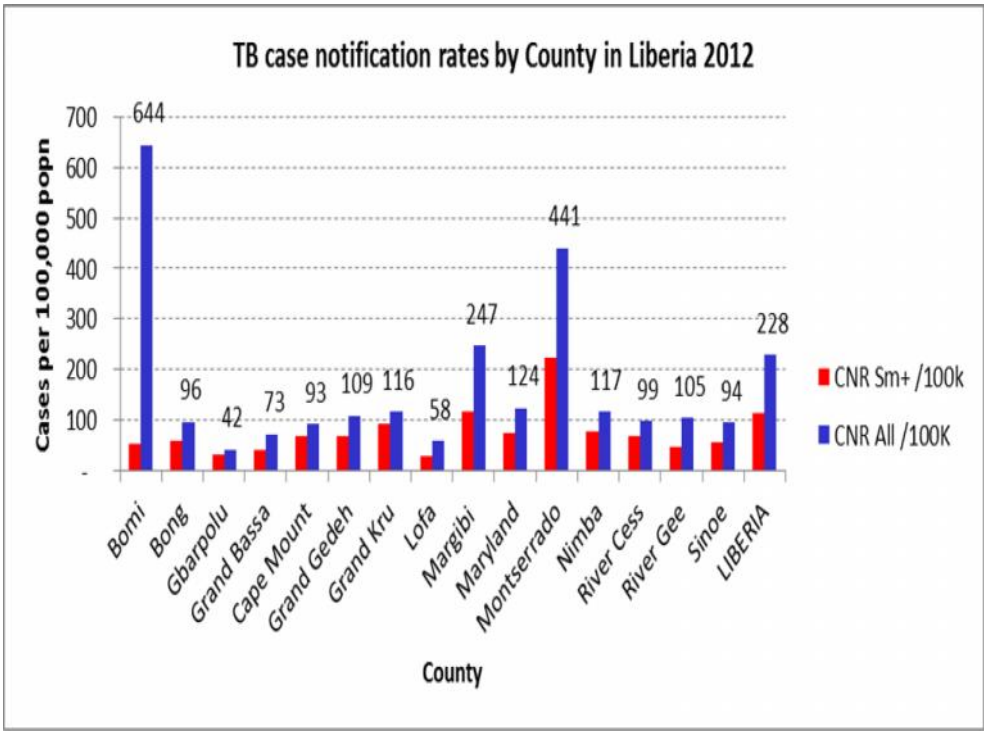
lower EPTB and smear negative cases than Montserrado due to lack of other diagnostic equipment other than a microscopy.



The targets for TB case notification in the NLTCP was to increase the rate from notification of new smear positive TB cases from 103 per 100,000 in 2010 to 109 per 100,000 population by 2015. Currently, the TB Case notification rate is 86/100,000 based on the latest report of 2012 representing a slight decline after a sharp increase in 2011. However, the linear trend line of case notification (shown in figure below) tends to suggest a positive trend.



The national average Case notification rate however conceals a wide variation in case notification rates at sub-national (County) as shown in the figure below.



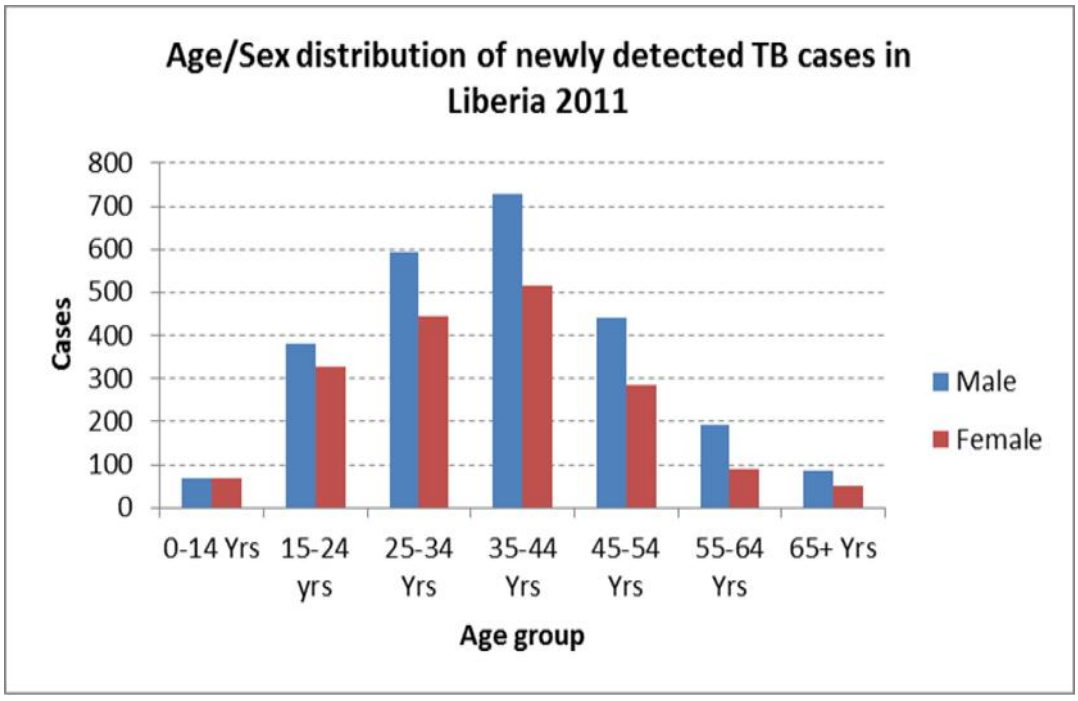
According to the 2012 NLTCP data, Bomi and Montserrado Counties have the highest CN rates of 644/100,000 population and 441/100,000 population for all forms of TB. Montserrado County has the highest Case notification rate for smear positive TB of 124/100,000 population.

The TB burden in Liberia has been driven by disruption of TB control services during the civil war. During the post war period efforts have been made to control TB but accessibility and patient awareness is still low. Factors that favor TB transmission like overcrowding are likely to be at play in Monrovia which coupled with the relatively good access to services could explain the high TB notification.
Although HIV doesn't appear to have been a major driver, it is a growing problem. Even with the reported high burden of TB the NLTCP review noted that there are gaps in the capacity of the surveillance system to capture data on all possible detected TB cases on treatment in the country as not all health facility report. The TB index of suspicion has been limited by a highly selective diagnostic algorithm.

There is a need for further exploration to get a better understanding of other drivers of the epidemic and to determine the exact TB burden.

Age/Sex Distribution

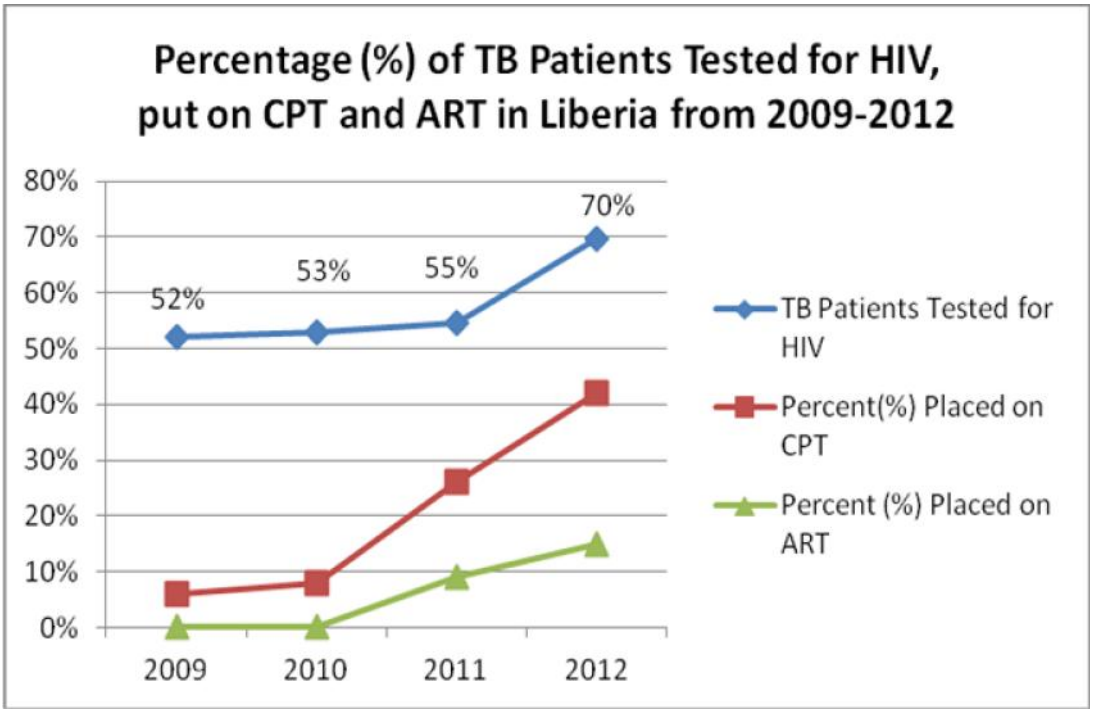
Based on the 2012 age/sex disaggregated data of notified smear positive TB cases in Liberia, the age group 15-44 years constitutes 68%. Males are disproportionately affected by TB with a Male to female ration 1.5:1. This is shown in the figures below. This has been the trend over the past five years.



TB/HIV Trend

The National HIV/AIDS Programme of Liberia estimates 35,000 adults and children in the country living with HIV. The HIV prevalence rate in the general population is

estimated to be 1.5%. There are indications from the ANC sentinel sites that HIV infection rates are decreasing among ANC clients. Of the cases notified in 2012, 69.6% were tested for HIV and 13.6% were co-infected, 42% of the co-infected were put on CPT and 15% on ART. There is limited implementation of IPT.



The 2013 external review found that significant achievements have been made in addressing TBHIV. It however noted that not all TB sites offer HTC and patient referral is a challenge in about 40% of cases. HTC has been adversely affected by irregular supply of HIV rapid test kits in most sites where an HIV care clinic does not exist resulting in a considerable number of TB patients not accessing HIV testing. The recording and reporting of TB/HIV collaborative activities was found to be a challenge.

TB Prevention, Treatment and Care

TB case finding is based on application of national guidelines and diagnosis in most DOTS units. Most pulmonary TB patients are diagnosed on the basis of direct smear microscopy. However, the multiple symptom and signs combination required for suspicion of TB in the current guidelines, and the tendency to prescribe antibiotics to TB suspects, may potentially lower the index of suspicion of TB and consequently high selectivity and delayed diagnosis; contact investigation is not carried out in most health facilities, and absence of active case finding among high risk groups and vulnerable population e.g. Urban slum dwellers around Monrovia and the Prisons.

TB diagnosis relies on the availability of an integrated laboratory network offering joint TB/HIV services and the availability of basic requirements for microscopy (functional microscopes and at least one lab technician). The capacity of DST and culture and sensitivity is also being improved. There are still gaps that include low index of suspicion of TB especially in children due to highly selective diagnostic algorithm, absence of rapid and relatively higher sensitive TB diagnostic tools in the algorithm e.g Gene Xpert MTB/Rif and LED microscopy, non-functional X-ray services in some health facilities, and limited quality assurance of AFB microscopy services; and lab mentoring.

TB treatment is delivered through 450 DOTS clinics out of 656 health facilities (69%); and treatment is timely initiated in newly detected TB cases within 24 hours of diagnosis. This gives population coverage by DOTS equivalent to one facility to about 13,000 population nationally. The average health facility coverage per population in the country is about 1 to 5,500 population.

The programme categorizes patients into three TB treatment categories based on smear results and history of previous treatment. A fourth treatment category is designated for drug resistant tuberculosis cases.

The national guidelines provided for a 9-month regimen of 2SRHZ/7RHZ for the treatment of TB meningitis.

The outcome definitions currently used are not yet in line with the recent WHO recommendations.

A hospitalization policy exists for all retreatment TB cases, and smear positive cases diagnosed in the penitentiary institutions (Prisons). However, the policy is based on voluntary compliance, and involuntary compliance is used as a last resort.

The country has made progress in maintaining a high treatment success rate above 80% throughout the 2007-2012 strategic plan period. Currently, the treatment success rate is 86% among 2011 cohort of new TB patients. However, this national average conceals the variation in performance among the 15 Counties of the country.

The national TB management guidelines provides for a symptomatic approach to identification of children with presumptive tuberculosis. Availability of child-friendly anti-TB drugs formulations (dispersible) is challenge. The weaknesses in childhood TB management include restrictive national algorithm for pediatric TB diagnosis affecting timely identification of suspected child TB cases, and non-inclusion of Ethambutol in pediatric TB treatment regimen.

Other gaps found during review include attrition of health care staff at the DOTS units, uncertain provision of DOT in most TB cases, absence of MDR-TB evaluation for non-converters and failure cases, centralized treatment for retreatment cases in only two centers in the country, and irregular supply of anti-TB drugs in some facilities.

Management of drug resistant TB

The burden of MDR-TB is currently not known. However, WHO estimated cases 140 (range 49-220) for 2012. In 2012, 6 MDR-TB cases were notified. The probable causes of drug resistance are interrupted drug supply especially during the civil war and high default rates among patients on treatment. Stock outs have been experienced due to poor supply chain management.
The National TB Infection Control guidelines and the MDR-TB management guideline are incorporated into the National TB Manual. The program has developed a four year MDR Expansion Plan 2013 – 2016 with an overall goal of putting in place PMDT to achieve universal access to diagnosis and treatment of 80% of MDR-TB cases by end of 2015.. This plan will be incorporated into this strategic plan. The external review identified lack of new diagnostic tools in the algorithm and weak infection control in health facilities as some of the gaps.

DOT is a key feature of the proposed MDR-TB management plan with hospitalization policy for all patients until smear conversion. The guidelines provides for ambulatory treatment only subject to approval by a Clinical review committee.
The capacity to diagnose MDR-TB or to conduct MDR-TB surveillance locally has been lacking but is now being built with piloting of culture and DST currently underway. NTLCP has been sending specimen to Tanzania NRL which is both expensive and delays diagnosis. Some programme staff have been trained on PMDT to improve national capacity to manage MDR-TB.

The programme recognizes the limited knowledge about TB Infection Control among health care workers, lack of adequate supply of essential materials for TB infection control e.g. respirator masks, inadequate application of basic administrative and managerial infection control measures and absence of a system for periodic or annual screening of health care workers for TB.

Community TB Care

One of the key objectives of the National TB Strategic Plan 2007-2012 was to develop and implement an effective community-based TB care program. It sought to engage community volunteers and community health workers in TB case finding and care delivery activities. There is availability of community health care workers cadre and willing volunteers.
Community-based TB care has been initiated mainly with support of the Global Fund, NGOs namely BRAC and Africa; and some FBOs

The scale-up of community-based interventions has been impaired by delay in meeting the requirements of the global fund support with respect to (i) finalization of the mapping of the general community health volunteers (gCHVs) in all counties, (ii) the identification of supervisors at the health facility level, and (iii) the set-up of reporting systems, including the integrations of the reporting tools in the national HMIS system and the accountability and availability of commodities.

Chapter 5 Vision, Mission, Strategic Objectives, Sub-objectives & Activities

This strategic plan is made fully aware that the current Global stop TB strategy ends in 2015 and that already there are discussions of its revision to provide a post-2015 TB control strategy. The MOHWS has prepared this strategy for a 5 year period 2014-2018. This strategic plan will have a midterm review in early 2016 which will provide an opportunity for its revision to incorporate the post-2015 Global strategy and also extend it to 2021 to be in line with the national health plan

Vision

Liberia free of TB

Mission

To provide universal high quality tuberculosis and leprosy prevention, diagnosis, treatment and care services to reduce Tuberculosis and leprosy incidence

Goal

To reduce the TB prevalence and incidence rates by 2018

The table below describes illustrative outputs for each Strategic Objective. The outputs are core measures of what the programme will be expected to achieve.

Chapter 6 Strategies and Objectives

Core Strategy	
To pursue high-quality DOTS expansion and enhancement	
Strategic Objective	Strategic Outputs/Outcomes
To increase access to and enhance high quality DOTS	To increase case detection to 84% for all forms of TB by 2018
	To successfully treat 87% of registered patients by 2018.
To strengthen and sustain accessible, quality assured TB bacteriology for early diagnosis, monitoring, surveillance and management of tuberculosis	Universal access to timely and quality assured TB diagnostic services in each district
	Adoption and use of appropriate new technologies in TB diagnosis
To strengthen the commodity management system	Ensure TB and Leprosy commodity security
	Ensure availability of quality commodities through regular quality controls
Core Strategy	
To address TB-HIV, MDR-TB, and the needs of poor and vulnerable populations	
To expand and ensure quality and comprehensive TB HIV care and treatment	Universal access to comprehensive TB/HIV services

to co infected patients and suspects	
To strengthen DR TB diagnosis, prevention, care and treatment	Universal access to DR-TB surveillance amongst eligible DRTB suspects
	Universal access to care and support for DRTB patients
To strengthen the diagnosis and management of childhood TB	Provision of new diagnostics for diagnosis of TB
	Provide IPT children exposed to TB
To improve access to TB services for all vulnerable populations	Expanded diagnostic and treatment facilities to vulnerable populations
Core Strategy	
To contribute to health system strengthening based on primary health care	
To contribute to the strengthening of the health system to improve TB control	Contribute towards strengthening of diagnostic services
	Contribute towards strengthening human resource capacity for health
To promote provision of quality, accessible and affordable health care for patients with respiratory illnesses	Adoption of PAL for management of lung diseases
Core Strategy	
To engage all care providers	
To engage all health care providers and stakeholders for provision of standardized quality TB care	Increased contribution of cases notified from the private sector
To advocate for sustainable resource allocation and partnership for TB control	Adequate funding available for TB activities
Core Strategy	
To empower people with TB, and communities through partnership	
To increase the level of community involvement in provision of TB care	Increased number of patients under community care
Core Strategy	
To enable and promote research	
To enable and promote research and use strategic information for TB control to enhance program performance	100% of the counties report timely and complete data
	Prevalence survey and DRS conducted

The tables below give the Strategic Objectives, the sub-objectives, activities and selected indicators. The indicators are further expanded and defined in the M&E plan.

Case Detection and Management

Strategic objective - 1: To increase access to and enhance high quality DOTS

Political commitment is paramount in TB control. It fosters national and international partnerships and need to be linked to long term strategic plans. A robust TB control program requires adequate funding which calls for mobilization of resources at all levels and in particular domestic funding especially of essential program inputs.

The country is fairly sparsely populated and DOT centers are far apart which affects our overall case finding. New districts have also been created and some do not have adequate coverage of TB services. Increasing access to quality treatment through opening more treatment centers is therefore one of the pillars of this strategic plan.

Scheduled support supervision to health facilities helps to address challenges experienced by frontline health workers and provides an opportunity for on-the-job training to improve quality of services provided. The program has developed guidelines to facilitate this but will need to be revised to include the new district level which has been created. Resources will be mobilized to make supervisions at all levels more routine.

Diagnosis and treatment of TB is anchored on sound and robust guidelines. The current guidelines have been shown to have shortcomings which were highlighted in the just concluded program review. In particular the diagnostic algorithms do not incorporate new diagnostics and have been said to be too restrictive and hinder early case finding.

The quality of services provided to TB patients is key for improved case holding. The interventions proposed here address this. Since diabetes is on the rise in Liberia we shall also institute screening of TB patients for Diabetes.

Sub- Objective	Interventions/Activities	Indicators
1. To advocate for adequate resources from Government and partners for TB Control	1. Print and disseminate National TB strategic plan 2014 to 2018 2. Develop Annual operational plan 3. Conduct Advocacy meetings (Legislature, Corporate partners 4. Participate in MOHSW planning meetings 5. Hold annual Review meetings with partners 6. Develop the 2014 to 2018 follow-up strategic plan 7. Conduct Mid-term & End Term Program Review 8. Develop funding proposals	1. Printed and disseminated strategic plan 2. Increased MOH/SW budgetary allocation for TB 3. Mid-term and End-terms review conducted 4. Proportion of NLTCP budget financed by Government of Liberia 5. Funding for TB control from partners increased

2. Increase number of DOT centers	1. Training for New DOT centers 2. Provide R&R tools 3. Conduct supportive supervision and Mentoring	1. Number of new DOT centers established 2. Number of new DOT centers supervised and mentored 3. Number of new DOT centers with TB R&R tools
3. To strengthen supportive supervision	1. Conduct Central level supervision 2. Conduct County Level supervision 3. Conduct County Level Lab Supervision 4. Conduct district level supervision 5. Procure motorbikes for Lab and TB Focal persons 6. Revise supervision guidelines 7. Print supervision guidelines 8. Training on Revised guidelines	1. Proportion of scheduled supervisions conducted (Central, County, Lab & districts) 2. Number of Lab and TB Focal persons with transport Number of TB Focal persons trained in supervision (TB focal FP & Lab) using revised guidelines
4. To improve diagnosis of TB	1. Revise and update TB guidelines 2. Print Updated guidelines 3. Disseminate Updated guidelines	1. Number of health facilities with revised guidelines
5. To improve quality of care.	1. Hospitalization cost. 2. Carry out defaulter tracing 3. Provide logistic support to gCHVs. 4. Screen for diabetes among TB patients. 5. Procure glucometer and test kits	1. Proportion or percentage of defaulters traced 2. Proportion of gCHVs supported 3. Proportion of TB patients screened for diabetes

Laboratory

Strategic objective: To strengthen and sustain accessible, quality assured TB bacteriology for early diagnosis, monitoring, surveillance and management of tuberculosis

Case detection is now done through quality assured bacteriology. This encompasses new diagnostics in addition to the traditional smear microscopy. Microscopy has also been improved through more sensitive fluorescent methods. Liberia has now introduced culture and drug susceptibility testing (DST). This plan lays emphasis on quality of the tests done.

Sub-objective	Interventions/Activities	Indicators
1. To strengthen and expand quality	1. Establish and equip new TB	1. Number of

assured TB microscopy.	diagnostic centers. 2. Procure and distribute reagents and consumables for AFB microscopy. 3. Procure light microscopes 4. Procure LED microscopes. 5. Upgrade microscopic centers 6. AFB and EQA training for microscopist 7. Procure detergents and disinfectant. 8. Introduce the blind rechecking to all diagnostic centers 9. Maintain the panel testing at high volume facilities. 10. Service and maintain laboratory equipments. 11. Revise Lab guidelines and SOPs. 12. Print Lab guidelines and SOPs.	TB diagnostic centers established 2. Number of AFB MCs with no stock-out of reagents and consumables 3. Number of facilities with light microscopes 4. Number of high volume facilities with LED microscope 5. Number of macroscopic centers upgrades 6. Number and proportion of facilities that participating in EQA 7. Number of functioning diagnostic centers 8. Number lab using revised guidelines and SOPs
2. Strengthen AFB training in pre-service curriculum	1. Train the pre-service instructors 2. Revise pre-service curriculum.	1. Number of pre-service instructors

		trained 2. Revised curriculum Yes or No?
3. Strengthen quality assured culture and DST.	1. Renovate building to introduce new diagnostic techniques. 2. Procure line probe assay (1) 3. Procure MGIT (1). 4. Procure Gene-Xpert for 15 regional and county labs. 5. Short term TA for laboratory design. 6. Long term TA to introduce the new techniques with backstopping. 7. Procure reagents and consumables for culture, LPA kits and Cartridges. 8. Establish linkage with SNRL 9. Transfer of samples and results for QA 10. Service and maintenance of culture equipment. 11. Procure office equipment for lab 12. Procure stationery for lab. 13. SNRL mentorship for laboratory technologist in culture and DST. 14. Training for laboratory technicians in TB culture techniques. 15. Procure minor essential lab equipment Procure generator for DR-TB Lab	1. Lab renovated Yes or No? 2. Number of test done by Gene-Xpert 3. Number of test done by LPA 4. Number of test done by MGIT 5. Number of Labs with no stock-out of reagents and consumables 6. SNRL link established Yes or No? 7. Proportion of samples send with results 8. Number of technicians trained in culture techniques
4. Strengthen specimen referral system.	1. Procure motorbikes for county surveillance officers for specimen referral. 2. Provide logistical support for specimen referral system. 3. Procure cool boxes and accessories for specimen referral. 4. Training on specimen transport and handling. 5. Introduce TB suspect registers	1. Number & Percentage of TB suspect tested 2. Proportion of DR-TB suspected tested

	in Health facilities	

TB Commodities

Strategic objective: To strengthen the commodity management system

Effective uninterrupted and sustained supply of quality assured anti-TB drugs is one of the pillars of TB control. It ensures appropriate quantification, selection, procurement, distribution and use of the commodities. The NLTCP currently uses FDCs which come as loose blisters. Going forward we would like to introduce patient packs which will make commodity management easier. A PSM is developed as part of this plan and an annual PSM will be developed with each annual operation plan. Management of drug resistant TB has been initiated and second line drugs will be included in the PSM.

Sub-objective	Interventions/Activities	Indicators
1. To improve commodity forecasting and quantification.	1. Develop annual quantification and procurement plan. 2. Training of county pharmacists on forecasting and quantification. 3. Active participation of NLTCP in to SCMU.	1. Availability of Annual Procurement plan 2. Number of county Pharmacist trained in forecasting and quantification
2. To strengthen commodity data and logistics management information system	1. Integrate laboratory commodities into the LMIS tools. 2. Conduct training of health workers on LMIS 3. Print revised LMIS tools	1. Proportion of health facilities with correct usage LMIS tool
3. Strengthen and integrate warehousing and distribution	1. Procure first and second line anti-TB drugs including buffer stocks 2. Procure ancillary drugs, isonaizid, cotrimoxazole, B6 3. Clearing agency and warehousing fees 4. Distribution cost	1. Proportion of health facilities with no stock out of First & Second Line Drugs
4. Promote rationale use of anti-TB drugs	1. Conduct training on pharmaco-vigilance. 2. Adaptation and dissemination of pharmaco-vigilence tools.	1. Availability of pharmaco-vigilence report 2. Availability of incinerator at

	3. Conduct batch testing 4. Construct incinerators for specialized TB Hospital	specialized hospital

TB/HIV

Strategic objective: To expand and ensure quality and comprehensive TB HIV care and treatment to co infected patients and suspects

Routine program data shows that in 2012, 69.6% were tested for HIV and 13.6% were co-infected, 42% of the co-infected were put on CPT and 15% on ART. Challenges to achieving targets were due to commodities supply, patient referral and documentation. This plan aims to strengthen collaboration and ensure these gaps are addressed. In addition intensified case finding and provision of IPT among PLWHA will be a priority.

Sub-objective	Interventions/Activities	Indicators
1. To ensure that at least 95% of TB patients are tested for TB/HIV by 2018	1. Collaborate with NACP and SCMU to ensure that HIV test kits are at DOTS centers. 2. Train the service providers on provider initiated testing for HIV.	1. Proportion of DOT centers with no stock out of HIV test kit 2. Proportion of TB patients tested for HIV
2. To ensure that at least 95% of HIV infected TB patients receive CPT.	1. Train health providers on TB/ HIV case management	1. Proportion of HIV positive TB patients initiated on CPT
3. To ensure universal access to ART for all TB/HIV patients by 2018.	1. Advocate with NACP to expand access to ART. 2. Strengthen referral system through mentoring of facility by County TB/HIV focal persons	1. Proportion of HIV positive TB patients on ART
4. Intensify TB case finding among HIV patients.	1. Procure a Gene-Xpert machine for each county (10). 2. Procure geneXpert cartridges. 3. Train laboratory staff on gene-Xpert . 4. Revise TB screening tools	1. Proportion of PLHA screen for TB
5. To introduce IPT to PLHA	1. Provide IPT to health	1. Proportion of eligible

	facility. 2. Train health workers on IPT usage. 3. Provide short term TA for TB/HIV.	PLHA initial on IPT
6. Prevention of HIV among TB patients.	1. Develop IEC materials on HIV prevention for TB patients. 2. Print IEC materials 3. Provide condoms in TB clinic	1. Proportion of TB Clinic dispensing condoms
7. To enhance infection control in health facilities.	1. Print infection control guidelines. 2. Disseminate infection control guidelines. 3. Train infection control teams in health facilities. 4. Improve infection control on ward and waiting rooms in 5 hospitals per year. 5. Collaborate with MOHSW to develop national infection control policy. 6. Short term TA for national infection control policy. 7. Provide PPE for the TB wards. 8. Conduct annual screening of HCWs	1. Proportion of facilities with infection control guidelines 2. Number of health staff trained in Infection Control measures 3. Available of IC policy 4. Number of hospitals wards with improved IC 5. Proportion of Health workers Screened
8. Strengthen TB/HIV coordination	1. Organize quarterly TB/HIV meetings at central. 2. Support TB/HIV collaboration meeting by developing templates for reporting 3. Joint central TB/HIV supervision. 4. Short term TA for TB/HIV activities annually	1. Number of central TB/HIV meetings and minutes available 2. Number of county TB/HIV collaborative meeting reports 3. Number of joint TB/HIV supervision visits conducted

Drug Resistant TB

Strategic objective: To strengthen DR TB diagnosis, prevention, care and treatment

The first MDR-TB cases were diagnosed in 2010 and started on treatment. However the surveillance of DR-TB has been hampered by lack of culture and DST services in country. Fortunately this has changed with the national reference laboratory now functional and able to do culture and DST on solid media. Two Gene Xpert machines have also been introduced. A team of physicians to provide treatment has been trained and have started the patients on PMDT this year and an expansion plan developed. This plan therefore will build on this to scale up management of DR-TB.

Sub-objective	Interventions/Activities	Indicators
1. To improve access to treatment of DR-TB patients.	1. Conduct comprehensive assessment of DR-TB isolation wards 2. Renovate/construct isolation wards for DR-TB in 5 regional and 2 specialized TB hospitals. 3. Train health workers in PMDT. 4. Mentor health workers on PMDT 5. Print R&R tools for PMDT. 6. Revise/develop MDR-TB guidelines and SOPs 7. Print MDR-TB guidelines and SOPs. 8. Hospitalization cost for DR-TB patients 9. Establish a national MDR-TB expert committee 10. Provide long term TA for DR-TB. 11. Recruit Coordinator for DR-TB 12. Logistic support for DR-TB coordinator 13. Provide Short term external TA	1. Assessment Report available? 2. Number of DR-TB isolation wards renovated 3. Number of health workers trained in PMDT 4. MDR-TB guidelines and SOPs available? 5. National DR-TB Committee established 6. MDR-TB coordinator recruited
2. To improve adherence to treatment of DR-TB	1. Provide enablers package for DR-TB patients (food	1. Proportion of DR-TB patients

	package, transport fare) 2. Support daily DOT to DR-TB patients 3. Organize support group for DR-TB patients 4. Carry out defaulter tracing for DR-TB patients. 5. Training of counselors on DR-TB	completed treatment 2. Proportion of DR-TB patients defaulters traced
3. To ensure infection control in DR-TB settings.	1. Develop SOPs and job aids for infection control in DR-TB setting. 2. Print SOPs and job aids for infection control. 3. Disseminate infection SOPs and job aids. 4. Provide PPE for the DR-TB wards	1. Availability of SOPs and JOB Aids 2. Availability of PPEs

Childhood TB

Strategic objective: To strengthen the diagnosis and management of childhood TB

Childhood TB is a topic that has received little attention. Currently less than 3% of the notified cases in Liberia are children and often are diagnosed late with complications. With the renewed global attention on childhood TB, Liberia will prioritize its implementation in this plan. Guidelines will be revised, diagnostics availed and advocacy intensified.

Sub-objective	Interventions/Activities	Indicators
1. To improve diagnosis of childhood TB	1. Revise guidelines on childhood TB diagnosis and management. 2. Develop SOPs and job aids for childhood TB. 3. Print SOPs and job aids for childhood TB 4. Training of health workers on childhood TB. 5. Provide Short term external TA	1. Revised Childhood TB guidelines, SOP and JOB Aids available 2. Number of health workers trained in childhood TB
2. To provide diagnostic tools for childhood TB	1. Procure PPD for testing children 2. Develop pediatric TB diagnostic algorithms. 3. Procure digital imaging for	1. Proportion of children among TB patients

	diagnosis of childhood TB 4. Train x-ray technicians on new tools 5. TA for new diagnostic tools	
3. To improve management of childhood TB	1. Conduct contact tracing 2. Screen contacts of smear positive TB patients. 3. Screening of HIV infected children 4. Provide IPT to under- 5 exposed and HIV positive children without TB. 5. Develop tools for IPT 6. Print tools for IPT 7. Participate in international training for childhood TB.	1. Number of children screen for TB 2. Proportion of exposed children under -5 receiving IPT
4. Advocate for improved pediatric TB diagnosis and management.	1. Conduct advocacy meetings with pediatricians, MOHSW, partners 2. Develop and disseminate IEC messages for childhood TB (use GSM)	1. Number of advocacy meeting held

High-Risk Groups

Strategic objective: To improve access to TB services for all vulnerable populations (prisons, slums, refugee camps, diabetics)

Screening of TB among new inmates is one of the activities that should be done by the prison services. However this has been sub optimal. Coverage of TB services in the growing slum areas is low mainly due to lack of public health clinics. Diabetes is also on the increase in Liberia and it is known to be one of the risk factors for the development of TB disease. We have however not a structured screening of TB among diabetics.
Prisons will be engaged to intensify screening of inmates and 3 prisons will be upgraded to have diagnostic capacity on site in addition to strengthening referrals. Formal and informal providers in slums will be engaged in suspect referral, diagnosis and treatment. Routine screening of diabetics will be introduced.

Sub-objective	Interventions/Activities	Indicators
1. To increase access to TB services	1. Advocate for screening and isolation of TB suspects in prisons. 2. Sensitize prison wardens on TB care in	1. Number of prisons screening for TB 2. Number

	prisons. (1 day) 3. Train prison health workers on TB management. 4. Conduct outreach to vulnerable populations 5. Print screening tools for prison. 6. Establish diagnostic centers in 3 high volume prisons. 7. Sensitization and screen for TB among diabetics in all health facilities.	prisons health workers train 3. Number of outreach to vulnerable population 4. Number high volume prisons with diagnostic centers 5. Proportion of diabetic screen for TB
2. To map out health provision points in slums	1. Conduct mapping of slum communities. 2. Sensitization meetings among slum providers. 3. Establish referral linkage between slum and health facility.	1. Available of mapping report 2. Number of sensitization meeting held

Health Systems Strengthening

Strategic objective: To contribute to the strengthening of the health system to improve TB control

The activities captured here are those with high potential to strengthening the health system as they not only impact on TB control but have a high spillover effect to the general health system. These include improving diagnostic capacity, HMIS, human resource and infrastructure improvements.

Sub-objective	Interventions/Activities	Indicators
1. To improve diagnostic capacity of health facilities	1. Procure microscopes 2. Procure digital imaging equipment for county hospitals 3. Revise TB component in pre-service curriculum (laboratory, nursing schools, medical schools) 4. Procure reagents &	1. Number of microscope procured 2. Number of county hospitals with digital imaging equipment

	Consumables for Chemistry	3. Number of training institution using revised training curriculum
2. To strengthen HMIS.	1. Advocate for patients based electronic medical recording and reporting 2. Advocate for inclusion of all TB indicators into HMIS. 3. Train central/county HMIS focal persons on TB recording and reporting. 4. Procure computers for county data managers, diagnostic officers, and TB/HIV focal persons.	1. Number of HMIS focal persons trained 2. Number of counties with computers
3. To strengthen human resource capacity	1. International training on HRD for TB 2. Advocate with MOHSW to incorporate TB priorities into HRD plan. 3. Support MOHSW senior staff at TB Union meetings 4. Study tour for TB and HIV program staff. 5. Train a micro bacteriologist. 6. Train a pulmonologist. 7. Provide Long term TA for health systems strengthening 8. Upgrading of microscopists to Lab Assistant 9. Provide motivation including non cash incentives for staff in MDR-TB Units	1. Number of staff trained internationally 2. Number of staff attending TB Union Meeting 3. Availability of Micro bacteriologist & pulmonologist 4. Number of microscopists upgraded to Lab assistant
4. To strengthen infrastructure for services delivery.	1. Renovate/construction of health facilities.	1. Number of health facilities renovated

Practical Approach to Lung Heath (PAL)

Strategic objective: To promote provision of quality, accessible and affordable health care for patients with respiratory illnesses

Practical Approach to Lung health (PAL) is a syndromic management of patients who attend primary health care services for respiratory symptoms. The PAL strategy targets multi-purpose health workers, nurses, doctors, and managers in primary health care settings and contributes to improved case finding and better management of other respiratory illnesses. The NLTCP will work closely with the IMCI to improve diagnosis and management of respiratory symptomatics.

Sub-objective	Interventions/Activities	Indicators
1.To improve diagnosis and management of lung diseases	1. Train health workers on PAL 2. Procure lung function assessment tools (spirometers, peak flow meters) for hospitals facilities. 3. Procure digital imaging equipment 4. Procure oxygen concentrators. 5. Advocacy meetings to promote PAL. 6. Procure bronchodilators (inhalers) 7. Short term TA	1. Number of health workers trained on PAL 2. Number of hospital with lung function assessment tools 3. Number of hospital with oxygen concentrators and bronchodilators

PPM DOTS

Strategic objective: To engage all health care providers and stakeholders for provision of standardized quality TB care

The private health sector is a rapidly growing one in Liberia. The latest MOHSW statistics show that there are 657 health care facilities in the country; 404 government and 253 (38.5%) private ones distributed all over the country. The numbers of informal ones that are not registered are many. Both formal and informal health facilities will be engaged to provide different schemes of services with the aim of standardizing TB diagnosis and management. These will range from: 1. Referral of Patients suspected of having TB, 2. Provision of Direct Observation Treatment, 3. Provision of microscopy

services only, 4. Provision of microscopy and treatment services. Reporting tools will be revised to capture the contribution of the private sector to TB control.

Sub-objective	Interventions/Activities	Indicators
1. To identify and engage all health providers	1. Map providers of health care in all counties. 2. Sensitize private health providers on ISTC. 3. Strengthen referral mechanisms within and between the private and public sectors. 4. Public-private partners meetings. 5. Sensitize informal sector on ISTC. 6. Train private health providers on TB case management and AFB microscopy. 7. Procure microscopes, reagent and consumables for high burden private facilities. 8. Provide R&R tools for private health facilities. 9. Supportive supervision for private health facilities.	1. Availability of mapping report 2. Number of meetings and minutes available 3. Number of private health providers trained 4. Number of high volume private facilities with Microscopes and no stock out of reagents and consumables 5. Proportion of private health facilities reporting 6. Proportion of schedule supervision visit to private facilities

Advocacy, Communication and Social Mobilization

Strategic objective: To advocate for sustainable resource allocation and partnership for TB control

The program has engaged ACSM activities to increase the level of awareness of TB and increase political and financial commitment. This has however been constrained by limited resources. The ACSM activities will target all sectors, the policy level, partners, and the general public. A broad based national stop TB partnership will be formed.

Sub-objective	Interventions/Activities	Indicators
1. To strengthen ACSM at all levels	1. Develop ACSM strategy for TB 2. Conduct advocacy meetings with political leaders. 3. Conduct KABP every two years.	1. ACSM strategy available 2. Number of advocacy meeting held 3. KABP survey report available 4. Number of awareness campaigns conducted

	4. Conduct awareness campaigns 5. Commemorate World TB day, World Asthma day, World Tobacco day 6. Develop IEC materials. 7. Print IEC materials 8. Dissemination of messages using print and electronic media 9. Conduct community forum meetings (schools , market places, churches, mosques) 10. Establish National Stop TB partnership 11. Meetings of the Stop TB partnership. 12. Identify and recruit TB ambassador/champions	5. Number of commemoration days conducted 6. Number of radio stations and newspapers airing TB messages 7. Number of community forums 8. National Stop TB partnership established 9. Number of TB ambassador and champions identified and facilitated

Community participation in TB Care

Strategic objective: To increase the level of community involvement in provision of TB care

Community participation in TB care has been going on in the country though not to the expected level. In the current government policy, the community health service has become part and parcel of the health care package with well-defined policies and clearly defined roles. Prior to this policy, there was hardly any active involvement of the community in TB control. This plan aims to scale up the involvement.

Sub-objective	Interventions/Activities	Indicators
1. To expand and strengthen community based DOTS.	1. Train gCHVs in CBDOTS. 2. Procure bicycles for gCHVs 3. Print R&R tools for CB-DOTS 4. Procure starter kits for gCHVs 5. Collaborate with CBOs and NGOs for community based DOTS 6. Sensitize the community to engage in TB care. 7. Monthly meetings for gCHVs 8. Quarterly meetings with gCHVs and central staff.	1. Number of gCHVs trained in CBDOTs 2. Proportion of gCHVs with bicycles and started kits 3. Proportion of CBOs and NGOs submitting reports 4. Number of monthly and quarterly meetings and minutes

M&E, Operations Research and Surveillance

Strategic objective: To enable and promote research and use strategic information system for TB control to enhance program performance

The actual burden of TB disease in Liberia is not known. Though Liberia is not one of the WHO priority countries for a prevalence survey, it is in the extended list of countries that met one of the four groups of criteria for carrying out a survey. During the long period of crisis in Liberia availability of anti-TB drugs was not assured and resulted in a lot of treatment interruptions. With the capacity for first line DST in the country now it is possible to do a DRS to determine the actual magnitude of DR-TB. Program based research will also help us streamline our interventions.

TB M&E is integrated in the HMIS system though not all indicators are reported on. Joint county and national supervisions are done. Despite availability of reporting and reporting forms timeliness and completeness has been a challenge. The recent program review has also been an eye opener. We will intensify supervisions, and review meetings to institute

corrective measures. We shall also do a data quality assessment annually to benchmark our progress towards improvement.

Sub-objective	Interventions/Activities	Indicators
1. To establish the burden of TB and DR-TB.	1. Conduct a TB prevalence survey 2. Conduct a drug resistance survey (DRS) 3. Long Term TA for DRS and Prevalence survey (Laboratory, Epidemiologist & Data Management)	1. Prevalence survey conducted 2. DRS survey conducted
2. Measure impact of intervention	1. Conduct KABP survey 2. Conduct research on diagnostic delays. 3. Operational Research on TB among HCWs, Prisons 4. Training on operational research 5. Short Term TA on OR	1. KABP survey report available 2. Research report on diagnostic delays, TB among HCW, Prisons 3. Number of health worker trained in OR
3.To strengthen monitoring and evaluation	1. Procure computers 2. Procure vehicles for central unit 3. Fuel and maintenance for vehicles 4. Renovation for central unit office 5. Running cost for central unit 6. Revise R&R tools 7. Print R&R tools 8. Provide internet connectivity for central 9. Quarterly review meetings 10. Annual review meetings 11. Conduct midterm program review 12. Conduct end term program review 13. Printing of annual report 14. Training in M&E at central and county level 15. TA for M&E strengthening	1. Number of computers procured 2. Number of vehicles procured 3. Number of Review meeting held 4. Number of annual meetings 5. Revised strategic plan available 6. Number of M&E training conducted 7. DQA report available 8. TB Web page available

	16. Develop TB web page linked to MOHSW with TA. 17. Conduct annual data quality assessment	

TUBERCULOSIS SUMMARY BUDGET

Below is a summary of the budget for the full implementation of this strategic plan adjusted with 5% inflation each year. It also gives a summary of the funding sources and gaps.

Summary of Total Costs (USD)

Strategic Objective	2014	2015	2016	2017	2018
1. To increase access to and enhance high quality DOTS	$ 590,338.00	$ 553,584	$ 847,512	$ 551,959	$ 652,899
2. To strengthen and sustain accessible, quality assured TB bacteriology for early diagnosis, monitoring, surveillance and management of tuberculosis	$ 1,009,570.21	$767,867.02	$ 475,833.37	$ 294,249.26	$ 277,956.61
3. To strengthen the commodity management system	$ 584,835.46	$ 549,210.45	$ 671,929.27	$ 604,928.42	$ 1,513,249.26
4. To expand and ensure quality and comprehensive TB HIV care and treatment to co infected patients and suspects	$ 861,679.75	$ 1,210,029.75	$ 1,315,699.75	$ 969,904.75	$ 1,196,769.75
5. To strengthen DR TB diagnosis, prevention, care and treatment	$ 579,918.00	$ 547,304.25	$ 563,986.00	$ 591,594.70	$ 566,341.90
6. To strengthen the diagnosis and management of childhood TB	$ 212,478.00	$ 41,360.00	$ 395,711.70	$ 137,619.70	$ 41,429.04
7. To improve access to TB services for all vulnerable populations	$132,410.34	$ 79,440.00	$ 79,440.00	$ 79,440.00	$ 79,440.00
8. To contribute to the strengthening of the health system to improve TB control	$ 261,200.11	$ 147,090.11	$ 193,790.11	$ 141,690.11	$ 141,690.11

9. To promote provision of quality, accessible and affordable health care for patients with respiratory illnesses	**$ 169,835.00**	**$ 151,785.00**	**$ 151,785.00**	**$ 16,660.00**	**$ 6,660.00**
10. To engage all health care providers and stakeholders for provision of standardized quality TB care	**$ 129,590.00**	**$ 123,500.00**	**$ 109,720.00**	**$ 109,720.00**	**$ 109,720.00**
11. To advocate for sustainable resource allocation and partnership for TB control	**$ 153,908.00**	**$ 149,833.00**	**$ 156,448.00**	**$ 149,833.00**	**$ 149,833.00**
12. To increase the level of community involvement in provision of TB care	**$ 946,125.76**	**$ 618,795.52**	**$ 902,312.72**	**$ 1,185,829.92**	**$ 1,469,347.12**
13. To enable and promote research and use strategic information for TB control to enhance program performance	**$ 186,164.09**	**$ 1,284,374.09**	**$ 2,852,714.09**	**$ 141,624.09**	**$ 141,624.09**
14. LEPROSY					
15.					

Summary of funding sources and gap (USD)

	2014	2015	2016	2017	2018
Annual Budget	**$ 5,818,052.73**	**$ 6,224,173.19**	**$ 8,716,882.02**	**$ 4,975,052.95**	**$ 6,346,959.88**
GoL-National	$5,901,338.00	$5,901,338.00			
GFATM	$3,359,993.00	$2,507,148.00			
WHO	20,000.00	20,000.00			
Funding Gap			**$ 8,716,882.02**	**$ 4,975,052.95**	**$ 6,346,959.88**

S/N	Strategic Objective	Time frame					
		2014	**2015**	**2016**	**2017**	**2018**	**Total Amount**
SO 1.1	To advocate for adequate resources from Government and partners for TB Control	$46,630.00	$40,380.00	$141,480.00	$45,130.00	$119,580.00	$393,200.00
SO 1.2	Increase number of DOT centers	$95,062.00	$95,062.00	$95,062.00	$72,172.00	$72,172.00	$429,530.00
SO-2.1	To strengthen and expand quality assured TB microscopy	$621,321.06	$455,629.76	$179,327.46	$179,327.46	$179,327.46	$1,614,933.20
SO-2.2	Strengthen AFB training in pre-service curriculum	$0.00	$12,205.00	$0.00	$0.00	$0.00	$12,205.00
SO-2.3	Strengthen quality assured culture and DST.	$288,041.65	$273,444.76	$269,918.41	$88,184.30	$72,041.65	$991,630.76
SO-2.4	Strengthen specimen referral system	$100,207.50	$26,587.50	$26,587.50	$26,737.50	$26,587.50	$206,707.50
SO-3.1	To improve commodity forecasting and quantification	$15,545.00	$2,200.00	$15,545.00	$2,200.00	$15,545.00	$51,035.00
SO-3.2	To strengthen commodity data and logistics management information system	$13,495.00	$5,745.00	$5,745.00	$5,745.00	$5,745.00	$36,475.00
SO - 3.3	Strengthen and integrate warehousing and distribution	$480,370.61	$536,355.45	$606,139.27	$592,073.42	$1,447,459.26	$3,662,398.01
SO 3.4	Promote rationale use of anti-TB drugs	$75,424.85	$4,910.00	$44,500.00	$4,910.00	$44,500.00	$174,244.85
SO 4.1	To ensure that at least 95% of TB patients are tested for TB/HIV by 2018	$200,475.00	$300.00	$227,165.00	$300.00	$227,165.00	$655,405.00
SO 4.2	To ensure that at least 95% of HIV infected TB patients receive CPT.	$53,380.00	$57,155.00	$53,380.00	$0.00	$0.00	$163,915.00
SO 4.3	To ensure universal access to ART for all TB/HIV patients by 2018.	$3,664.00	$3,664.00	$3,664.00	$3,664.00	$3,664.00	$18,320.00

S/N	Strategic Objective	Time frame					
		2014	**2015**	**2016**	**2017**	**2018**	**Total Amount**
SO 4.4	Intensify TB case finding among HIV patients.	$300.00	$566,250.00	$374,250.00	$274,250.00	$374,250.00	$1,589,300.00
SO 4.5	To introduce IPT to PLHA	$48,100.00	$0.00	$48,100.00	$0.00	$0.00	$96,200.00
SO 4.6	Prevention of HIV among TB patients	$11,292.00	$10,492.00	$10,492.00	$10,492.00	$10,492.00	$53,260.00
SO 4.7	To enhance infection control in health facilities.	$481,878.75	$517,328.75	$536,058.75	$526,358.75	$526,358.75	$2,587,983.75
SO 4.8	Strengthen TB/HIV coordination	$62,590.00	$54,840.00	$62,590.00	$54,840.00	$54,840.00	$289,700.00
SO 5.1	To improve access to treatment of DR-TB patients.	$437,822.50	$407,593.75	$422,415.50	$451,884.20	$426,631.40	$2,146,347.35
SO 6.1	To improve diagnosis of childhood TB	$16,510.00	$0.00	$248,092.00	$0.00	$0.00	$264,602.00

SO 6.2	To provide diagnostic tools for childhood TB	$154,415.00	$0.00	$10,000.00	$0.00	$0.00	$164,415.00
SO 6.3	To improve management of childhood TB	$20,353.00	$20,160.00	$116,419.70	$116,419.70	$20,229.04	$293,581.44

SO 6.4	Advocate for improved pediatric TB diagnosis and management.	$21,200.00	$21,200.00	$21,200.00	$21,200.00	$21,200.00	$106,000.00
SO 7.1	To increase access to TB services	$118,485.34	$77,040.00	$77,040.00	$77,040.00	$77,040.00	$426,645.34
SO 7.2	To map out health provision points in slums	$13,925.00	$2,400.00	$2,400.00	$2,400.00	$2,400.00	$23,525.00
SO 8.1	To improve diagnostic capacity of health facilities	$5,850.00	$900.00	$900.00	$900.00	$900.00	$9,450.00
SO 8.2	To strengthen HMIS.	$63,835.00	$4,485.00	$4,035.00	$4,035.00	$4,035.00	$80,425.00
SO 8.3	To strengthen human resource capacity	$177,700.00	$122,940.00	$175,040.00	$122,940.00	$122,940.00	$721,560.00
SO 8.4	To strengthen infrastructure for services delivery.	$13,815.11	$13,815.11	$13,815.11	$13,815.11	$13,815.11	$69,075.57
SO 9.1	.To improve diagnosis and management of lung diseases	$169,835.00	$151,785.00	$151,785.00	$16,660.00	$6,480.00	$496,545.00
SO 10.1	To identify and engage all health providers	$129,590.00	$123,500.00	$109,720.00	$109,720.00	$109,720.00	$582,250.00
SO 11	To advocate for sustainable resource allocation and partnership for TB control	$153,908.00	$149,833.00	$237,628.00	$149,833.00	$149,833.00	$841,035.00
SO 12.1	To expand and strengthen community based DOTS.	$946,125.76	$618,795.52	$705,647.49	$728,984.67	$1,469,347.12	$4,468,900.56
SO 13	To enable and promote research and use strategic information system for TB control to enhance program performance	$0.00	$1,120,000.00	$2,500,000.00	$0.00	$0.00	$3,620,000.00
SO 13.1	To establish the burden of TB and DR-TB	$0.00	$1,120,000.00	$2,500,000.00	$0.00	$0.00	$3,620,000.00
SO 13.2	Measure impact of intervention	$6,090.00	$22,750.00	$6,090.00	$0.00	$0.00	$34,930.00

SO 13.3	To strengthen monitoring and evaluation	$180,074.09	$141,624.09	$346,624.09	$141,624.09	$141,624.09	$951,570.47
Total Amount		***$5,227,311.23***	***$6,781,370.69***	***$10,348,856.29***	***$3,843,840.20***	***$5,745,922.38***	***$31,947,300.81***

Budget summary by Category

S/N	***Cost Category***	***Year -1***	***Year -2***	***Year -3***	***Year -4***	***Year -5***	Total Amount
1	Technical and Management Assistance	$389,600.00	$448,100.00	$259,600.00	$208,100.00	$198,100.00	$1,503,500.00
2	Communication Material	$76,187.00	$74,862.00	$75,387.00	$74,862.00	$74,862.00	$376,160.00
3	Health Products and Health Equipment	$704,594.65	$528,811.00	$499,815.11	$177,906.00	$161,763.35	$2,072,890.10
4	Human Resource Development	$62,140.00	$2,940.00	$55,040.00	$2,940.00	$2,940.00	$126,000.00
5	Infrastructure and other Equipment	$433,804.12	$426,501.63	$85,531.62	$66,717.12	$66,717.12	$1,079,271.63
6	Living Support to Client/Target Population	$22,748.00	$29,182.00	$38,833.00	$53,631.20	$74,863.40	$219,257.60
7	Monitoring and Evaluation	$883,964.85	$1,948,115.61	$3,740,137.81	$1,224,540.01	$1,383,032.21	$9,179,790.51
8	Overheads	$25,092.00	$25,092.00	$25,092.00	$25,092.00	$25,092.00	$125,460.00
9	Pharmaceutical	$398,190.61	$454,175.45	$523,959.27	$509,893.42	$1,365,279.26	$3,251,498.01
10	Planning and Administration	$235,411.00	$139,702.00	$307,975.00	$157,742.00	$136,252.00	$977,082.00
11	Procurement and Supply Chain	$790,208.00	$82,180.00	$292,130.00	$82,180.00	$82,180.00	$1,328,878.00
12	Programmatic Management	$368,937.50	$704,799.50	$802,304.20	$796,784.20	$700,443.54	$3,373,268.94
13	Training	$1,381,445.00	$1,306,182.00	$2,053,677.00	$1,556,085.00	$2,036,855.00	$8,334,244.00
Total Amount		***$5,772,322.73***	***$6,170,643.19***	***$8,759,482.02***	***$4,936,472.95***	***$6,308,379.88***	***$31,947,300.79***

Chapter 7 Performance Framework 2014-2018

S/N	Objective	Indicator	Means of Verification	Target				
				2014	2015	2016	2017	2018
1	Impact (Overall Goal)	Impact Indicator	Means of Verification					
1.1	To reduce the national burden of TB in Liberia by 2015 in line with the Millennium Development Goal and the Stop TB Partnership targets.	TB Prevalence Rate	Prevalence survey		Half Prevalence			
		TB Mortality Rate	Prevalence survey		Half Prevalence			
		TB Incidence Rate	Prevalence survey		Half Prevalence			
2	**Objective**	**Outcome indicator**	**Means of verification**					
2.1	To pursue high-quality DOTS expansion and enhancement	TB Notification Rate (**All Forms**)	Routine TB Recording and Reporting System, Yearly Assessment report	238	254	271	288	306
		TB Notification Rate (**SS+**)	Routine TB Recording and Reporting System, Yearly Assessment report	122	128	137	145	154
		Treatment	Routine TB Recording	87%	87%	87%	87%	87%

S/N	Objective	Indicator	Means of Verification	Target				
				2014	2015	2016	2017	2018
		Success Rate (SS+)	and Reporting System, Yearly Assessment report					
		Treatment success rate, patients with laboratory-confirmed MDR-TB	Routine TB Recording and Reporting System, Yearly Assessment report	50%	50%	50%	50%	50%
		Number of TB cases Notified (All Forms)	Routine TB Recording and Reporting System, Yearly Assessment report	9380	10233	11132	12080	13080
		Number of TB cases notified (SS+)	Routine TB Recording and Reporting System, Yearly Assessment report	4821	5157	5610	6088	6591
3	**Objective**	**Output indicator**	**Means of verification**					
3.1	To address TB-HIV, MDR-TB, and the needs of poor and vulnerable populations	No. and % of TB patients who had an HIV test result recorded in the TB register among the total number of registered TB	Quarterly TB/HIV Report	82% (2163/2638)	85% (4484/5275)	85% (6884/7913)	89% (9107/10233)	91% (2433/2674)

S/N	Objective	Indicator	Means of Verification	Target				
				2014	**2015**	**2016**	**2017**	**2018**
		patients (all forms)						
		No. and % of HIV co-infected TB patients who initiated cotrimoxazole preventive therapy during TB treatment	Quarterly TB/HIV Report	82% (294/358)	85% (609/716)	88% (946/1074)	90% (1289/1433)	90% (351/390)
		No. and % of laboratory-confirmed MDR-TB patients enrolled on second line anti-TB treatment	MDR - TB Register, MDR-TB Treatment Card	100%	100%	100%	100%	100%
		No. and % of MDR-TB cases initiated on a second-line anti-TB treatment who have had negative culture at the end of 6 months of	MDR - TB Register, MDR-TB Treatment Card	50% (12/24)	5O% (15/31)	50% (17/33)	50% (19/38)	50% (21/41)

S/N	Objective	Indicator	Means of Verification	Target				
				2014	2015	2016	2017	2018
		treatment during the specified period of assessment						
		No. and % of retreatment cases tested for drug resistance of cases eligible for retreatment	DST Lab register	80% (127/1590	95% (726/170)	95% (176/185)	96% (193/201)	97% (211/218)
		No. and % of prisoner screened for TB among the total number of prisoner	TB Prison Register	50% (900/1800)	60% (1080/1800)	95% (1710/1800)	95% (1710/1800)	95% (1710/1800)
3.2	To contribute to health system strengthening based on primary health care	Health facilities implementing PAL among the total number of health facilities implementing TB Services (number and percentage)	Quarterly TB Report		18% (100/550)	36% (200/550)	54% (300/550)	64% (350/550)
		TB suspects reported to the national health	National health HMIS, TB register of patients, Clinic treatment	TBA	TBA	TBA	TBA	TBA

S/N	Objective	Indicator	Means of Verification	Target				
				2014	2015	2016	2017	2018
		authority among respiratory patients in the health facilities (number and percentage)	Registers					
3.3	To engage all care providers	New smear - positive TB patients managed or supervised by private health care providers among all TB patients reported to the National Program (number and percentage)	HMIS, TB register of patients, Treatment Cards	TBA	TBA	TBA	TBA	TBA
3.4	To empower people with TB, and communities through partnership	No. and % of New Smear Positive TB cases provided directly observed treatment by the	Community Treatment Card, TB Registers	18% (868/4821)	26% (1341/5157)	34% (1907/5610)	42% (2557/6088)	50% (3296/6591)

S/N	Objective	Indicator	Means of Verification	Target				
				2014	2015	2016	2017	2018
		community among New Smear Positive TB patients reported to the NLTCP						
		Population with correct knowledge about TB (mode of transmission, symptoms, treatment and curability) (percentage)	KABP survey					
3.5	To enable and promote research	Number of Operations research studies completed and results disseminated through a national TB M&E system (number)	Research Report		2	3	1	1
		The number of TB patients (all	TB Treatment Cards, Treatment Registers	TBA	TBA	TBA	TBA	TBA

S/N	Objective	Indicator	Means of Verification	Target				
				2014	2015	2016	2017	2018
		forms) contributed through referral and /or diagnosis						

TB-HIV, MDR-TB, and the needs of poor and vulnerable populations

S/N	Objective	Indicator	Means of Verification	Target				
				2014	**2015**	**2016**	**2017**	**2018**
	To address TB-HIV, MDR-TB, and the needs of poor and vulnerable populations	No. and % of TB patients who had an HIV test result recorded in the TB register among the total number of registered TB patients (all forms)	Quarterly TB/HIV Report	82% (2163/2638)	85% (4484/5275)	85% (6884/7913)	89% (9107/10233)	91% (2433/2674)
		No. and % of HIV co-infected TB patients who initiated cotrimoxazole preventive therapy during TB treatment	Quarterly TB/HIV Report	82% (294/358)	85% (609/716)	88% (946/1074)	90% (1289/1433)	90% (351/390)
		Number of HIV - Positive TB Patients who Start or Continue to take ARV during Anti-TB treatment	Quarterly TB/HIV Report	301	385	482	592	714
		No. and % of laboratory-	MDR - TB Register,	100%	100%	100%	100%	100%

S/N	Objective	Indicator	Means of Verification	Target				
				2014	2015	2016	2017	2018
		confirmed MDR-TB patients enrolled on second line anti-TB treatment	MDR-TB Treatment Card					
		No. and % of MDR-TB cases initiated on a second-line anti-TB treatment who have had negative culture at the end of 6 months of treatment during the specified period of assessment	MDR - TB Register, MDR-TB Treatment Card	50% (12/24	5O% (15/31)	50% (17/33)	50% (19/38)	50% (21/41)
		No. and % of retreatment cases tested for drug resistance of cases eligible for retreatment	DST Lab register	80% (127/1590	95% (726/170)	95% (176/185)	96% (193/201)	97% (211/218)
		No. and % of prisoner screened for TB among the total number of prisoner	TB Prison Register	50% (900/1800)	60% (1080/1800)	95% (1710/1800)	95% (1710/1800)	95% (1710/1800)

Estimates of some key indicators

S/N	Indicators	Target						Comment
		2013	**2014**	**2015**	**2016**	**2017**	**2018**	
1	Estimated number of Retreatment cases	148	159	170	185	201	218	Average % of positive smear cases confirmed retreatment cases from 2010 to 2012 is 3%. The 3% was applied to estimate smear positive cases from 2013 to 2016 to get the retreatment cases
2	% of Retreatment cases tested for Drugs Resistant TB	25%	80%	95%	95%	96%	97%	The % of retreatment cases tested for drug resistance will increase due to rapid improvement in diagnostic capacity. 80% will be tested in 2014 and 95% in 2015 and 2016
3	% Retreatment TB cases confirmed MDR-TB Cases	19%	19%	19%	19%	19%	19%	Use WHO estimate which is 19%
4	Number of Retreatment-TB cases to be tested for DR-TB	37	127	162	176	193	211	
5	Number confirmed MDR-TB patients	9	24	31	33	38	41	
6	% initiated on Treatment	100%	100%	100%	100%	100%	100%	
7	Number of TB cases (All forms)	8573	9380	10233	11132	12080	13080	
8	Number of TB cases (New Smear Positive)	4492	4821	5157	5610	6088	6591	
9	% of SS+ cases confirmed Retreatment cases	*3%*	3%	3%	3%	3%	3%	
10	Number and Percentage of MDR-TB cases initiated on a second-line anti-TB treatment who have had negative culture	*5*	12	15	17			

	at the end of 6 months of treatment during the specified period of assessment							
11	Proportion of MDR-TB cases with Negative Culture at 6 months	*5*	12	15	17	19	21	

PSM Plan (See Annex)

Product/ Category	Product	Strength	Unit of measurement (Tab, ml, pack)	Estimated Unit Cost per tabs , Ml, blister packs	Year 1 Estimates	Year 1 Total Cost Euro	Year 2 Estimates	Year 2 Total Cost Euro	Year 3 Estimates	Year 3 Total Cost Euro	Year 4 Estimates	Year 4 Total Cost Euro	Year 5 Estimates	Year 5 Total Cost Euro
Anti-Tuberculosis Drugs First Line & Materials	RHZE/4FDC	150/75/400/275	672 Tablets	$43.70	3,617	$158,062.90	3898	$ 170,342.60	4286	$ 187,298.20	3,542	$ 154,785.40	3,897	$170,298.90
	RH/2FDC	150/75	672 Tablets	$20.10	7,234	$145,403.40	7796	$ 156,699.60	8572	$ 172,297.20	6,863	$ 137,946.30	7,550	$151,755.00
	RHE/3FDC	150/75/275	672 Tablets	$53.57	185	$9,910.45	203	$ 10,874.71	224	$ 11,999.68	185	$ 9,910.45	203	$10,874.71
	RHZ/3FDC	60/30/150	84 Tablets	$6.00	1,476	$8,856.00	1,623	$ 9,738.00	1785	$ 10,710.00	1,476	$ 8,856.00	1,623	$9,738.00
	RH/2FDC	60/30	84 Tablets	$4.00	2,952	$11,808.00	3,246	$ 12,984.00	3,570	$ 14,280.00	2,952	$ 11,808.00	3,246	$12,984.00
	Ethambutol	100mg	100 Tablets	$3.25	5	$16.25	6	$ 19.50	7	$ 22.75	8	$ 26.00	9	$29.25
	Ethambutol	400mg	672 Tablets	$18.30		$0.00	88	$ 1,610.40		$		$		$0.00
	Isoniazid	100mg	100Tablets	$2.02	202	$408.04	218	$ 440.36	235	$ 474.70	235	$ 474.70	252	$509.04
	Isoniazid	300mg	672 Tablets	$13.52	8	$108.16	88	$ 1,189.76		$	88	$ 1,189.76		$0.00
	Pyrazinamide	400mg	672 Tablets	$10.75		$0.00	88	$ 946.00		$	88	$ 946.00		$0.00

Product/ Category	Product	Strength	Unit of measurement (Tab, ml, pack)	Estimated Unit Cost per tabs , Ml, blister packs	Year 1 Estimates	Year 1 Total Cost Euro	Year 2 Estimates	Year 2 Total Cost Euro	Year 3 Estimates	Year 3 Total Cost Euro	Year 4 Estimates	Year 4 Total Cost Euro	Year 5 Estimates	Year 5 Total Cost Euro
	Streptomycin	1g	100 Vials	$68.00	165	$11,220.00	182	$ 12,376.00	200	$ 13,600.00	165	$ 11,220.00	181	$12,308.00
	Syringes/Needles	5ml	100 pcs	$5.75	165	$948.75	182	$ 1,046.50	200	$ 1,150.00	165	$ 948.75	181	$1,040.75
	Water for Injection	5ml	100 pcs	$10.68	165	$1,762.20	182	$ 1,943.76	200	$ 2,136.00	165	$ 1,762.20	181	$1,933.08
Total Cost						**$348,504.15**		**$380,211.19**		**$413,968.53**		**$339,873.56**		**$371,470.73**
Second Line anti Tuberculosis Medicines	Kanamycin 1g/vails	1g		$25.08	336	$8,426.88	504	$ 12,640.32	756	$ 18,960.48	1,142	$ 28,641.36	1,713	$42,962.04
	Levofloxacin(blister)	250mg		$5.50	403	$2,216.50	605	$ 3,327.50	907	$ 4,988.50	1,370	$ 7,535.00	2,056	$11,308.00
	Cycloserine(loose100 capsules)	250mg		$59.09	537	$31,731.33	806	$ 47,626.54	1,209	$ 71,439.81	1,827	$ 107,957.43	2,741	$161,965.69
	Ethionamide(blisters)	250mg		$8.25	537	$4,430.25	806	$ 6,649.50	1,209	$ 9,974.25	1,827	$ 15,072.75	2,741	$22,613.25
	Pyrazinamide(blisters)	500mg		$10.75	26	$279.50	40	$ 430.00	60	$ 645.00	91	$ 978.25	137	$1,472.75
	Total Cost					**$47,084.46**		**$70,673.86**		**$106,008.04**		**$160,184.79**	**22,814**	**$983,263.19**
Other medicines	Pyridoxine	25mg	100 Tablets	$1.30	1550	$2,015.00	1628	$ 2,116.40	1,709	$ 2,221.70	2,007	$ 2,609.10	2,007	$2,609.10

Product/ Category	Product	Strength	Unit of measurement (Tab, ml, pack)	Estimated Unit Cost per tabs , Ml, blister packs	Year 1 Estimates	Year 1 Total Cost Euro	Year 2 Estimates	Year 2 Total Cost Euro	Year 3 Estimates	Year 3 Total Cost Euro	Year 4 Estimates	Year 4 Total Cost Euro	Year 5 Estimates	Year 5 Total Cost Euro
	Cotrimoxazole	480mg	1000 Tablets	$5.87	100	$587.00	200	$ 1,174.00	300	$ 1,761.00	1,231	$ 7,225.97	1,352	$7,936.24
	Total cost					**$2,602.00**		**$ 3,290.40**		**$ 3,982.70**		**$ 9,835.07**		**$10,545.34**
	Health Products													
AFB Consumables Laboratory														
	Consumables													
	Slide storage box of 50 pcs		50 pcs	$20.50	290	$5,943.41	290	$5,943.41	338	$6,927.14	290	$ 5,945.00	290	$5,945.00
	Staining tray with bridge, PVC; W: 38 cmxL:17 cmxH:8cm color gray		38x17x8	34.2	145	$4,959.00	145	$ 4,959.00	169	$ 5,779.80	145	$ 4,959.00	145	$4,959.00
	Wash bottles, 1000ml, box of 4		bottles	2.9	435	$1,261.50	435	$ 1,261.50	507	$ 1,470.30	435	$ 1,261.50	435	$1,261.50
	immersion Oil Type A 4 OZ		bottles	41	290	$11,890.00	290	$ 11,890.00	169	$ 6,929.00	290	$ 11,890.00	290	$11,890.00
	Filter Paper ,Round, Fine,15cm, box of 100		100	9.6	145	$1,392.00	145	$1,392.00	145	$ 1,392.00	145	$ 1,392.00	145	$1,392.00
	Lens paper ,Cleaning		50 sheets	25.7	145	$3,726.50	145	$540,342.50	169	$ 4,343.30	145	$ 3,726.50	145	$3,726.50

Product/ Category	Product	Strength	Unit of measurement (Tab, ml, pack)	Estimated Unit Cost per tabs , Ml, blister packs	Year 1 Estimates	Year 1 Total Cost Euro	Year 2 Estimates	Year 2 Total Cost Euro	Year 3 Estimates	Year 3 Total Cost Euro	Year 4 Estimates	Year 4 Total Cost Euro	Year 5 Estimates	Year 5 Total Cost Euro
	Tissues, 4x6 in,box of 50 sheets													
	paper Wipes for Lenses		pcs	58.8	435	$25,578.00	435	$11,126,430.00	507	$ 29,811.60	435	$ 25,578.00	435	$25,578.00
	Forceps			8.2	290	$2,378.00	290	$689,620.00	507	$ 4,157.40	290	$ 2,378.00	290	$2,378.00
	Glass Funnels			5.5	435	$2,392.50	435	$1,040,737.50	169	$ 929.50	435		435	$2,392.50
	Compact Timer 1-120 minutes loud, 5 second ring is easy to hear, mechanical no battery needed		pcs	10.9	145	$1,580.50	145	$229,172.50	169	$ 1,842.10	145		145	$1,580.50
	Diamond marker pen			6.8	145	$986.00	145	$142,970.00	169	$ 1,149.20	145		145	$986.00
	Gloves Examination Latex, powder free, non sterile med, standard box of 100		100	13.7	580	$7,946.00	580	$4,608,680.00	580	$ 7,946.00	580		580	$7,946.00
	Microscopy lens cleaning fluid,		pcs	36.9	145	$5,350.50	145	$775,822.50	507	$ 18,708.30	145		145	$5,350.50
	Sputum container, wide mouth, volume		500	10.9	272	$2,964.80	272	$806,425.60	169	$ 1,842.10	272		272	$2,964.80

Product/ Category	Product	Strength	Unit of measurement (Tab, ml, pack)	Estimated Unit Cost per tabs , Ml, blister packs	Year 1 Estimates	Year 1 Total Cost Euro	Year 2 Estimates	Year 2 Total Cost Euro	Year 3 Estimates	Year 3 Total Cost Euro	Year 4 Estimates	Year 4 Total Cost Euro	Year 5 Estimates	Year 5 Total Cost Euro
	pp 30 ml with lid, 500/case, plastic													
	Microscopy Slides, Frosted edge,25x75 box of 50		50	2.7	2,718	$7,338.60	2,718	$19,946,314.80	169	$ 456.30	2,718		2,718	$7,338.60
	TOTAL			**$288.30**		**$85,687.31**		**$39,931,961.31**		**$93,684.04**				$0.00
	AFB REAGENTS													$0.00
	Basic Carbol fuchsin 100g/bottle			135	12	$1,620.00	14	$1,890.00	14	$ 1,890.00	12	$1,890.00	14	$0.00
	Stain Methylene blue 25g			135	24	$3,240.00	28	$560.00	28	$ 3,780.00	24	$560.00	28	$612.00
	Hydrochloric acid, concentrated 37%,1000ml bottle			135	12	$1,620.00	14	$252.00	14	$ 1,890.00	12	$252.00	14	$1,890.00
	Phenol,liquidfied (concentrated) 100ml/bottle			135	12	$1,920.00	14	$2,240.00	14	$ 1,890.00	12	$2,240.00	14	$1,890.00
	Methanol 97%, 25L,drum, plastic			135	12	$1,876.80	14	$2,189.60	14	$ 1,890.00	12	$2,189.60	14	$1,890.00
	TOTAL			**675**		**$10,276.80**		**$7,131.60**		**$ 11,340.0**				$0.00

Product/ Category	Product	Strength	Unit of measurement (Tab, ml, pack)	Estimated Unit Cost per tabs , Ml, blister packs	Year 1 Estimates	Year 1 Total Cost Euro	Year 2 Estimates	Year 2 Total Cost Euro	Year 3 Estimates	Year 3 Total Cost Euro	Year 4 Estimates	Year 4 Total Cost Euro	Year 5 Estimates	Year 5 Total Cost Euro
										0				
	MDR-TB Consumables													
	Sigma Aldrich, Para-nitrobenzoic acid(PNB), 98%, 50g/Btl.		Bottle	11.4	2	22.8	2	22.8	2	22.8	2	22.8	2	22.8
	Sigma Aldrich, Thiophene - 2-carboxylic acid		Bottle	33.4	2	66.8	2	66.8	2	66.8	2	66.8	2	66.8
	hydrazide($C_5H_4O_2S$) , (TCH), 25g/Btl.					0								
	Sigma Aldrich, Isoniazid, 99%, 5g/Btl.		Bottle	19.6	2	39.2	2	36.2	2	36.2	2	36.2	2	36.2
	Sigma Aldrich, Etambutol dihydrochloride		Bottle	84.78	2	169.56	2	169.56	2	169.56	2	169.56	2	169.56
	25g/Btl.					0								
	Sigma Aldrich, Rifampicin, powder, 97% 1g/Btl.		Bottle	85.6	2	171.2	2	171.2	2	171.2	2	171.2	2	171.2
	Sigma Aldrich, Dihydro -		Bottle	28.4	2	56.8	2	56.8	2	56.8	2	56.8	2	56.8

Product/ Category	Product	Strength	Unit of measurement (Tab, ml, pack)	Estimated Unit Cost per tabs , Ml, blister packs	Year 1 Estimates	Year 1 Total Cost Euro	Year 2 Estimates	Year 2 Total Cost Euro	Year 3 Estimates	Year 3 Total Cost Euro	Year 4 Estimates	Year 4 Total Cost Euro	Year 5 Estimates	Year 5 Total Cost Euro
	Streptomycin powder (98%, 5g/Btl.)													
	Malachite green, 25g/Btl.		Bottle	5.6	2	11.2	2	11.2	2	11.2	2	11.2	2	11.2
	Sodium chloride(NaCl) 1Kg/Btl.		Bottle	6	3	18	3	18	3	18	3	18	3	18
	Sodium hydroxide pellet, (Merk) ,500g/Btl.		Bottle	23.65	2	47.3	2	47.3	2	47.3	2	47.3	2	47.3
	Sodium piruvate($CH_3CO.COONa$) 500g/Btl.		Bottle	8.12	1	8.12	1	8.12	1	8.12	1	8.12	1	8.12
	Glycerol(Glycerine), $CH_2OH.CHOH.CH_2OH$, 2.5l/Btl. (Merk)		Bottle	0	0	0	0	0		0	0	0	0	0
	Potassium dihydrogen phosphate anhydrous (KH2PO4) , Merk, 500g/Btl.)		Bottle	7.3	1	7.3	1	7.3	1	7.3	1	7.3	1	7.3
	Disodium hydrogen phosphate anhydrous		Bottle	7.35	1	7.35	1	7.35	1	7.35	1	7.35	1	7.35

Product/ Category	Product	Strength	Unit of measurement (Tab, ml, pack)	Estimated Unit Cost per tabs , Ml, blister packs	Year 1 Estimates	Year 1 Total Cost Euro	Year 2 Estimates	Year 2 Total Cost Euro	Year 3 Estimates	Year 3 Total Cost Euro	Year 4 Estimates	Year 4 Total Cost Euro	Year 5 Estimates	Year 5 Total Cost Euro
	(Na2HPO4), Merk, 1 Kg/Btl.)													
	Magnesium citrate hydrate $Mg_3(C_6H_5O_2).H_2O$ Merk, 500g/Btl.		Bottle	39.7	1	39.7	1	39.7	1	39.7	1	39.7	1	39.7
	Magnesium sulphate($MgSO_4.7H_2O$),(Merk), 1Kg/Btl.		Bottle	6	1	6	1	6	1	6	1	6	1	6
	L-Asparagine Monohydrate($C_4H_8N_2O_3.H_2O$ 500g/Btl.		Bottle	123.6	1	123.6	1	123.6	1	123.6	1	123.6	1	123.6
	Lowenstein Jensen medium base, Bio-Rad, 500g/Btl.		Bottle	86.9	8	695.2	8	695.2	8	695.2	8	695.2	8	695.2
	Auromine O 98%, Sigma Aldrich, 100g/Btl.		Bottle	10.5	1	10.5	1	10.5	1	10.5	1	10.5	1	10.5
	Microscopy immersion oil, 100ml/Btl.		100ml/Btl.	11.4	20	228	20	22.8	20	22.8	20	22.8	20	22.8
	Microscope slide, glass, 25X75mm, frosted end, 50pcs/pk.		50pcs/pk.	2.2	200	440	200	440	200	440	200	440	200	440

Product/ Category	Product	Strength	Unit of measurement (Tab, ml, pack)	Estimated Unit Cost per tabs , Ml, blister packs	Year 1 Estimates	Year 1 Total Cost Euro	Year 2 Estimates	Year 2 Total Cost Euro	Year 3 Estimates	Year 3 Total Cost Euro	Year 4 Estimates	Year 4 Total Cost Euro	Year 5 Estimates	Year 5 Total Cost Euro
	Autoclave sterile indicator, 100meter roll		100meter roll	10.3	15	154.5	15	154.5	15	154.5	15	154.5	15	154.5
	Ladies' and mens' laboratory coats, white(Size: Medium)		EA	19.1	5	95.5	5	95.5	5	95.5	5	95.5	5	95.5
	Ladies' and mens' laboratory coats, white (Size: Large)		EA	19.1	5	95.5	5	95.5	5	95.5	5	95.5	5	95.5
	Latex gloves, powder free, size: Medium (100pairs/Pk)		100 pairs/Pk	7.9	100	790	100	790	100	790	100	790	100	790
	Latex gloves, powder free, size: Lage 100pairs/Pk		100 pairs/Pk	7.9	100	790	100	790	100	790	100	790	100	790
	Magnifier, Bi-concave glass, lens in metal rim With black plastic handle, lens diameter 50mm,Magnification 10X		EA	4.88	3	14.64	0	0	0	0	0	0	0	0
	Metler Toledo Analytical Balance, model AG64,Range		EA	3.429.37	1	3.429.37	0	0	0	0	0	0	0	0

Product/ Category	Product	Strength	Unit of measurement (Tab, ml, pack)	Estimated Unit Cost per tabs , Ml, blister packs	Year 1 Estimates	Year 1 Total Cost Euro	Year 2 Estimates	Year 2 Total Cost Euro	Year 3 Estimates	Year 3 Total Cost Euro	Year 4 Estimates	Year 4 Total Cost Euro	Year 5 Estimates	Year 5 Total Cost Euro
	0.001 – 61g, power supply 220V – 240 V 50/60Hz, fully automatic calibration, weighing Pan 80X80mm, effective height draft shield, right hand free operation, Readability 0.01mg.													
	Orbital shaker, with anti – slip rubber mat, speed range 20 – 250. rpm, Complete with cradle type Platform and four horizontal securing bars cover in soft rubber to hold most sizes and shapes of bottles and flasks. Please note:(Not ELISA plate		EA	960.37	1	960.37								

Product/ Category	Product	Strength	Unit of measurement (Tab, ml, pack)	Estimated Unit Cost per tabs , Ml, blister packs	Year 1 Estimates	Year 1 Total Cost Euro	Year 2 Estimates	Year 2 Total Cost Euro	Year 3 Estimates	Year 3 Total Cost Euro	Year 4 Estimates	Year 4 Total Cost Euro	Year 5 Estimates	Year 5 Total Cost Euro
	shaker) Dimension 360X360 X200mm, Platform 310 x310mm,Power supply 220 – 240V/50-60Hz, weight 14 Kg													
	Magnetic hot plate stirrer(Fisher brand), ceramic plate dimension 254X254mm, temperature range 5 – 550^{o}C , speed range 60 - 1,200 RPM, load capacity 22Kg, power supply 220 – 240V/50-60Hz.		EA	426.64	1	426.64								
	Thermometer, yellow back, mercury filled, amber graduation, general purpose, length 155mm, Range 10-		EA	4.06	20	81.2								

Product/ Category	Product	Strength	Unit of measurement (Tab, ml, pack)	Estimated Unit Cost per tabs , Ml, blister packs	Year 1 Estimates	Year 1 Total Cost Euro	Year 2 Estimates	Year 2 Total Cost Euro	Year 3 Estimates	Year 3 Total Cost Euro	Year 4 Estimates	Year 4 Total Cost Euro	Year 5 Estimates	Year 5 Total Cost Euro
	110^{o}C.													
	Filter paper, Fisher brand, circle, No. 41, achless, diameter 150mm, pack of 100 circles.		100 Pk/circle	3.03	30	90.9								
	Bottle top dispenser (eppendorf), autoclavable, volume range 2 – 10ml,for external bottle thread of 32mm, with accessories.		EA	210.12	5	1050.6								
	Reagent bottle, amber glass, for bottle top dispenser, thread 32mm, volume 500ml, autoclavable		Each	15.41	10	$154.10								
	"Assistent" Selecta pipettor, 1ml		Each	20.25	3	$60.75								
	Assistent" Selecta pipettor tips, sterile, 100/bx.		100/bx.	6.13	10	$61.30								

Product/ Category	Product	Strength	Unit of measurement (Tab, ml, pack)	Estimated Unit Cost per tabs , Ml, blister packs	Year 1 Estimates	Year 1 Total Cost Euro	Year 2 Estimates	Year 2 Total Cost Euro	Year 3 Estimates	Year 3 Total Cost Euro	Year 4 Estimates	Year 4 Total Cost Euro	Year 5 Estimates	Year 5 Total Cost Euro
	Phenol, liquidfied,37%, 1000ml/Btl.		1000ml/Btl	12.9	10	$129.00								
	Wax pencil, black, pack of 10pcs.		10pcs	3.1	10	$31.00								
	Falcon conical centrifuge tube, plastic, graduated, 15ml, blue stopper, individually packed, sterile, 50pcs/Bx		50pcs/Bx	15.2	10	$152.00								
	Stainless steel rack to hold 120 McCartney universal bottles(28ml)		Each	10.4	30	$312.00								
	Flat(mg) weights set for balance calibration		Set	284.5	1	$284.50								
	Densitometer, DEN-1(Grant bio) *Dimension……166X115X75mm * External power supply…220 – 240V,50/60Hz		EA	510	1	$510.00								

Product/ Category	Product	Strength	Unit of measurement (Tab, ml, pack)	Estimated Unit Cost per tabs , Ml, blister packs	Year 1 Estimates	Year 1 Total Cost Euro	Year 2 Estimates	Year 2 Total Cost Euro	Year 3 Estimates	Year 3 Total Cost Euro	Year 4 Estimates	Year 4 Total Cost Euro	Year 5 Estimates	Year 5 Total Cost Euro
	*weight…….0.9 Kg Light source…….LED *Wavelength…….. ƛ 565 ±15nm * McCFarland unit range……. 0.3 – 15.0 McF * Replacement inclusive													
	Chemist motar with pester		EA	7	1	7								
	Stainless steel bucket with lid 20 liters		EA	10	5	50								
	Sputum container, wide mouth, strong unbreakable, Leakproof,green screw capped with a water-tight seal, easily-labeled walls or with label for patient information, single use, sterile, volume 100 ml.		EA	0.38	3,000	1140								

Product/ Category	Product	Strength	Unit of measurement (Tab, ml, pack)	Estimated Unit Cost per tabs , Ml, blister packs	Year 1 Estimates	Year 1 Total Cost Euro	Year 2 Estimates	Year 2 Total Cost Euro	Year 3 Estimates	Year 3 Total Cost Euro	Year 4 Estimates	Year 4 Total Cost Euro	Year 5 Estimates	Year 5 Total Cost Euro
	Gauze sponge, none sterile, 8-ply,(ca. 4X4) 10 cm X 10 cm, 100 pcs/ pack.		100 pcs/ pack.	3.5	100	350								
	Test tube rack, plastic, for 50ml falcon tubes, ten tubes per row, capacity 50 tubes per rack, color: white, 10 pcs/pk		10 pcs/pk	69.3	10	693								
	Led Fluorescence binocular Microscope,(LW Scientific i4 Epi Fluorescence LED Microscope), ISL3 - Infinity Semi Plan 4x, 10x, 40x, 100x, Physical weight: 16 lbs., Shipping weight: 21 lbs., Current supply: 220 – 240V/50,60Hz		EA	$ 2,346.00	1	$ 2,346.00								
	Total			**5588.97**		**$12,999.13**		**$3,885.93**						

Product/ Category	Product	Strength	Unit of measurement (Tab, ml, pack)	Estimated Unit Cost per tabs , Ml, blister packs	Year 1 Estimates	Year 1 Total Cost Euro	Year 2 Estimates	Year 2 Total Cost Euro	Year 3 Estimates	Year 3 Total Cost Euro	Year 4 Estimates	Year 4 Total Cost Euro	Year 5 Estimates	Year 5 Total Cost Euro
	Assumption For Light Microscope													
	LED Fluorescent Microscope			1708	10	17080								
	LED Fluorescent Microscope Replacement Bulbs (maintenance			15	50	750								
	Assumption for light microscope													
	Binocular light microscope			1640	30	49200								
	Replacement Bulbs for light Microscope			15	30	450								
	Eye piece			98.2	30	2946								
	Objective 100x , spare parts for binocular light			258.8	30	7764								
	Gene Expert (Catridges)													
	Catridges for Gene Xpert			99.80							90	8982	90	8982
	Digital X Ray Machine			13,416.00	10.00	134160								

Product/ Category	Product	Strength	Unit of measurement (Tab, ml, pack)	Estimated Unit Cost per tabs , Ml, blister packs	Year 1 Estimates	Year 1 Total Cost Euro	Year 2 Estimates	Year 2 Total Cost Euro	Year 3 Estimates	Year 3 Total Cost Euro	Year 4 Estimates	Year 4 Total Cost Euro	Year 5 Estimates	Year 5 Total Cost Euro
			Non Health products											
	Bicycles			$125.00										
	Maintenance of Office Equipment											6,000.00		6,000.00
	Maintenance of Office Equipment											2,000.00		2,000.00
	Insurance of Vehicles										1	9,000	1	9,000.00
	Maintenance of Vehicles											60,000		60,000.00
	Fuel for the Vehicles											62,400.00		62,400.00
	Insurance of Motor Cycles			$4,500							1	6,000.00	1	6,000.00
	Maintenance of Motor Cycles											36,000.00		36,000.00
	Fuel for the Motor Cycles											43,200.00		43,200.00
	Maintenance of Generators											36,000.00		36,000.00
	Fuel for Generators											124,800.00		124,800.00
	Support to NLTCP Electricity bills											61,520.00		61,520.00
	Support to TB ANNEX-patient											52,036.00		52,036.00

Product/ Category	Product	Strength	Unit of measurement (Tab, ml, pack)	Estimated Unit Cost per tabs , Ml, blister packs	Year 1 Estimates	Year 1 Total Cost Euro	Year 2 Estimates	Year 2 Total Cost Euro	Year 3 Estimates	Year 3 Total Cost Euro	Year 4 Estimates	Year 4 Total Cost Euro	Year 5 Estimates	Year 5 Total Cost Euro
	feeding and supplies													
	Support to GANTA Rehab-fuel for generator											216,000.00		216,000.00
	Total cost per year													
	Summary													
	Contribution to GLC													
	PROCURING OF 1ST LINE DRUGS													
	Freight & Insurance													
	Procurement Agent Fees													
	PROCURING OF 2nd LINE DRUGS													
	Freight & Insurance													
	Procurement Agent Fees													
	PROCURING OF MDR CONSUMABLES													
	Freight & insurance													

Product/ Category	Product	Strength	Unit of measurement (Tab, ml, pack)	Estimated Unit Cost per tabs , Ml, blister packs	Year 1 Estimates	Year 1 Total Cost Euro	Year 2 Estimates	Year 2 Total Cost Euro	Year 3 Estimates	Year 3 Total Cost Euro	Year 4 Estimates	Year 4 Total Cost Euro	Year 5 Estimates	Year 5 Total Cost Euro
	Procurement agent fees													
	PROCURING OF AFB REAGENTS													
	Freight & insurance													
	Procurement agent fees													
	PROCURING OF AFB CONSUMABLES													
	Freight & insurance													
	Procurement agent fees													
	NAAT(Gene Expert Equipment													
	Procurement fees 10%													
	Freight and Insurance fees 15%													
	TOTAL													

Technical Assistance Plan

Area	2014	2015	2016	2017	2018
Mid-term & End Term Program Review			X		X
Resident (long term) TA to introduce the new techniques with backstopping	X	X	X	X	X
Short term TA for laboratory design.	X				
Short term TA for national infection control policy.	X				
Short term TA for TB/HIV activities annually	X	X	X	X	X

Provide resident (long term) TA for DR-TB and program management	X	X	X	X	X
Provide Short term external TA for DR-TB annually	X	X	X	X	X
Provide Short term annual external TA for childhood TB	X	X	X	X	X
Provide TA for new diagnostic tools for childhood TB	X	X			
Provide Long term TA for health systems strengthening	XX	X	X	X	X
Provide short term TA for PAL	X	X	X	X	X
Long Term TA for DRS and Prevalence survey (Laboratory, Epidemiologist & Data Management)	X	X	X	X	X
Provide Short Term TA on Operational research	X	X	X		
TA for M&E strengthening annually	X	X	X	X	X

Chapter 8 NATIONAL LEPROSY STRATEGIC PLAN 2014 - 2018

Introduction

Leprosy is one of the chronic infectious diseases affecting the skin and peripheral nerves. The diagnosis is essentially clinical. The disease classified as pauci bacillary (PB) and multi bacillary (MB) is essentially diagnosed clinically. Among communicable diseases, Leprosy remains a leading cause of permanent physical disability. Early detection and correct treatment are the most important interventions to prevent complications and disabilities. However, there are many negative traditional beliefs and practices among populations in relation to leprosy.
Leprosy can cause disabilities and mutilations; with very deep social and economic impact if not treated. Due to these impacts and the non-specific sign of leprosy at the beginning of the disease, people with suspected leprosy patches do not go for conventional treatment early. As a result, there is an average delay of 2 - 3 years before diagnosis and correct treatment.

In the African region, the prevalence of leprosy dropped from 45,000 in 2004 to 28,664 cases in 2011. This means more than 30% of reduction in the prevalence of the disease. The prevalence rate consequently decreased from 0.70 to 0.39 cases per 10,000 inhabitants in the same period. The number of new cases of leprosy detected each year has dropped from 46,000 in 2000 to 25,231 in 2011.
The proportion of multi bacillary cases is between 66 and 75% of new cases in countries during the last 10 years. The proportions of children and disability grade 2 among new cases are between 9 and 11% over years. The proportion of females affected is between 17 and 36%. The trend of new case indicators, confirm the progressive reduction of the disease.

With the introduction of Multi Drug Treatment (MDT) as the corner stone for the treatment of leprosy patients in 1985, the prevalence of leprosy has dropped by more than 90% in the African Region. As of today, all countries in the Region except Liberia and The Comoros Islands have achieved the elimination of leprosy as a public health problem at the national level although there are still high endemic pockets at sub-national levels (regions, health districts) within many countries. This success would have not been possible without a strong commitment of endemic countries supported by the international community. Although the number of leprosy patients has been dramatically reduced, the disease continues to be part of major issues contributing to the impoverishment of people in Africa.

Chapter 9 Leprosy situation in Liberia

Leprosy remains a major public health problem in Liberia. It is also one of the few countries that have not attained the global target for leprosy elimination of less than 1 case per 10,000 populations. In 2011, the prevalence rate of leprosy in Liberia (based on desk review) was 1.7%. A total of 662 new cases were reported in 2011. 431 of the cases were multi-bacillary, the most infectious cases; 95 were children and 381 females. The country data over the last three years show a trend of continuous transmission of the disease. As services are expanded and capacity to diagnose leprosy is built, the notification of cases through the NLTCP has increased from 414 in 2008, 415 in 2009 to 482 in 2010. There has also been an increase in the notification of new cases among children from 47 in 2008 to 84 in 2010.

Table 1: Selected human development indicators for Liberia 2008-2011

Population	3,476,608
Urban population	47 %
Annual population growth	2.1%
Under-five mortality rate (per 1,000 births)	114 deaths
Infant mortality rate (per 1,000 births)	73 deaths
Maternal mortality ratio (per 100,000 births)	770 maternal deaths
Life expectancy at birth	59 years
Literacy rate (age 15-49)	41% (women); 70% (men)
Contraceptive Prevalence Rate	11%
Total Fertility Rate	5.9
Vaccination coverage (full)	51% (2010), 63% EPI survey (2012)
HIV sero-prevalence	1.5% (1.8% female, 1.2% male) (2007), ANC/HIV (4% in 2008). 2% (2012)

The leprosy program which is a joint program with Tuberculosis has faced serious funding challenges though it continues to provide services. Prior to 1989 the government was supported by the German Leprosy Relief Association (GLRA) and the World Health Organization (WHO) to provide services for leprosy control. The support dwindled after the Liberian civil crisis with minimum support from GLRA. Currently GLRA provides financial support to only Ganta Rehabilitation Center and WHO continues to provide drugs for treatment (MDT).

Leprosy cases are reported in all counties and the highest notifications are from Nimba, Grand Kru, Grand Gedeh and Grand Bassa Counties but very few health facilities have the capacity to diagnose them. Interventions are focused mainly on high burden counties and the primary means of case detection is facility based. Multi drug treatment (MDT) is provided with support from WHO to facilities that detects positive cases. Trainings in leprosy case management are irregularly done due to inadequate resources.

SWOT Analysis of the Leprosy control programme

Strength	Weakness
1. A national programme to address Leprosy established 2. Government financial contribution for leprosy control programme is recognized though it is limited 3. Strategies for control of leprosy esxist 4. Leprosy is integrated into the essential package of health services 5. Some staff managing leprosy programme received training on the managing of the disease; particularly, the ALERT in Ethiopia. 6. Annual leprosy operational plans are prepared and implemented 7. Some field staff especially the Ganta Rehabilitation centre received training in management of leprosy. 8. Some officers in-charge of health facilities attended various workshops on leprosy management. 9. WHO continues to provide free MDT drugs since 1985. The method of supply of MDT drugs to Liberia had continues to be efficient since 1985, 10. In- country Leprosy drugs supply lasts 3-5 months and of good quality 11. There is regular availability of MDT drug though the push method is used to deliver drugs to counties 12. Good drug storage facilities and drug wastage observed 13. WHO has also been supporting the leprosy programme since early 85 by providing technical support for Monitoring and Evaluation	1. Leprosy remains a major problem in Liberia. The country has not reached the global leprosy elimination target of less than 1 case per 10,000 (average in 20111 was 1.7/10,000) 2. The effective leprosy control programme that existed before the war in 1989 with support from GLRA collapsed and is picking up and yet to be perfected. 3. Financial support from partners such as GLRA is now limited to the Rehab centre, while support from WHO is for the MDT drugs and technical assistance 4. Facility based coverage of MDT service coverage is low and estimated at 8.4% (44/522 health facilities). 5. The trends of critical indicators among new cases remain high. For example, in 2011the following were observed: • MB: 65% of the new cases detected are of the infectious type, the MB • Children: The proportion of children among the new cases was 14.3% , indicating some form of continuing transmission of infection; • Disability Grade 2: Grade 2 disability among new cases was difficult to determine 6. More focus on TB control activities rather than paying attention to both TB and leprosy 7. Leprosy annual operational plan not being implemented as planned as a result of lack of funding 8. Data collection, collation and analysis is weak. 9. Data registers, Patient cards and quarterly reports on case finding are yet to be updated 10. Lack of qualified health workforce especially at the peripheral and community levels 11. The National Programme Manager is yet to attend any official training in leprosy at ALERT or Arusha. 12. Information on leprosy not integrated to the general training manual for general community volunteers 13. No drugs for reactions, 14. High number of patients who are defaulting 15. Large number of patient diagnosed of leprosy never completed their treatment, except at Ganta. 16. 66.4% of all registered patients seen in 2011 (except at ganta) have missed between 3-12 doses of MDT drug

	out of 6-12 doses 17. No defaulter retrieval system in place. 18. No follow up of patient to trace contacts. 19. Late diagnosis that translates to high proportion of Grade 2 disabilities 20. Weak referral system for management of complications 21. Lack of motivation of staff or general Community Health Volunteers (gCHVs) at lower level 22. Stigma is a problem in some communities 23. High dependence on external donor support 24. Inadequate monitoring and surveillance
Opportunities	Threats
1. Commemoration of World Leprosy day on 31ST Jan of every year is a good advocacy to government and partners for support. 2. Opportunity to combine some of the GF sponsored IEC, and ACSM TB activities at the community levels. 3. Use of the general Community Health Volunteers 4. Since TB and Leprosy are combined, and officers at the field are also designated TB/Leprosy; attention should be paid also to Leprosy during Global fund TB training; during, supervisory visits; during community strengthening activities. 5. 2007-2012 TB Strategic plan end term evaluation in 4th quarter to be used also to include Leprosy 6. Leveraging some TB budget and plan for some joint activities involving Leprosy programme 7. Integration of the leprosy activities in the context of the essential package of health services 8. UN resolution on the human rights of persons with disabilities	1. Decreased government funding 2. Global financial crisis affecting donor contribution 3. Increased transmission of the infectious multi-bacillary form the disease 4. Increased concentration on communicable diseases by the international community

Major Challenges

Some of the major challenges include the following:

- ✓ Reduced political commitment to leprosy
- ✓ Inadequate Advocacy, Communication, and social Mobilization (ACSM) activities on Leprosy control
- ✓ Lack of effective prevention of disabilities through early detection, management of complications and support of patient for self care.
- ✓ Inadequate implementation of rehabilitation services
- ✓ Leprosy elimination target has not been reached in Liberia. 1.7/10,000
- ✓ Evidence of pockets of hidden leprosy cases in Liberia, especially in 5 counties.
- ✓ High children proportion 14.3% among new cases
- ✓ Limited access of population to MDT services (44/522) 8% facility coverage.
- ✓ High defaulter rate approximately 64%
- ✓ Need to increase public awareness on early signs of leprosy, Posters, Radio Jingles
- ✓ Need to increase index of suspicion among health workers in all OPDs
- ✓ Limited financial support for leprosy control activities
- ✓ Orientation training plans for continuing sensitization of health facility staff for increasing their awareness on Leprosy.
- ✓ Limited community involvement in Leprosy Activities.

Immediate actions

Proposed actions to address the challenges:

- ✓ Improving access to diagnosis through integration of leprosy case management activities into existing public health services.
- ✓ Early detection of new cases countrywide to ensure the reduction of the risk of deformities and disabilities among patients and ensure that leprosy sufferers can live normal lives with dignity.
- ✓ Maintaining high-level political commitment and social mobilization to change the image of leprosy and rehabilitate people affected by the disease.
- ✓ Organizing a good surveillance for sustainable leprosy control activities.
- ✓ Organizing sentinel surveillance on specific issues like anti-leprosy drug resistance and relapses is of importance.
- ✓ Monitoring and evaluation of control activities countrywide
- ✓ Organizing operational research to find solutions for leprosy control
- ✓ Re-Orientating county focal points on Leprosy elimination strategies
- ✓ Increasing access to MDT services (8% facility coverage low)
- ✓ Preparing and implementing annual operational plans for leprosy
- ✓ Conducting leprosy elimination campaign in the leprosy high burdened counties
- ✓ Involving communities in leprosy control activities

- ✓ Improving supervision, monitoring and reporting of cases
- ✓ Increasing national funding for leprosy control activities
- ✓ Conducting evaluation of leprosy control activities

Chapter 10 Leprosy - Vision, Mission and Strategic Objectives

Vision: Liberia free of Leprosy in all its communities
Mission: To eliminate leprosy through provision of comprehensive, qualitative, affordable and accessible package of leprosy interventions to all Liberians irrespective of age, gender, social status and geographic location in order to ensure that Leprosy is no longer a public health threat in Liberia

Overall Goal: To reduce the burden of leprosy in Liberia. This can be achieved through improved and sustained integrated quality leprosy control services and early case detection and treatment.

Strategic priorities

Strategic priority 1: Strengthen national commitment, ownership, advocacy, coordination and partnership
Strategic priority 2: Increase Case finding and ensure integration of leprosy services to the essential health services
Strategic priority 3: Improve Case holding for better treatment outcomes
Strategic priority 4: Prevent/Minimize leprosy related disabilities
Strategic priority 5: Promote access to rehabilitation services
Strategic priority 6: Enhance leprosy monitoring, supervision, evaluation, surveillance and research
Strategic priority 7: Strengthen Advocacy, Communication and Social Mobilization (ACSM) for leprosy

Strategic Objectives

S/N	Strategic priority	Strategic Objective
1	Strengthen national commitment, ownership, advocacy, coordination and partnership	✓ To conduct regular programme performance reviews, document lessons learnt, strengthen coordination and foster partnership for leprosy at national and county levels
2	Increase Case finding and ensure integration of leprosy services to the essential health services	✓ To promote early case detection from the general population and reduce grade two disabilities among leprosy related patients
3	Improve Case holding for better treatment outcomes	✓ To increase coverage of leprosy services and improve treatment outcomes
4	Prevent/Minimize leprosy related disabilities	✓ To reduce new impairment for patients on treatment in order to minimize leprosy related disabilities
5	Promote access to rehabilitation	✓ To promote access to orthopaedic and physiotherapy services

S/N	Strategic priority	Strategic Objective
	services	and safety nets to enhance local integration into the communities
6	Enhance leprosy monitoring, supervision, evaluation, surveillance and research	✓ To strengthen monitoring, supervision, evaluation, surveillance and promote operational research
7	Strength Advocacy, Communication and Social Mobilization	✓ To increase awareness on leprosy among the general population and health workers in order to increase referrals, early diagnosis and treatment, and reduce stigma.

Time frame

The time frame for this plan covers a period of five (5) years (2014-2018) aligning it to the national health strategic plan and other international targets. It is subject to review after the proposed national Leprosy and TB review programme
The plan serves as tool for resource mobilization, coordination and increased partnership. More engagement with the County health authorities and the community is essential in the implementation of the plan. Further, integration with the Essential Package of Health Services (EPHS); particularly community health services is a priority for sustainability.

Chapter 11 Strategic interventions

Strengthen national commitment, ownership, advocacy, coordination and partnership

Strong national commitment is paramount to the control and elimination of leprosy. Areas of focus will include advocacy, coordination and collaboration with partners in order to raise the profile of leprosy in the country. In addition, mobilizing resource to sustain interventions and quality of services is critical.
Regular programme performance reviews should be prioritized and lessons learnt documented and disseminated to improve the programme and increase resource mobilization.

Increase Case finding and integration of leprosy services to the essential health services

Early diagnosis and adequate case management should be undertaken in the existing health facilities; with focus on primary level of care in the context of the essential package of health services. Early diagnosis and immediate MDT treatment is key to limit transmission of the disease and disability.
In this context, IEC and training activities should be undertaken to maintain a high leprosy suspicion index and diagnostic skills in the peripheral health workers.

Training of health workers in all public health facilities and selected private facilities as well as general Community Health Volunteers (gCHVs) will improve early diagnosis, referral and treatment.

Quality of care is a result of good diagnosis, treatment, reporting, supervision, follow up of patients and analysis of local trends (epidemiological trends).
Health workers will work with the community leaders and patients to ensure quality case management (immediate treatment, effective prevention of disability and regular intake of medications).

Integration of leprosy services in the essential package of health services especially community health services increases coverage, access and cost-effective interventions as well as accelerating sustainability.
In line with the decentralization strategy, there is need to actively involve the counties, districts and communities in leprosy control activities. Promotional materials and involvement of the general community volunteers will increase the scope of case detection and treatment.

Leprosy is classified among diseases that require innovative and intensified disease management for better prevention, control, elimination and subsequently, eradication. Thus, leprosy integration can occur at the community and operational levels and shares the same advocacy materials, community involvement and comprehensive Monitoring and Evaluation framework for all NTDs control activities.

Improve Case holding

Recruit and train at least two health workers/county, incentive field workers, train District Health Officers (DHOs) in leprosy case management, provide logistics for monitoring and supervision at the county level, implement performance based bonus for health workers and leprosy reporting and managing leprosy, train two (2) doctors at ALERT to manage leprosy related complications and provide logistical support and incentives for surgical outreaches. Improve capacity of Ganta Rehabilitation to undertake surgical management of leprosy cases.

Referrals centers

Leprosy cases are treated mainly at the primary level of care but those with complications or with disabilities will require more investigations and referral for relevant treatment. A referral mechanism should be established to address complicated cases from the communities. The two referral centers Ganta Rehabilitation Center and TB Annex Hospital will be upgraded through training of staff to manage complications due to leprosy.

Prevent/Minimize leprosy related disabilities

Sensitizing clients at health facilities and communities to reduce disabilities; strengthen follow up and practicing routine physical examinations to detect leprosy reactions are important. Clients in need of protective wear and physiotherapy will be assisted. Shoe makers will be trained to provide the protective foot wear.

Training of health care workers

Training of peripheral health workers will improve quality of leprosy services. Health workers will be trained in the diagnosis, treatment of cases and referral. In addition skills will be required for rehabilitation and effective communication to minimize stigma.
There will be provision for training in counseling, physiotherapy, and surgical care.

Rehabilitation and safety nets for local integration

At least 10% of leprosy patients have visible disabilities and some suffer stigma and social discrimination. Some patients will require physical, social and economic rehabilitation during or after their treatment. This envisages promotion of physical and socio-economic rehabilitation as well as stigma reduction for affected persons. Community engagement is key to reduction of stigma, thus community meetings,

production of messages against stigmatization will be produced for the electronic and print media.

One of the approaches to improve survival and location integration is to facilitate clients with income generating actions such as sewing, tie & dye, tailoring, farming etc.
Collaboration with local authorities and relevant sectors in necessary for implementation of these activities/

In order to aid mobility and prevent further disabilities among clients, support will be provided to renovate and equip orthopedic centers in Nimba, Grand Cape Mount, Maryland and Montserrado Counties.
Reconstructive surgery for clients with disabilities through improved skills and provision of equipment is necessary.

Supply of medicines, supplies and equipment

Free distribution of medicines is key in the control of the disease as well as programme success. WHO will continue to provide the MDT donations, and there should be drugs for management of side effects/leprosy reactions including basic supplies for management of disabilities.
The Ministry will allocate resources for non-specific medications to enhance treatment of drug reactions and disabilities. Integration of this process to the National Drug Service (NDS) and supply chain mechanism will ensure sustainability and reduce programme costs.

Outreaches to high burden counties

The geographical distribution of leprosy differs in many parts of the country though five counties are reported to have more cases. This calls for study on the spatial distribution of leprosy cases in the counties in order to identify areas/communities with more cases. Once colonies are identified community outreach services will be organized to the affected communities.

Outreaches should be carried out in the hard to reach areas especially in areas with inadequate access to health services. There is opportunity to implement this activity in the context of Neglected Tropical Diseases (NTDs).

Strengthen partnership and collaboration

Collaboration with the private sector is crucial to minimize gaps in service delivery. Training health workers in the private facilities will help in the diagnosis, referral and treatment of suspected cases. A public-private partnership for leprosy will also facilitate the improvement of the MDT services by ensuring availability and accessibility of services.

Monitoring and Evaluation

Regular monitoring is necessary for information sharing and documentation of success, lessons learnt and best practices. Main indicators to focus during monitoring will include the following:

- Number of new cases detected per 10,000 population;
- Number of new cases with grade 2 disability per 10,000 population;
- Proportion of MB among new cases;
- Proportion of children among new cases;
- Proportion of women among new cases;
- Proportion of new cases with grade 2 disability;
- Prevalence at the end of the year;
- Treatment completion/cure rate;
- Proportion of patients who develop new/additional disability during MDT, and
- Number of relapses.

New case detection rate will be used as proxy indicator for incidence and transmission of the disease among the general population but the proportion of children and forms of leprosy among new cases remain essential for MDT management. MDT regimens differ from adults and children and for MB and PB.

Integration of data of new cases into the health information system ensures sustainability. Data can be collected from the community and health facilities.
Simple data collection forms at the peripheral level (patient's identity, clinical status at diagnosis and conditions under treatment) will be relevant.
Consider quarterly review meetings for leprosy involving the counties authorities, partners and the private sector.

Surveillance and surveys

Systematic collection, analysis and dissemination of information for better assessment are important for all diseases including leprosy. Surveillance serves as alert mechanism prompting timely response and provides better understanding of the disease trends and programme impact (successes and failures).
Reporting forms should be analyzed appropriately and sudden variation in the number of new cases will call for an immediate action.

Leprosy survey (use of Leprosy Elimination Monitoring (LEM) protocol

This protocol will be used to assess the leprosy situation particularly in areas where the trend of the disease is increasing. The survey will focus on new case detection, quality and nature of detection activities, awareness and involvement of the communities.

Periodic surveys will be conducted in schools and affected communities to increase case finding, promote early treatment and reduce disabilities. Findings from these surveys will be verified by the programme.

Research

Research is critical to improve leprosy control activities in Liberia in order to identify innovative and cost-effective approaches.
Operational research is needed to understand the use and effectiveness of interventions in the field and to improve the delivery and quality (prevention and treatment) of interventions. This type of research aims to improve the performance of the program, quality of services, their acceptability, accessibility, effectiveness, efficiency and sustainability.

Advocacy, Communication and Social Mobilization (ACSM)

Increasing community awareness and sensitization on leprosy will decrease stigma and promote early case reporting. In this context, advocacy materials will be developed, disseminated and monitored. In addition, community meetings will be conducted with local leaders, women groups and religious and traditional leaders. There will be provision for survey on Knowledge Attitude, Behavior and Practice (KABP) to better understand community perspective on the disease.
Findings from the survey will be used to improve programmes and minimize stigma

Matrix of Activities

S/N	Strategic Priority	Strategic Objective	Activities	Indicators			Responsibility
1	Strengthen national commitment, ownership, advocacy, coordination and partnership	✓ To conduct regular programme performance reviews, document lessons learnt, strengthen coordination and foster partnership for leprosy at national and county levels	✓ Conduct advocacy meetings with national authorities and partners ✓ Conduct planning meetings with partners to fill critical programme and funding gaps ✓ Conduct annual performance reviews of the leprosy programme ✓ Document and share lessons learnt for information and resource mobilization ✓ Develop medium leprosy strategic plan and annual operational plan ✓ Increase allocation of	Indicator	Baseline (2013)	Target (2015)	MOH&SW/NLTCP
				✓ Report of stakeholders meeting available	0	1	
				✓ Annual performance review report available	0	1	

S/N	Strategic Priority	Strategic Objective	Activities	Indicators			Responsibility
			national budget for leprosy control activities				
2	Increase Case finding and ensure integration of leprosy services to the essential health services	✓ To promote early case detection from the general population and reduce grade two disabilities among leprosy related patients	✓ Conduct training of health workers in management of leprosy ✓ Conduct early case detection (including contact examination) ✓ Follow up new cases and their contacts ✓ Distribute guidelines to health workers for case finding ✓ Detect, manage and refer complicated cases of leprosy ✓ Plan programme management training for	✓ Number of health workers trained ✓ Number of leprosy cases referred ✓ Number of gCHVs trained	TBD Xx TBD	TBD TBD TBD	NLTCP/CHSWTs/Partners

S/N	Strategic Priority	Strategic Objective	Activities	Indicators			Responsibility
			national programme managers based on needs ✓				

S/N	Strategic Priority	Strategic Objective	Activities	Indicators			Responsibility
3	Improve Case holding for better treatment outcomes	✓ To increase coverage of leprosy services and improve treatment outcomes	✓ Provide quality MDT drugs and ensure adequate treatment ✓ Organize orientation of health workers on MDT and other essential medicines management ✓ Conduct TOT training on leprosy case management for County focal points and NLTCP staff ✓ Recruit and train field workers (2/county) ✓ Train DHOs on leprosy ✓ Procure two motorbikes per county for field workers ✓ Procure and distribute drugs for MDT drug reactions	✓ MB cure rate ✓ PB cure rate ✓ MDT coverage rate ✓ Defaulter rate ✓ Proportion of new cases among children ✓ Number of health workers ✓ Number of Doctors	Xx Xx Xx 64% 34% TBD	85% 95% 100% 5% 10% TBD	NLTCP/CHSWTs/Partners

S/N	Strategic Priority	Strategic Objective	Activities	Indicators			Responsibility
			✓ Develop and implement a strategy to cases in hard-to-reach communities ✓ Organize an integrated referral system for leprosy cases ✓ Provide logistics for monitoring leprosy control activities in the counties ✓ Implement performance based incentive scheme to improve performance and increase coverage of leprosy control activities ✓ Train 2 doctors in management of leprosy at ALERT. ✓ Train one (1) doctors in the surgical management of leprosy cases ✓ Equip Ganta rehabilitation	trained in management of leprosy)	0	3	

S/N	Strategic Priority	Strategic Objective	Activities	Indicators			Responsibility
			center to provide surgical services for leprosy cases ✓ Integrate MDT into the supply chain mechanism at the county level ✓ Finalize and disseminate tools for assessing the quality of leprosy activities in collaboration with NTDs and TB programme				
4	Prevent/Minimize leprosy related disabilities	✓ To reduce new impairment for patients on treatment in order to minimize leprosy related disabilities	✓ Carry out health education for clients and family supporters ✓ Conduct routine physical examination to detect leprosy reactions ✓ Procure dressing materials	✓ Number of patients identified with drug reactions ✓ Number of patients received	TBD TBD	TBD TBD	NLTCP/CHSWTs/Partners

S/N	Strategic Priority	Strategic Objective	Activities	Indicators			Responsibility
			for wound care ✓ Conduct follow up of cases at the community level ✓ Train 2 shoemakers ✓ Provide protective wear to clients in need ✓ Conduct training to select staff on physiotherapy ✓ Conduct physiotherapy to patients in need	protective wear ✓ Number of patients who received physiotherapy	TBD	TBD	
5	Promote access to rehabilitation services	✓ To promote access to orthopaedic and physiotherapy services and safety nets to enhance local integration into the communities	✓ Conduct monthly voluntary muscle testing and sensitivity testing ✓ Provide support for equipping rehabilitation center in Ganta ✓ Improve skills of 20 persons on innovative income generating	✓ Number of clients involved in income generating activities ✓ Number of staff trained on physiothera	TBD 45	TBD TBD	NLTCP/CHSWTs/Partners

S/N	Strategic Priority	Strategic Objective	Activities	Indicators			Responsibility
			activities ✓ Provide starter kits for income generating activities ✓ Conduct 3-month training of 45 health workers on physiotherapy and counselling ✓ Provide tools for physiotherapy ✓ Renovate orthopedic sites in 4 counties ✓ Provide equipment and supplies for the renovated orthopedic sites ✓ Conduct basic training on orthopedic equipment maintenance and repair	py ✓ Number of orthopedic centers renovated and equipped	4	TBD	
6	Enhance leprosy monitoring, supervision,	✓ To strengthen monitoring,	✓ Develop, print and disseminate integrated	✓ Monthly reports	3	36	NLTCP/CHSWTs/Partners

S/N	Strategic Priority	Strategic Objective	Activities	Indicators			Responsibility
	evaluation, surveillance and research	supervision, evaluation, surveillance and promote operational research	supervision and monitoring tools ✓ Conduct training on the integrated tools ✓ Conduct quarterly and annual data collection at country levels using the routine leprosy reporting forms ✓ Procure 3 vehicles for monitoring (1 per region) ✓ Evaluate programme performance ✓ Collate and analyze annual data ✓ Screen contacts of known leprosy cases ✓ Conduct monitoring and supervision of leprosy activities	available ✓ Monitoring reports available ✓ Evaluation report available ✓ Operational research report available	1 0 0	10 1 1	

S/N	Strategic Priority	Strategic Objective	Activities	Indicators			Responsibility
			✓ Integrate leprosy data into the Health Management Information System (HMIS) ✓ Conduct operation research especially KABP				
7	Strength Advocacy, Communication and Social Mobilization	✓ To increase awareness on leprosy among the general population and health workers in order to increase referrals, early diagnosis and treatment, and reduce stigma.	✓ Develop and disseminate advocacy (IEC/BCC) messages ✓ Air messages in 16 vernacular languages using radio and Television (where visible) ✓ Establish school health clubs with focus on Leprosy and other NTDs ✓ Commemorate World Leprosy Day (WLD) ✓ Establish community support groups	✓ Messages available ✓ Report of WLD activities available ✓ Number of community meeting ✓ Number of communities with support groups	0 0 0 0	1 1 1 TBD	NLTCP/CHSWTs/Partners

S/N	Strategic Priority	Strategic Objective	Activities	Indicators			Responsibility
			✓ Conduct quarterly meetings with patient support groups at the community level ✓ Conduct meetings with local and opinion leaders ✓ Conduct drama to raise awareness nationwide				

Timeline of Activities (Gantt chart)

S/N	Activity	2013				2014				2015			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1	***Objective 1: To conduct regular programme performance reviews, document lessons learnt, strengthen coordination and foster partnership for leprosy at national and county levels.***												
1.1	Conduct advocacy meetings with national authorities and partners												
1.2	Conduct planning meetings with partners to fill critical programme and funding gaps												
1.3	Conduct annual performance reviews of the leprosy programme												
1.4	Document and share lessons learnt for information and resource mobilization												
1.5	Develop medium leprosy strategic plan and annual operational plan												
1.6	Increase allocation of national budget for leprosy control activities												
2	***Objective 2: To promote early case detection from the general population and reduce grade two disabilities among leprosy related patients.***												
2.1	Conduct training of health workers in management of leprosy												
2.2	Conduct early case detection (including contact examination)												
2.3	Follow up new cases and their contacts												
2.4	Plan programme management training for national programme managers based on needs												
2.5	Conduct training of gCHVs on case finding, referral and community follow up.												
2.6	Map leprosy colonies and high endemic areas in collaboration with the counties												

S/N	Activity	2013				2014				2015			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
3	***Objective 3: To increase coverage of leprosy services and improve treatment outcomes.***												
3.1	Provide quality MDT drugs and ensure adequate treatment												
3.2	Organize orientation of health workers on MDT and other essential medicines management												
3.3	Conduct TOT training on leprosy case management for County focal points and NLTCP staff												
3.4	Recruit and train field workers (2/county)												
3.5	Train DHOs on leprosy												
3.6	Procure 2 motorbikes per county for field workers												
3.7	Procure and distribute drugs for MDT drug reactions												
3.8	Carry out outreach services to communities in hard-to-reach communities												
3.9	Organize an integrated referral system for leprosy cases												
	Provide logistics for monitoring leprosy control activities in the counties												
3.10	Implement performance based incentive scheme to improve performance and increase coverage of leprosy control activities												
3.11	Train 2 doctors in management of leprosy at ALERT												
3.12	Train one (1) doctors in the surgical management of leprosy cases												
3.13	Equip Ganta rehabilitation center to provide surgical services for leprosy cases												
3.14	Integrate MDT into the supply chain mechanism at the county level												
3.15	Finalize and disseminate tools for assessing the quality of leprosy activities in collaboration with NTDs and TB programme												
4	***Objective 4: To reduce new impairment for patients on treatment in order to minimize leprosy related disabilities.***												

S/N	Activity	2013				2014				2015			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
4.1	Carry out health education for clients and family supporters												
4.2	Conduct routine physical examination to detect drug reactions												
4.3	Procure dressing materials for wound care.												
4.4	Conduct follow up of cases at the community level												
4.5	Train 2 shoemakers												
4.6	Provide protective wear to clients in need												
4.7	Conduct training to select staff on physiotherapy												
4.8	Conduct physiotherapy to patients in need												
5	***Objective 5: To promote access to orthopaedic and physiotherapy services and safety nets to enhance local integration into the communities.***												
5.1	Conduct monthly voluntary muscle and sensitivity testing												
5.2	Provide support for equipping rehabilitation center in Ganta												
5.3	Improve skills of 20 persons on innovative income generating activities												
5.4	Provide starter kits for income generating activities												
5.5	Conduct 3-month training of 45 health workers on physiotherapy and counseling												
5.6	Provide tools for physiotherapy												
5.7	Renovate orthopedic sites in 4 counties												
	Provide equipment and supplies for the renovated orthopedic sites												
5.8	Conduct basic training on orthopedic equipment maintenance and repair												
6	***Objective 6: To strengthen monitoring, supervision, evaluation, surveillance and promote operational research.***												
6.1	Develop, print and disseminate integrated supervision and monitoring tools												
6.2	Conduct training on the integrated tools												

S/N	Activity	2013				2014				2015			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
6.3	Conduct quarterly and annual data collection at country levels using the routine leprosy reporting forms												
6.4	Procure 3 vehicles for monitoring(1 per region)												
6.5	Evaluate programme performance												
6.6	Collate and analyze annual data												
6.7	Screen contacts of known leprosy cases												
6.8	Conduct monitoring and supervision of leprosy activities												
6.9	Integrate leprosy data into the Health Management Information System (HMIS)												
6.10	Conduct operation research especially KABP												
7	***Objective 7: To increase awareness on leprosy among the general population and health workers in order to increase referrals, early diagnosis and treatment, and reduce stigma.***												
7.1	Develop and disseminate advocacy (IEC/BCC) messages												
7.2	Air messages in 16 vernacular languages using radio and Television (where visible)												
7.3	Establish school health clubs with focus on Leprosy and other NTDs												
7.4	Commemorate World Leprosy Day (WLD)												
7.5	Establish community support groups												
7.6	Conduct quarterly meetings with patient support groups at the community level												
7.7	Conduct meetings with local and opinion leaders												
7.8	Conduct drama to raise awareness nationwide												

Chapter 12 Sustainability and implementation arrangements

7.1 Sustainability

There are concerns about the sustainability of the leprosy programme as most of the donor support is towards communicable disease prevention and control, maternal and child health, and health systems strengthening. Successful implementation of this strategic plan is expected to result in decline of new cases of leprosy.
Continued optimal funding and technical support are two main factors which will be needed for effective implementation of the plan.
Other contributing elements are staff mainly at the peripheral level including general community volunteers, logistics for monitoring and supervision and facilities for physical and socio-economic rehabilitation.

Launch of this plan is expected to catalyze and galvanize partnership, all contributing to increased resource mobilization. In addition to traditional partners (GLRA and WHO), more agencies and the private sector will be engaged to support leprosy interventions; with the view of accelerating the country towards pre-elimination and elimination of the disease.
Integration services in the context of the essential package of health services and participation are driving factors for sustainability.
Principally, sustainability is assured by making sure that accessible and uninterrupted MDT services is available to all patients through flexible and patient-friendly drug delivery systems; integrating leprosy services into the general health services and building the ability of general health workers to treat leprosy; encouraging self-reporting and early treatment by promoting community awareness and changing the image of leprosy; and monitoring the performance of MDT services, the quality of patients' care and the progress being made towards elimination through national disease surveillance systems.
Increased empowerment of people affected by the disease, together with their greater involvement in services and community, will accelerate the reduction of leprosy burden in the country.

Implementation Arrangements

This plan will be implemented jointly by the Ministry of Health, National Leprosy and TB control program and the County Health and Social Welfare Teams (CHWSTs). It covers a period of three years from 2013 to 2015 synchronizing it with the national health plan and millennium development goals
These management arrangements are listed to ensure that the project is implemented timely, coverage increased and quality of services delivered.

Chapter 13 Role of the Programme and partners

- ✓ The Ministry of Health through the NLTCP will provide the overall oversight in the implementation, while CHSWTs are direct providers of services
- ✓ International partners will provide financial and technical support
- ✓ WHO will be supplying MDT drugs in addition to technical support to the program
- ✓ Public and private facilities will be involved in the diagnosis, treatment and rehabilitation of cases
- ✓ Partners will be involved in monitoring, assessment and evaluation of the program
- ✓ At the moment, the exact burden of leprosy is unknown; data will be required to measure progress against targets. Some assessments will be needed to establish the magnitude of disability caused by leprosy
- ✓ Monitoring of the programme will be done quarterly by the programme and monthly by the CHSWTs.
- ✓ Through monthly and quarterly meetings and supervisory reports, progress reports will be discussed
- ✓ Annual reviews of the programme will be conducted in collaboration with partners. Feedback will be provided to all stakeholders.

Budget

S/N	Objective	Activity	Resources required	Quantity	Unit cost (US$)	Freq.	Total Cost (US$)
1	Objective 1: To conduct regular programme performance reviews, document lessons learnt, strengthen coordination and foster partnership for leprosy at national and county levels	Conduct advocacy meetings with national authorities and partners	Hall rental and refreshment	50 persons	5/person	4	1,000
		Conduct planning meetings with partners to fill critical programme and funding gaps	Hall rental and refreshment	30 persons	5/person	3	450
		Conduct annual performance reviews of the leprosy programme	Logistics, Fuel, DSA, Review tools and Review report	5 vehicles 750 gallons of fuel DSA for 10 staff DSA for 5 drivers Printing tools & report	500 for vehicle maintenance 5/gallon of fuel 75 x 10 for 7 days 40 x 5 for 7 days 500 for printing tools & report	1 1 1 1 1	500 3,750 5,250 1,400 500
		Document and share lessons learnt for information and resource mobilization	Hall rental, refreshment	50 persons	5/person	1	1,000
		Develop medium leprosy strategic plan and annual operational plan	Hall rental, refreshment	25 persons	5/person	3	375
		Increase allocation of national budget for leprosy control activities	None	None	None		0
		Sub-total					***14,225***
2	Objective 2: To promote early case detection	Conduct training of health workers in management of leprosy	Hall rental, DSA, logistics, fuel & printing cost	3 vehicles 200 gallons of fuel DSA for 12 staff DSA for 3 drivers	300 for vehicle maintenance 5/gallon of fuel 75 x 12 for 5 days	3 3 3	900 3,000 13,500

S/N	Objective	Activity	Resources required	Quantity	Unit cost (US$)	Freq.	Total Cost (US$)
	from the general population and reduce grade two disabilities among leprosy related patients			Printing costs	40 x 3 for 5 days 500 for printing	3 1	1,800 500
		Conduct early case detection (including contact examination)	Logistics and Allowances	17 motorcycles 450 gallons of fuel Allowance for 100 staff	50 for motorcycle maintenance 5/gallon of fuel 5/staff	24 mons 24 mons 24 mon	20,400 54,000 12,000
		Follow up new cases and their contacts	Logistics and Allowances	200 bicycles for gCHVs Allowances for 200 gCHVs	150/bicycle 5/persons	1 24 mons	30,000 24,000
		Plan programme management training for national programme managers based on needs	Funds for training	5 persons	7,000 (external training)	1	35,000
		Conduct training of gCHVs on case finding, referral and community follow up.	DSA, Logistics, fuel. Hall rental and refreshment	3 vehicles 450 gallons of fuel DSA for 6 staff DSA for 3 drivers Refreshment for 1,100 persons and hall rental in 15 counties	300 for vehicle maintenance 5/gallon of fuel 75 x 6 for 15 days 40 for 4 for 15 days 5 for 1100 x 2 days 200 x 15 for 2 days	1 1 1 1 1 1	300 2,250 6,750 2,400 11,000 6,000
		Map leprosy colonies and high endemic areas in collaboration with the counties	Logistics and allowance	15 motorcycles 500 gallons of fuel Allowance for 45 staff	50 for motorcycle maintenance 5/gallon of fuel 5/staff for 30 visits	1 1 1	750 2,500 6,750
		Sub-total					***233,800***

S/N	Objective	Activity	Resources required	Quantity	Unit cost (US$)	Freq.	Total Cost (US$)
3	Objective 3: To increase coverage of leprosy services and improve treatment outcomes	Provide quality MDT drugs and ensure adequate treatment	Funds for drugs	Lump sum	50,000/ year	3	150,000
		Organize orientation of health workers on MDT and other essential medicines management	DSA, facilitation fee, hall rental and refreshment	2 vehicles 100 gallons of fuel DSA for 45 staff Transport re-imbursement for 45 staff DSA for 2 drivers DSA for 4 facilitators Facilitation fee Refreshment for 50 persons Hall rental	200 for vehicle maintenance 5/gallon of fuel 50 x 45 x 3 days 45 x 40 (transport 40 x 2 x 3 days 75 x 4 x 3 days 200 x 3 days (facilitation fee) 5/person x 3 days (refreshment) 175 x 3 days	1 1 1 1 1 1 1 1	200 500 6,750 1,800 240 900 600 750 525
		Conduct TOT training on leprosy case management for County focal points and NLTCP staff	Refreshment, hall rental and DSA for county staff	Refreshment for 30 persons Transport re-imbursement for 20 county staff DSA for 20 persons Hall rental	5/person for 3 days 40/persons 50 x 20 x 3 days 175 x 3 days	1 1 1 1	450 800 3,000 525
		Recruit and train field workers (2/county)	Salary and funds for training	Recruit 17 county field workers Lump sum	300 x 17 x30 months 10,000	1 1	153,000 10,000
		Train DHOs on leprosy	Transport re-imbursement, DSA, logistics and fuel	40 x 90 (transport) DSA: 50 x 90 x 2 days 200 vehicle	40 x 90 DHOs 50 x 90 x 2 days 200 vehicle	1 1 1	3,600 9,000 200

S/N	Objective	Activity	Resources required	Quantity	Unit cost (US$)	Freq.	Total Cost (US$)
				2 vehicles 100 gallons for fuel DSA for 4 facilitators	maintenance 5/gallons of fuel 75 x 4 x 2 days	 1 1	 500 600
		Procure and distribute drugs for MDT drug reactions	Funds for drugs	Lump sum	10,000	3	30,000
		Carry out outreach services to communities in hard-to-reach communities	Logistics and allowances	500 gallons of fuel Allowance for 200 staff	5 x 500x 10 rounds 5 x 200 x 10	1 1	25,000 10,000
		Organize an integrated referral system for leprosy cases	Fuel for ambulances	3000 gallons for ambulance/year	5 x 3000 x 3 years	1	45,000
		Provide logistics for monitoring leprosy control activities in the counties	Vehicles, motorcycles and fuel	3 vehicles 750 gallons (vehicles)/quarter 1000 gallons (motorcycles).quart.	300 maintenance cost 750 x 5 x 10 1000x 5 x 10	1 1 1	300 37,500 50,000
		Implement performance based incentive scheme to improve performance and increase coverage of leprosy control activities	Funds	Lump sum	50,000	3	150,000
		Train two (2) doctors in the surgical management of leprosy cases	Funds	Lump sum	15,000	1	15,000
		Equip Ganta rehabilitation center to provide surgical services for leprosy cases	Funds	Lump sum	100,000	1	100,000
		Integrate MDT into the supply chain mechanism at the county level	None	None			0

S/N	Objective	Activity	Resources required	Quantity	Unit cost (US$)	Freq.	Total Cost (US$)
		Finalize and disseminate tools for assessing the quality of leprosy activities in collaboration with NTDs and TB programme	Funds	Lump sum	5,000	1	5,000
		Sub-total					***853,030***
4	Objective 4: To reduce new impairment for patients on treatment in order to minimize leprosy related disabilities	Carry out health education for clients and family supporters	Funds for production of messages	Lump sum	15,000	1	15,000
		Conduct routine physical examination to detect drug reactions	Allowances	Lump sum	10,000	1	10,000
		Conduct follow up of cases at the community level	Allowances	Lump sum	25,000	1	25,000
		Provide protective wear to clients in need	Funds	Lump sum	35,000	1	35,000
		Conduct training to select staff on physiotherapy	Funds	Lump sum	25,000	1	25,000
		Conduct physiotherapy to patients in need	Allowances	Lump sum	20,000	1	20,000
		Sub-total					***130,000***
5	Objective 5: To promote access to orthopaedic and physiotherapy services and safety nets to enhance	Conduct quarterly voluntary muscle and sensitivity testing	Allowance	Lump sum	15,000	1	15,000
		Provide support for equipping rehabilitation center in Ganta	Funds	Lump sum (Activity 3.12)			0
		Improve skills of 20 persons on innovative income generating activities	Funds for training	Lump sum	25,000	1	25,000
		Provide starter kits for income generating activities	Funds for equipment/machines and seed money	Lump sum	100,000 (equipment/machines)	1	100,000

S/N	Objective	Activity	Resources required	Quantity	Unit cost (US$)	Freq.	Total Cost (US$)
	local integration into the communities				75,000 seed money	1	75,000
		Conduct 3-month training of 45 health workers on physiotherapy and counseling	Funds for training	Lump sum	30,000	1	30,000
		Provide tools for physiotherapy	Funds for tools/equipment	Lump sum	75,000	1	75,000
		Renovate orthopedic sites in 4 counties	Funds for renovation	Lump sum	120,000	1	120,000
		Provide equipment and supplies for the renovated orthopedic sites	Funds for equipment	Lump sum	200,000	1	200,000
		Conduct basic training on orthopedic equipment maintenance and repair	Funds for training	Lump sum	5,000	1	5,000
		Sub-total					***645,000***
6	Objective 6: To strengthen monitoring, supervision, evaluation, surveillance and promote operational research.	Develop, print and disseminate integrated supervision and monitoring tools	Funds for printing tools	Lump sum	7,500	1	7,500
		Conduct training on the integrated tools	Hall rental, refreshment. DSA, fuel and vehicles	175 x 2 days (rental) Refreshment for 200 staff 2 vehicles DSA for 4 staff DSA for 2 drivers 100 gallons of fuel	175 x 2 days 5 x 200 x 2 days 200 for vehicle maintenance 75 x 4 x 3 days 40 x 2 x 3 days 5 x 500 (fuel)	1 1 1 1 1 1 1	350 2,000 200 900 240 2,500
		Conduct quarterly and annual data collection at country levels using the routine leprosy reporting forms	Funds for printing tools and purchase of computers	Lump sum	15,000	1	15,000
		Evaluate programme performance	Funds	Lump sum	30,000	1	30,000
		Collate and analyze annual data	Funds	Lump sum	5,000	1	5,000

S/N	Objective	Activity	Resources required	Quantity	Unit cost (US$)	Freq.	Total Cost (US$)
		Screen contacts of known leprosy cases	Allowances	Lump sum	20,000	1	20,000
		Conduct monitoring and supervision of leprosy activities	Vehicles, Motorcycles, fuel and DSA	3 vehicles 15 motorcycles 500 gallons (vehicles) 1500 gallons (motorcycles) DSA for 6 officers DSA for 3 drivers	300 vehicle maintenance 5 x 500 x 10 quarters 5x 1500 x 10 quarters 75 x 6 x 10 days 40 x 2 x 10 days	1 1 1 1 1	300 25,000 75,000 4,500 800
		Integrate leprosy data into the Health Management Information System (HMIS)	Funds	Lump sum	5,000	1	5,000
		Conduct operation research especially KABP	Funds	Lump sum	75,000	2	150,000
		Sub-total					***344,290***
	Objective 7: To increase awareness on leprosy among the general population and health workers in order to increase referrals, early	Develop and disseminate advocacy (IEC/BCC) messages	Funds for development, printing and copying messages	Lump sum	25,000	1	25,000
		Air messages in 16 vernacular languages using radio and Television (where visible)	Funds for airing messages	Lump sum	60,000	1	60,000
		Establish school health clubs with focus on Leprosy and other NTDs	Funds	Lump sum	15,000	1	15,000
		Commemorate World Leprosy Day (WLD)	Funds	Lump sum	10, 000/year	3	30,000
		Establish community support groups	Funds	Lump sum	15,000	1	15,000
		Conduct quarterly meetings with	Funds	Lump sum	20,000	1	20,000

S/N	Objective	Activity	Resources required	Quantity	Unit cost (US$)	Freq.	Total Cost (US$)
	diagnosis and treatment, and reduce stigma.	patient support groups at the community level					
		Conduct meetings with local and opinion leaders	Funds	Lump sum	15,000	1	15,000
		Conduct drama to raise awareness nationwide	Funds	Lump sum	25,000	1	25,000
		Sub-total					***205,000***
		Grand Total					**2,425,345**