

REPUBLIC OF NAMIBIA

**Ministry of Health and Social Services**

**SECOND MEDIUM TERM STRATEGIC PLAN  
FOR TUBERCULOSIS AND LEPROSY**

**(2010-2015)**

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# FOREWORD

Despite the progress made during the implementation of the first medium-term plan for tuberculosis control (TB MTP-I, 2004-2009), tuberculosis (TB) remains a communicable disease of major public health concern in Namibia. In addition to its direct contribution to morbidity and mortality, TB also has a negative socio-economic impact on individuals, families and society at large since it primarily affects the economically productive age groups. The existing high prevalence of TB and Human Immunodeficiency Virus (HIV) co-infection further aggravates this situation.

The National Tuberculosis and Leprosy Programme (NTLP) has made significant strides in TB and leprosy control owing to investments in human resources (including lay care providers such as TB field promoters), infrastructure development and rigorous monitoring and evaluation. Collaboration through the involvement of a wide range of care providers have been established and resources are being channelled towards strengthening and expanding the response to the two diseases. While a strong foundation has been laid with the implementation of TB MTP-I, acceleration and expansion of efforts is required to sustain and consolidate this response in Namibia. Encouragingly, significant milestones have been achieved with regard to key TB indicators such as case-detection and treatment success rates. The cases detection rate was estimated to be 84% in 2007 while the treatment success rate for new smear positive TB cases started on treatment in 2008 was 82%. While there has been a consistent decrease in reported TB cases since 2004, it is noteworthy that Namibia still has an alarmingly high incidence of TB: the 2009 World Health Organization (WHO) *Global Tuberculosis Report* recorded Namibia as having the fourth highest TB incidence rates in the world.

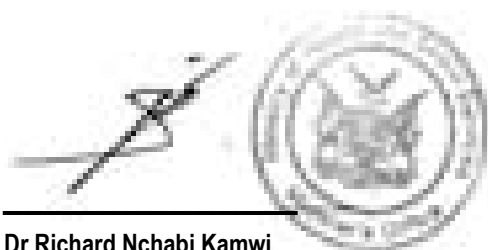
Namibia is also facing a growing challenge of drug-resistant TB, with alarming numbers of multi-drug resistant (MDR) and extensively drug resistant (XDR) TB cases being reported from all regions in the country. The difficulties and expenses associated with treatment and management of drug-resistant TB more than justify the importance of ensuring that the development of resistance to TB medicines is avoided at all cost. Furthermore, it is important to also make sure that the spread of TB is minimised, particularly in health care settings where many patients with infectious TB are found.

After a period of relative quiescence, cases of leprosy have started to be reported in the country, especially in Kavango and Caprivi regions. A 2008 WHO led assessment found 12 new multi-bacillary leprosy cases and a backlog of old leprosy patients who required continuing rehabilitation and care for leprosy-associated disabilities in the two regions. In the absence of a reliable surveillance system, the situation in the rest of the country is unknown. It is critical to maintain the elimination status Namibia already achieved and move towards leprosy eradication.

The second medium-term plan for TB and leprosy (2010-2015) (TBL MTP-II), developed in consultation with relevant stakeholders, highlights the key strategic approaches towards achieving TB and leprosy targets in Namibia. The plan is in line with the WHO's Global Stop TB Strategy and the Enhanced Global Strategy for Further Reducing the Disease Burden due to Leprosy (2011-2015). The plan contributes to the Global Plan to Stop TB, 2006-2015, through focusing on issues and challenges most relevant to our country. It also contributes to the international goal of leprosy elimination by striving towards leprosy eradication in Namibia. It sets out the actions as well as resources required over the next 5 years to accelerate progress in this regard. The plan also outlines the role that various national and international stakeholders can and should play in supporting Namibia in the implementation of the envisaged interventions.

The development of this TBL MTP-II is an opportunity to consolidate the significant gains in the fight against TB realised at the end of the first strategic plan, and to lay down strategic focus for the eradication of leprosy in the country. It also aims to further entrench programmatic management of drug resistant TB (PMDT) and implementation of TB/HIV collaborative activities and interventions into the national response. To achieve the strategic results and outcomes specified in this strategic plan, increased human and financial resources and close collaboration between government ministries and departments, non-governmental organisations, civil society and development partners will be critical. I am confident all regions and partners will find this strategic plan very useful in designing their own annual plans for TB control respectively.

I therefore call upon all players from within and outside the health sector to support this plan. Let us unite in the fight against TB, one of the major health and developmental challenges in our country, and let us bring to an end the unacceptable lingering scourge of leprosy, an age old disease that we can eradicate in our life time.



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**Dr Richard Nchabi Kamwi**  
**Minister**

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# PREFACE

It is estimated that one-third of the world's population is infected by the bacterium that causes TB, and that two million people die from TB disease every year. Poverty has always been and still is a major contributing factor to the spread of infection and the emergence of TB disease in those who are infected. More recently, HIV has become a major driving force of the TB epidemic worldwide.

With a case notification rate of 665 cases per 100,000 inhabitants in 2008<sup>1</sup> Namibia continues to have a TB problem of epidemic proportions. Coupled with widespread poverty and high TB/HIV co-infection, TB has become the single most common and deadly infectious disease among the poor and persons living with HIV among whom it has continued to spread. The majority of our TB patients are thus trapped in a vicious cycle of poverty, TB and HIV/AIDS.

The National Tuberculosis and Leprosy Programme (NLP)<sup>2</sup> adopted the WHO's Directly Observed Treatment – Short Course (DOTS) strategy in 1991 and reached country wide geographical coverage by 1996. Despite significant progress, many problems still persist, such as patient default and loss to follow up, late presentation and diagnosis, increasing incidence of drug resistant TB, and high TB/HIV co-morbidity leading to high mortality rates. Inadequate human resources for health, upon which the TB programme depends, limited access to health services due to vastness of the country, and inadequate health infrastructure all pose significant constraints to service delivery. There is also incomplete data on the true extent of the leprosy problem in the country.

This strategic plan is therefore designed to overcome some of these challenges and help Namibia's progress towards international TB control and leprosy eradication targets. It aims at increasing access to TB and leprosy diagnosis and provision of comprehensive high quality treatment services for TB and leprosy patients across the country. The plan also aims to improve health-seeking behaviour among people with TB, TB/HIV and leprosy. Investment in human resources for health will improve the management capacity of the health system at all levels, while partnerships with the private and other collaborating sectors will be created and strengthened to broaden the alliance for halting the two diseases. Provided that adequate human and financial resources are available, the plan will result in a rational and effective approach to the control of TB and eradication of leprosy in the country.

The Ministry would like to thank all stakeholders who provided valuable inputs for the conceptualisation and finalisation of this plan. The Ministry would like to specially thank the WHO's Regional Office for Africa and KNCV Tuberculosis Foundation through their country offices in Namibia for providing technical assistance during all stages of the formulation of this important document.

  
  
**DR NORBERT FORSTE**  
Deputy Permanent Secretary

<sup>1</sup> MOHSS, 2009. National Tuberculosis and Leprosy Control Programme 2008/09 Annual Report

<sup>2</sup> The programme has been re-named to reflect the strategic focus on TB control and leprosy eradication

# EXECUTIVE SUMMARY

## **Background:**

The first tuberculosis Medium-term Plan (2004-2009) came to an end in March 2010 following its extension by one year as a result of the late commencement of its implementation. The evaluation of the progress made during the implementation of this plan identified and noted that significant progress had been made in TB control. It also noted that despite this progress the country still has a huge TB burden which has been exacerbated by the emergence of drug-resistant TB and the high TB/HIV co-infection rate. It also highlighted some of the challenges that the country was facing as far as some opportunities for sustaining and scaling up the current efforts for the control of TB in the country.

A leprosy screening exercise was conducted in the known endemic regions of Kavango and Caprivi. This exercise revealed that despite the country achieving the leprosy elimination target of less than one case per 10,000 people; pockets of the disease still exist in the two regions. There is therefore need to revamp the efforts to eradicate leprosy in the country and also put in place rehabilitation systems for affected patients.

## **Institutional Framework:**

The NTLP in the Directorate of Special Programmes (DSP) is responsible for the overall coordination of TB and leprosy activities in the country. To improve the focus on the management of leprosy a new position of Leprosy Coordinator will be created at national level. Similarly the currently partner-funded positions of a DR-TB Coordinator, Monitoring and Evaluation Officer, TB Infection Control Officer, ACSM officer and Community TB Care Officer, and Data Clerk will be systematically transformed into a full-time government funded positions. The chief medical officer and the Health Programme Administrators are responsible for coordination of TB, leprosy, HIV and malaria services in the regions. There is however no substantive regional TB and leprosy coordinator (RTLTC) and this plan proposes to create this position to ensure an effective and well coordinated regional response to TB and leprosy. Similarly this plan proposes the creation of the post of District TB and Leprosy Coordinator (DTLC) to replace the non-substantive entry-level nurses working in this capacity.

The NTLP will continue to work with a number of national and international partners including, but not limited to, other government departments, WHO, CDC, USAID, THE UNION, UNAIDS, KNCV Tuberculosis Foundation, GFATM, MSH and The Leprosy Mission International (TLMi).

## **Strategic focus:**

The vision of this plan is *“A Namibia where tuberculosis and leprosy are no longer a public health threat”* and the mission statement is *“Provision of high quality tuberculosis and leprosy prevention, diagnosis, treatment and care services with focus on universal access, equity for all those at risk and responsiveness to emerging challenges in the context of the Namibia Ministry of Health and Social Services Strategic Plan 2009-2013 and the Millennium Development Goals”*. The plan comprises six strategic results based principally on the Stop TB Strategy and the Enhanced Global Strategy

for Further Reducing the Disease Burden due to Leprosy. The goal is *“To reduce TB prevalence and mortality rates by 50% relative to 1990 levels, and to eradicate leprosy in Namibia by 2015”*.

**Implementation, Monitoring and Evaluation:**

The NTLP will spearhead the implementation of this plan. TB/HIV collaborative activities will be jointly implemented and monitored under the stewardship of the TB/HIV Technical Working Group. While the leprosy initiatives will mainly be confined to the known endemic regions of Kavango and Caprivi, there will be deliberate national surveillance efforts to validate the current status of Namibia as one of the countries that have reached leprosy elimination status. Periodic and ongoing technical assistance will be sourced to support programme implementation. The Monitoring and Evaluation Plan 2009-2011 will be revised to align it with this plan and will be modelled along the Monitoring and Evaluation Framework included in this plan. The country will also track progress towards the attainment of the Millennium Development Goals (MDGs).

**Conditions for success:**

The success of this plan will depend heavily upon the availability of the requisite financial and human resources. While there have been deliberate attempts to integrate TB and leprosy services into the general health services, the magnitude of the TB and TB/HIV burden requires a significant and focused investment into TB and leprosy activities.

# LIST OF ABBREVIATIONS

ACSM	advocacy, communication and social mobilisation
AIDS	acquired immunodeficiency syndrome
ART	antiretroviral therapy
ARV	antiretroviral medicine
C/DST	Culture and drug-susceptibility testing
CCRC	Central Clinical Review Council
CDC	United States Centres for Disease Control and Prevention
CHC	community health committee
CMO	chief medical officer
CMS	central medical stores
COMBI	Communication for Behavioural Impact
CPT	co-trimoxazole preventive therapy
DCC	district coordinating committee
DHS	demographic and health survey
DOTS	Directly-observed Therapy Short-course
DPS	disease prevalence survey
DR-TB	drug-resistant tuberculosis
DSP	Directorate of Special Programmes
DST	drug susceptibility testing
DTLC	district tuberculosis and leprosy coordinator
ENARC	Expanded National AIDS Response Coordination
EQA	external quality assurance
FBO	faith-based organisation
FDC	fixed-dose combination
GDP	gross domestic product
GFATM	Global Fund Against AIDS, TB and Malaria
GLC	Green Light Committee
GRN	Government of the Republic of Namibia
HAART	highly active antiretroviral therapy
HBC	home-based care
HCT	HIV counselling and testing
HIV	human immunodeficiency virus
HR	human resources
HRD	human resource development
ICF	intensified case finding
IEC	information, education and communication

IPT	isoniazid preventive therapy
ISTC	International Standards of Tuberculosis Care
IQA	internal quality assurance
ITECH	International Training and Education Center for Health
IUATLD	International Union Against Tuberculosis and Lung Diseases (The Union)
KAP	knowledge, attitude, practices
KNCV	Royal Netherlands Tuberculosis Association
LPA	line-probe assay
M&E	monitoring and evaluation
MDG	Millennium Development Goals
MDR-TB	multidrug-resistant tuberculosis
MoD	Ministry of Defence
MoHSS	Ministry of Health and Social Services
MoSS	Ministry of Safety and Security
MoU	memorandum of understanding
MSH	Management Sciences for Health
MTP	medium-term plan
NABCOA	Namibia Business Coalition on HIV/AIDS
NACOP	National AIDS Control Programme
NDF	Namibia Defence Force
NIP	Namibia Institute of Pathology
NSC	National Steering Committee
NSF	national strategic framework
NSN	new smear negative
NSP	new smear positive
NTLP	National Tuberculosis and Leprosy Programme
OPD	Out-patient department
OR	operational research
PAL	Practical Approach to Lung Health
PEPFAR	United States President's Emergency Fund for AIDS Relief
PHC	primary health care
PITC	provider initiated HIV testing and counselling
PLHIV	people living with HIV
PMDT	programmatic management of drug-resistant tuberculosis
PMID	prevention and management of impairment and disability
PMO	principal medical officer
PPM	public-private mix
PRN	principal registered nurse
PSM	pharmaceutical and supplies management
QSL	quality surveillance laboratory
RCC	Rolling Continuation Channel (one of the GFATM funding mechanisms)
RTLCL	regional tuberculosis and leprosy coordinator

SHPA	senior health programme administrator
SNRL	supra-national reference laboratory
STI	sexually transmitted infections
TAT	turn-around time
TB	tuberculosis
TB/HIV	HIV-related tuberculosis
TB-IC	tuberculosis infection control
TBL MTP-II	the second medium-term plan for tuberculosis and leprosy, 2010-2015
TLMI	The Leprosy Mission International
UVGI	ultraviolet germicidal irradiation
UNAIDS	The Joint United Nations Programme on HIV/AIDS
UNDP	United Nations Development Programme
USAID	United States Agency for International Development
WHA	World Health Assembly
WHO	World Health Organisation
XDR-TB	extensively drug-resistant tuberculosis

# CHAPTER 1

## BACKGROUND

### 1.1 Introduction

The tuberculosis (TB) and leprosy programme in Namibia is part of the broader framework of the Primary Health Care (PHC) approach adopted by the Ministry of Health and Social Services at independence for delivering equitable and sustainable health care. Contextual factors such as geography, demography, economic and social development as well as various government policy frameworks are significant determinants for equitable, efficient and effective provision of TB and leprosy prevention, treatment and care services in Namibia.

### 1.2 Country profile

#### 1.2.1 Geography and demography

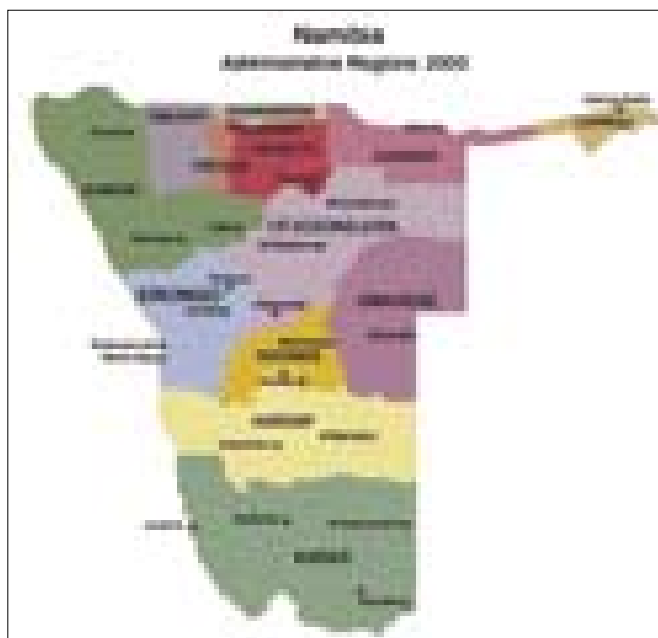
Namibia lies in the south-western part of Africa and is bordered by the Atlantic Ocean, Angola, Zambia, Zimbabwe, Botswana and South Africa as shown in *Figure 1* below. The country has a surface area of 824,295 square kilometres, making it Africa's fifth largest country.

Figure 1: Map showing the countries bordering Namibia



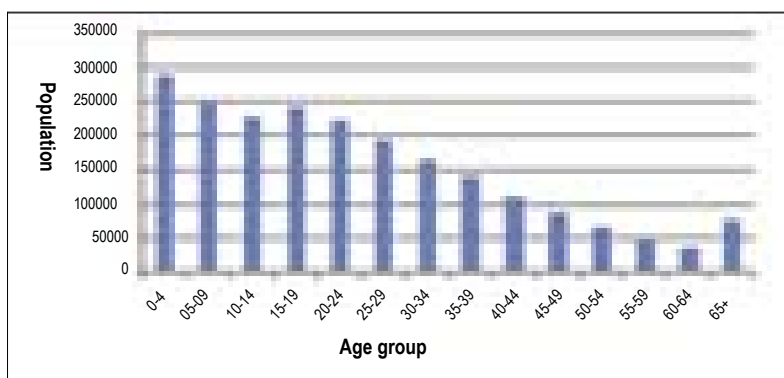
Based on the 2001 national census and a population growth rate of 2.6% per annum, the population of Namibia is estimated to be 2,143,410 in 2010 and is expected to reach 2,354,992 by 2015<sup>3,4</sup>. Namibia is divided into the 13 administrative regions shown in *Figure 2* below. The country's population is ethnically and culturally diverse, with eleven major language groups. Sixty-seven percent (67%) of the population lives in communal and commercial farming areas while thirty-three percent (33%) reside in urban areas.

**Figure 2: Map showing the main regions and administrative boundaries of Namibia**



The distribution of the population across the country is not uniform, with sixty percent (60%) living in the northern part of the country where rainfall patterns and river distribution are conducive for agriculture. 7% of the population live in the dry and desert areas in the southern part of the country while 33% live in the central highlands. The low population density poses challenges to the government in providing accessible services, including primary health care services to the population, within the limited resources available. Life expectancy at birth was estimated to be 58 years for males and 61 years for females in 2007<sup>5</sup>. *Figure 3* shows the projected distribution of the population by age group based on the 2001 census.

**Figure 3: Projected age distribution of the population for 2011 based on the 2001 census**



<sup>3</sup> Population Projections 2001-2031; National and Regional Figures. National Planning Commission, 2006

<sup>4</sup> These estimates represent the medium variant. The lower variant estimates for 2010 and 2015 are 2,119,973 and 2,291,836 respectively; while the upper variants are 2,185,625 and 2,431,934 respectively

<sup>5</sup> <http://www.who.int/gho/countries/nam.pdf>

### **1.2.3 Economy and Development**

According to UNDP, Namibia had a Gross Domestic Product (GDP) of 5,155 US\$ per capita in 2007<sup>6</sup> and the World Bank ranks Namibia as an upper-middle income economy. This ranking however conceals the marked socioeconomic disparities in the population (Gini-coefficient = 0.6)<sup>7</sup>. 4.9% of Namibia's GDP in 2006 was spent on health<sup>8</sup>.

The majority of the population engages in low-productivity subsistence agriculture (28% depend on farming) and informal employment, while nearly one-third (31%) were unemployed in 2001. Poverty affects a large proportion of the population and combined with overcrowding and poorly ventilated accommodation, provides fertile ground for the spread of communicable diseases such as TB.

## **1.3 Health sector**

### **1.3.1 Health Policy**

The PHC approach guides the formulation and development of health policies in Namibia. The MoHSS Strategic Plan 2009-2013 highlights the centrality of quality, equity, accessibility, affordability and sustainability of health and social services as well as the public-private partnerships in health care. The Strategic Plan also highlights TB as a health priority, emphasizing the importance of focusing on reducing and eventually eliminating the disease along with HIV and malaria.

The MoHSS Strategic Plan further highlights the importance of improving service provision, reviewing and improving human resource management, defining and implementing an infrastructure development and management strategy, addressing governance issues and redressing financial deficit and management issues; issues that are also at the heart of improving the TB and Leprosy Programme in the country. This is critical for sustainability, effectiveness, equitability and efficiency of the TB and Leprosy Programme especially on the backdrop of evidence that the public health sector has suffered high levels of attrition of staff over the past decade and continued heavy reliance on external funding<sup>9</sup>.

### **1.3.2 The Health System**

After the attainment of political independence, Namibia created an integrated national health service with four levels of care (national, regional, district and community). The MoHSS has in turn decentralized authority to thirteen Regional Health Directorates and 34 Health Districts in order to improve management and service provision. The TB and Leprosy Programme operates within this hierarchical management framework.

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<sup>6</sup> <http://hdr.undp.org/en/statistics>

<sup>7</sup> <http://web.worldbank.org>

<sup>8</sup> <http://www.who.int/countries/nam/en/>

<sup>9</sup> Health and Social Services Review. MOHSS, 2008.

**Table 1: Distribution of hospitals, clinics and laboratories in Namibia, 2009**

Region	Projected Population (2010)	Number of Hospitals	Number of Hospital Beds	Number of Health Centres	Number of Clinics	Labs with TB smear microscopy
Caprivi	88,084	1	224	4	25	1
Erongo	113,573	6	611	2	15	3
Hardap	71,995	2	379	3	11	3
Karas	73,135	3	468	3	13	3
Kavango	265,373	4	825	7	46	4
Khomas	336,617	5	1,781	2	7	1
Kunene	76,598	3	290	3	22	2
Ohangwena	265,992	3	498	2	28	3
Omaheke	79,959	1	179	1	12	1
Omusati	245,788	4	584	6	41	4
Oshana	178,665	2	810	5	11	1
Oshikoto	184,175	3	556	3	16	2
Otjozondjupa	163,457	6	526	3	20	3
<b>National</b>	<b>2,143,411</b>	<b>43</b>	<b>7,731</b>	<b>44</b>	<b>267</b>	<b>31</b>

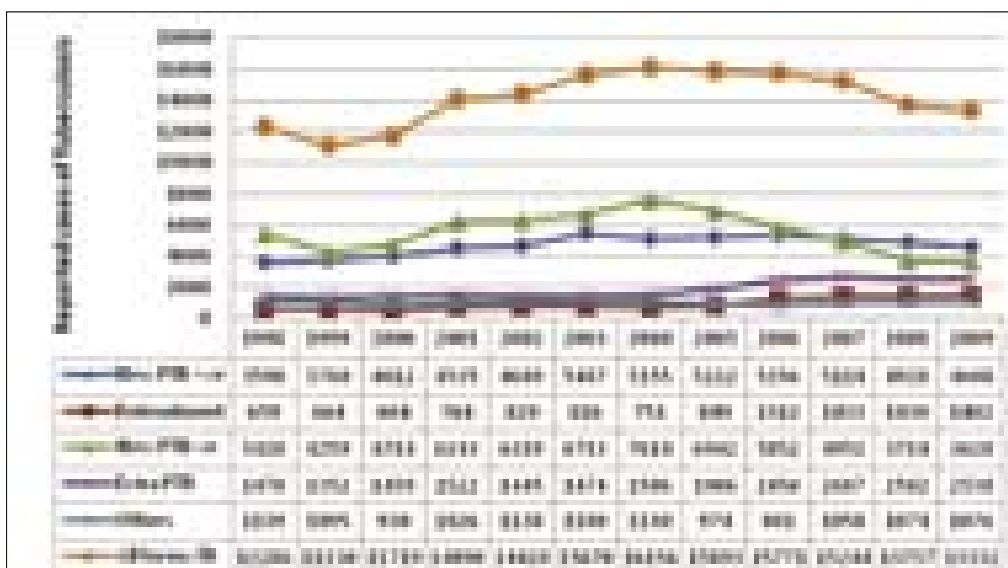
Although the government is the main service provider, private and mission facilities (Lutheran, Roman Catholic and Anglican) continue to make important contributions in the provision of health care services in the country. The private sector is mainly urban-based, providing health care through medium-sized hospitals, as well as through private pharmacies, doctors' surgeries and nursing homes. The public health system has a network of health facilities comprising approximately 1,150 out reach points, 267 clinics, 44 health centres, 30 district hospitals, 3 intermediate hospitals and 1 national referral hospital, as well as various social welfare service points. *Table 1* shows the distribution of health facilities including laboratories in Namibia as of 2009.

## 1.4 Burden of Tuberculosis and Leprosy in Namibia

### 1.4.1 Tuberculosis

TB is a communicable disease of major public health importance in Namibia. The disease is one of three most frequent causes of hospitalization and reasons for attendance in the outpatient clinics. In 1998 Namibia reported 12,286 cases of all forms of TB. The number of cases continued to increase until reaching a peak of 16,156 cases in 2004. The number of cases has since been on a downward slope with 13,332 cases being reported in 2009<sup>8</sup>. Although the CNR has decreased from 822 in 2004 to 634 in 2009, Namibia still has one of the highest CNRs in the world. *Figure 4* below shows a summary of trends in notified TB cases in Namibia for the period 1998 to 2009.

Figure 4: Trends in TB case finding, 1998 – 2009 (absolute numbers), Namibia



There are significant regional differences in TB CNRs in Namibia. In 2008, CNRs in Erongo (1,312 per 100 000), Karas (1,107 per 100 000) and Hardap (1,037 per 100 000) were more than twice the CNR in Kunene (410 per 100 000).

The high burden of TB and other factors such as poor infection control practices and high prevalence of HIV significantly increase the annual risk of infection. Although there is no data for Namibia, estimates based on data from other countries with similar disease profiles put the annual risk of infection at 3% per year. This suggests that about 46% of adults could be infected with *Mycobacterium tuberculosis* by the age of 20 years, 70% by 40 years and 84% by 60 years.

There have been increased efforts to systematically monitor drug-resistant TB (DR-TB) in the country, and this has resulted in the realisation that DR-TB is a serious threat to TB control in Namibia. The emergence of DR-TB imposes additional challenges for improved infection control in health facilities, including the provision of isolation facilities, improved capacity for the management of the identified cases, and strengthened surveillance and reporting. This and the outbreak of the H1N1 influenza virus in 2009 brought to light the glaring need for an infectious disease hospital in the country.

The treatment success rate for new sputum smear positive TB cases in Namibia has increased from 64% in 1997 to 82% in 2008 while default rates decreased significantly from 21% in 1997 to 4% in 2008<sup>10</sup>. This trend suggests that TB control in the country is improving and that there is progress towards the achievement of the global TB control targets. Table 2 below shows a summary of trends in TB treatment outcomes for new sputum smear positive cases.

<sup>10</sup> NTCP Annual Report, 2009

**Table 2: Trends (numbers and percentages) in treatment results for New Sputum Smear Positive PTB (1997- 2008)**

Year	Cured		Completed Treatment		Treatment Success		Failed treatment		Died		Defaulted		Transferred out		Total	Notified in previous year
	Nr	%	N	%	N	%	N	%	N	%	N	%	N	%	N	N
1997	1081	37	793	27	1874	64	46	2	190	6	609	21	224	8	2943	3223
1998	1617	51	577	18	2194	69	57	2	197	6	534	17	212	7	3194	3593
1999	1427	51	474	17	1901	68	45	2	183	7	461	16	219	8	2809	3760
2000	1517	46	607	18	2124	64	87	3	242	7	574	17	282	9	3308	4013
2001	1857	44	1011	24	2868	68	88	2	327	8	632	15	323	8	4238	4378
2002	2509	56	575	13	3084	68	95	2	372	8	638	14	327	7	4516	4660
2003	2618	53	828	17	3446	70	69	1	416	8	639	13	364	7	4934	5487
2004	2506	50	1018	20	3524	70	99	2	391	8	660	13	370	7	5044	5155
2005	3063	59	835	16	3898	75	95	2	368	7	516	10	336	6	5213	5222
2006	3318	64	636	12	3954	76	134	3	368	7	436	8	285	6	5177	5181
2007	3658	72	542	11	4200	83	17	3	273	5	242	5	179	4	5061	5114
2008	3533	72	502	10	4035	82	205	4	278	6	195	4	218	4	4931	4928

The TB burden in Namibia appears to be linked to factors that favour the transmission of *Mycobacterium tuberculosis* infection (e.g. crowding, poor ventilation, smoking, silicosis) and those that favour the progression from TB infection to TB disease through a weakened immune system (e.g. HIV infection, poor nutrition, alcoholism, stress, cancer, diabetes, and pregnancy). In Namibia HIV appears to be the major driver of the TB epidemic. There is a need for further exploration to get a better understanding of other drivers so that effective targeted interventions can be designed.

The impact of TB on Namibian society translates into many premature deaths, loss of economic productivity due to absenteeism and lost potential tax revenue, loss of trained human resources and ever-rising health care costs. At the micro level, TB reduces the earning capacity of families and increases the risk of drifting down the socio-economic ladder into a vortex of poverty and disease. It is apparent then that improving socio-economic conditions in the long-term and reducing HIV infection are potent long-term determinants in reversing the TB epidemic in the country.

## TB/HIV Epidemic

It has been widely published that HIV is a major risk factor for acquisition of TB as well as the progression of TB infection to disease. Conversely TB is known to be the major risk factor for mortality in PLHIV. The relatively high prevalence of HIV infection; 17.8 % among antenatal care (ANC) attendees in 2008, in Namibia therefore contributes significantly to the high prevalence of TB in the country. TB case notifications have increased with the progression of the HIV epidemic in Namibia. In 1998 HIV prevalence among TB patients was 45%<sup>11</sup>; this has since risen to 58% in 2009<sup>6</sup>. It should however be noted that, HIV prevalence among TB patients in Namibia is lower than that of other countries in the southern African region such as Botswana, Swaziland and Zimbabwe (between 70 and 90%).

<sup>11</sup> NTCP Annual Reports, 2004 and 2009/10

Knowledge of HIV status among TB patients has increased from 16% in 2005 to 74% in 2009<sup>6</sup>. The target is however to make sure that all patients with TB have knowledge of their HIV status so that interventions can be offered to those who are HIV infected. There are significant regional differences in the proportion of TB patients with known HIV status, suggesting differences in the accessibility and uptake of HIV testing services; further emphasizing the need for improved collaboration between the TB and HIV programmes at all levels.

Although the DOTS strategy cannot stop the development of TB in people infected with both HIV and TB, it is still the most cost-effective strategy for limiting the impact of HIV on TB transmission, for prolonging and saving lives of PLHIV and for preserving the economic stability of families affected by HIV and TB. Furthermore, collaboration between TB and HIV service providers will help reduce both morbidity and mortality from HIV and TB. The successful scale-up of ART (83% coverage for eligible patients in 2009<sup>11</sup>) is considered another important factor that has contributed to the decline of TB notifications, since ART significantly reduces the risk of developing TB disease in PLHIV with latent TB infection. Furthermore Isoniazid Preventive Therapy (IPT), which also reduces the risk of development of TB disease among latently infected HIV positive people, has been introduced in Namibia and is steadily being expanded as an intrinsic part of HIV care.

Notwithstanding the above picture, the 2009 external programme review found that there has been significant progress as reflected by the revitalized TB/HIV Technical Working Group as a way to improve coordination and implementation of joint TB/HIV activities. A Private Public Partnership subcommittee was formed in an effort by the TB/HIV working group to align private sector TB and HIV activities with those of the MoHSS. Integration of TB/HIV training for health care workers including private practitioners and private nurses is one of the most significant results obtained from this collaboration. Furthermore, at service delivery level, there has been an impressive improvement in the uptake of collaborative TB/HIV activities resulting in TB patients accessing appropriate HIV care and treatment, including ART, testing for HIV and improved recording and reporting practices across the programmes. 92% of HIV positive TB patients were on CPT while 35% were on ART in 2009<sup>6</sup>.

## **Drug Resistant Tuberculosis (DR-TB)**

Namibia's first TB drug resistance survey was conducted in 2008 and provisional data show an MDR-TB prevalence of 3.8% among patients who have never been treated for TB before, and 16.5% among patients who have previously received at least one month of TB treatment. Furthermore there was a particularly high prevalence of Isoniazid resistance (13.5% in new cases and 38.4% in previously treated cases). This data has significant implications for treatment regimens as well as case finding approaches for drug resistant TB. Routine DR-TB surveillance data are currently missing due to incomplete routine drug susceptibility testing of eligible patients as well as lack of a routine laboratory based surveillance system.

In 2009, 74% of the 372 reported DR-TB cases were cases of multi-drug resistant TB (MDR-TB), 22% were poly-drug resistant TB cases and the remaining 5% were extensively drug resistant TB (XDR-TB) cases. A cumulative number of 40 XDR-TB cases had been reported to the NTLP by the end of 2009. There is regional variation in the burden of DR-TB in the country, which appears to be related to the overall TB burden.

Treatment of TB with second-line medicines started in 1999 without systematic training and quality assured clinical management. Routine data on DR-TB was not being systematically collected to document extent of DR-TB as well as the treatment outcomes of patients on second line treatment. This was rectified in 2008 when a government sponsored DR-TB treatment programme designed along WHO standards and a sufficient selection of second line medicines procured from a WHO recommended prequalified supplier

was put in place. The medicines are subjected to further quality verification upon arrival in the country. To assist peripheral decision making on DR-TB care, a Central Clinical Review Council (CCRC) has been set up at national level. The CCRC reviews the history of each individual case and approves the treatment regimens.

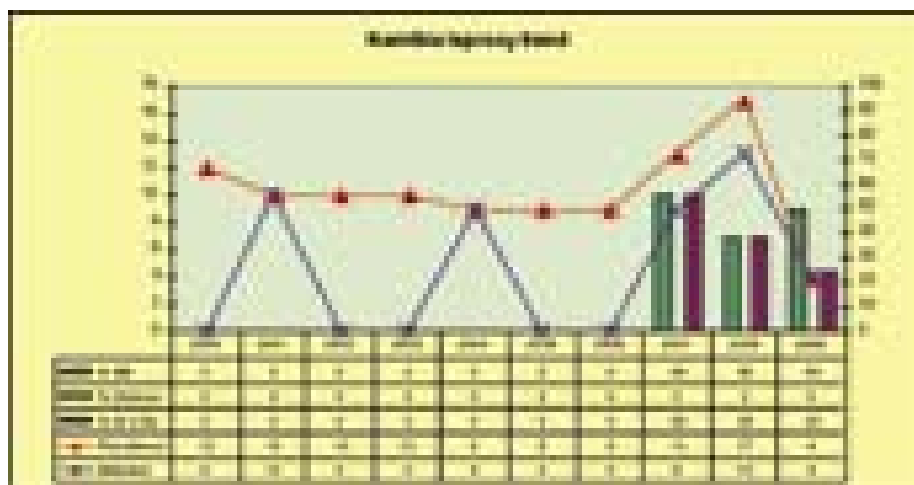
Personal respirators for use by health workers in DR-TB sites were introduced and are now available on demand to all facilities. Supplemental environmental controls in the form of ultra-violet germicidal irradiation (UVGI) units were installed in Katutura Hospital, a designated XDR-TB referral centre in the capital Windhoek as well as in Walvisbay. There are ongoing renovations of facilities in the regions to improve infection control as well as to provide adequate space for the management of DR-TB.

#### 1.4. 2 Leprosy

Namibia is among the African countries that have achieved the global elimination target of a prevalence of less than 1 leprosy case per 10,000 inhabitants. Historically, a leprosarium established in Mashare constituency in Kavango region housed all the leprosy cases in Namibia before it was closed down during the war of independence. The closure of the leprosarium disintegrated the leprosy control program, which deprived the people affected by leprosy of quality health services. Leprosy continued to be sporadically reported particularly in Kavango and Caprivi regions and a 2009 WHO mission suggested that up to 20 new leprosy cases may be occurring every year. Among the new cases identified recently, the percentage of Multi-bacillary (MB) disease has been increasing steadily. There are also many old cases with residual disabilities that require continuing rehabilitation services.

Figure 5 below shows the trend in the reported TB cases between 2000 and 2009. The graph suggests that no new cases were diagnosed between 2002 and 2003, and between 2005 and 2006, which could be a result of under-detection and under-reporting of cases.

**Figure 5: Trends in reported leprosy cases in Namibia, 2000-2009**



In June 2008, the MOHSS with support from the WHO and the Leprosy Mission International revamped the focus on the detection and treatment of leprosy cases. With the training of two health workers from the Kavango region at the All Leprosy Rehabilitation Training Centre (ALERT) in Ethiopia, screening of suspected leprosy cases has been carried out and training of more health workers has been conducted. During this time, 13 new cases of leprosy were detected and started on treatment. Since June 2009, multi-drug therapy

(MDT) has been made accessible at health facilities where people affected with leprosy are living. MDT is supplied to the programme free of charge by WHO.

In order for the programme to function effectively, health workers at the various levels of the health care delivery system are being empowered to take responsibility for implementation of leprosy programme activities, and the programme is being integrated into the general health service. The current TB Programme coordinators at national, regional and district levels and medical doctors and rehabilitation professionals at the referral levels are to be actively engaged in leprosy management as well. Leprosy related ulcers, eye problems and deformities requiring specialist care will be managed through the general health system. At national level leprosy surveillance as well as treatment and rehabilitation of leprosy patients are the responsibility of the TB and Leprosy programme manager.

## **1.5 The development process for the second TB and Leprosy Medium Term Plan (TBL MTP-II)**

### **1.5.1 Outline of the process**

After publication of the external review report on TB MTP-I, the National Steering Committee for Tuberculosis (TB-NSC) resolved that findings from the review would guide the development of the next strategic plan for TB control for the period 2010 to 2015 and that the WHO would lead the process of developing this new plan.

In September 2009, a strategic planning workshop supported by the USAID in partnership with KNCV and facilitated by the Directorate of Special Programmes (DSP) in the MoHSS and the WHO was held to consult with stakeholders from government, international development partners, non-governmental and faith-based organizations and civil society involved in TB control. At the workshop, participants reviewed achievements and challenges outlined in the MTP-I review report and used these to identify inputs into the new strategic plan. The participants also identified gaps between the MTP-I and the Stop TB Strategy and used these to redefine, adapt, prioritize and develop components for the new TB and leprosy strategic plan for the period 2010-2015.

### Box 1: The six elements of the WHO Stop TB Strategy

- i. **Pursuing high quality DOTS expansion and enhancement** through adequate political commitment, case detection through quality assured bacteriology, standardized treatment with supervision and patient support, an effective drug supply and management system and an effective monitoring and evaluation (M & E) system and impact measurement
- ii. **Addressing TB/HIV, MDR-TB and other challenges** through implementing collaborative TB/HIV activities, preventing and controlling, multidrug-resistant TB and address prisoners, refugees and other high-risk groups and special situations.
- iii. **Contribute to health systems strengthening** through actively participating in efforts to improve system-wide policy, human resources , financing, management, service delivery, and information systems, sharing innovations that strengthen systems, including PAL and adapting innovations in other fields.
- iv. **Engaging all care providers** through public-public, and public-private mix (PPM) approaches and achieving International Standards for TB care (ISTC).
- v. **Empower people with TB, and communities** through effective advocacy, communication and social mobilization and development and implementation of a Patient's charter for TB care.
- vi. **Enable and promote research** through programme-based operational research and primary research to develop new diagnostics, medicines and vaccines.

Leprosy has been included in this strategic plan following a decision to re-focus on leprosy under the administrative responsibility of the TB and leprosy programme.

The MoHSS identified the WHO Stop TB Strategy<sup>12</sup> with its focus on the DOTS strategy as a useful benchmark for guiding the development of a strategic plan that would be in line with the vision, goals and objectives of the MoHSS Strategic Plan 2009-2013 and the MDGs. Care was taken that the plan complements the National Strategic Framework for HIV/AIDS and re-enforces its strategies for prevention, care and support of PLHIV who have TB, and of TB patients co-infected with HIV.

*Box 1* summarises the six elements of the WHO Stop TB Strategy.

The plan also took into consideration the Enhanced Global Strategy for Further Reducing the Disease Burden due to Leprosy (2011-2015) (*Box 2*). The orientations of the MOHSS Strategic Plan 2009-2013 with regard to control of neglected tropical diseases were also taken into account in the formulation of this strategic plan.

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<sup>12</sup> Stop TB Strategy. WHO, 2006

**Box 2: Strategic Considerations of the Enhanced Global Strategy for Further Reducing the Disease Burden due to Leprosy<sup>13</sup>**

- Expanding opportunities to reduce the disease burden further by means of timely case-finding and treatment, BCG vaccination and improved socioeconomic conditions.
- Closely monitoring progress by considering the trend of new cases with grade-2 disabilities in the population.
- Strengthening leprosy control activities in areas where a high proportion of new cases with grade-2 disabilities are being detected.
- Dealing appropriately with the large number of people with leprosy-related disabilities who have unidentified needs.
- Stressing the need to combat operational challenges in the face of the declining leprosy incidence.
- Being prepared against threats to disease control efforts such as the emergence of rifampicin resistance by establishing a surveillance network to monitor and limit its spread, including the development of alternative treatment regimens to deal with patients infected with drug-resistant *M. leprae*.
- Ensuring the appropriate level of priority for leprosy along with other health challenges faced by communities.

The NSC and senior management in the MOHSS reviewed the final draft before it was printed and launched.

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<sup>13</sup> [http://www.ilep.org.uk/fileadmin/uploads/Documents/WHO\\_Publications/EnhancedGlobStrat.pdf](http://www.ilep.org.uk/fileadmin/uploads/Documents/WHO_Publications/EnhancedGlobStrat.pdf)

# CHAPTER 2

## Institutional Framework for TB and Leprosy Control in Namibia

### Introduction

The MOHSS Strategic Plan 2009-2013 acknowledges and defines the expectations and roles of governmental and non-governmental institutions and stakeholders involved in public health in Namibia in line with the PHC approach. This multi-stakeholder framework applies directly to and is essential for effective TB and leprosy control in Namibia.

#### 2.1. National level: Directorate of Special Programmes

The MOHSS comprises seven national directorates. For the NTLP, the MoHSS has the key statutory function of ensuring adequate financial resourcing, human resource development (recruitment and curricula development) and infrastructure provision.

The Directorate of Special Programmes comprises two main divisions, the Health Sector and Expanded National AIDS Response Coordination (ENARC) divisions, each headed by a deputy director. The Health Sector division is made up of three subdivisions responsible for HIV and STIs, TB and leprosy, and malaria and other vector-borne diseases. Each of the sub-divisions is headed by a CMO. The NTLP falls under the Health Sector division and is responsible for overall coordination of TB and leprosy activities in the country. The ENARC division is responsible for providing support to the National AIDS Response, as well as training support coordination, resource mobilization and development cooperation and for monitoring and evaluation.

According to the MOHSS Strategic Plan, other government ministries are important stakeholders in public health, consequently this strategic plan seeks to build on this involvement of multiple stakeholders for effective TB and leprosy control.

#### 2.2. Regional, District and Facility levels

The regional health services are coordinated by thirteen regional health directorates. Each of the directorates is headed by a director who is responsible for all MoHSS activities in the region. A CMO is responsible for the coordination of all public health interventions including TB and leprosy in the region and reports to the Director. Each of the thirteen regions also has a substantive Chief Health Program (CHPA) and a Senior Health Program Administrators (SHPA) both of whom are responsible TB, HIV/AIDS and malaria. These health programme administrators are usually trained clinical nurses who perform public health functions. Currently, there is no dedicated TB program focal point at this level. This strategic plan seeks to enhance and clarify this role through appropriate human resource development.

In each of the thirty-four health districts, the District Coordination Committee (DDC) headed by a Principal Medical Officer (PMO) is responsible for supervision of clinics and health centres for all health services. Two substantive registered nurses are responsible for

the implementation and coordination of TB (and leprosy), HIV (and STIs) and malaria (and other vector-borne diseases) activities at this level, but a non-substantive District TB Coordinator is usually designated to focus on TB control. This plan seeks to create a substantive post of a District TB and Leprosy Coordinator (DTLC) to ensure focused implementation and monitoring of TB and leprosy activities.

In the MoHSS ministerial staff establishment, one registered nurse is responsible for coordination of HIV/AIDS activities at health centre level and prescribes for assignment of nurses to the TB clinic for 3 months on a rotational basis. Basic TB diagnosis (on the spot or referral) and treatment are available at each MoHSS health facility. Patients requiring further investigations are referred to district hospitals where these services are offered.

### **2.3. Community level**

TB and leprosy control within communities is mainly spearheaded by community-based organisations (CBOs) that help with early identification of persons with signs and symptoms of TB and in provision and follow up of DOT by volunteers in the community. This strategic plan seeks to consolidate the gains made in the provision of community TB care and to provide a framework for the harmonization of TB and HIV community-based organizations so as to ensure coordinated implementation of TB/HIV collaborative activities. It also seeks to enhance the surveillance of leprosy in the community by empowering CBOs to identify and refer leprosy suspects.

### **2.4. Pharmaceutical Services**

Management of all medicines and other medical consumables is coordinated by the Pharmaceutical Services Division in the Directorate of Tertiary Health Care and Clinical Support Services. All anti-TB medicines are similarly procured and distributed by the Central Medical Stores. It is envisaged that the MoHSS will continue to source MDT for leprosy from the WHO.

### **2.5. Laboratory Services**

Laboratory services are provided by the Namibia Institute of Pathology (NIP), a parastatal that has been contracted by the MOHSS to provide laboratory services. The NIP has a network of 31 laboratories that provide microscopy services. There is currently one National Reference Laboratory in Windhoek which conducts TB culture and drug susceptibility testing (C/DST) to first line anti-TB medicines. Second line DST is currently undertaken in South Africa although there are plans to introduce it at the NIP reference laboratory. Furthermore, there are plans to introduce rapid molecular assays for the identification of resistance to rifampicin and isoniazid. This strategic plan seeks to enhance these roles and functions of the NIP in TB surveillance and control.

### **2.6. Collaboration with the Private Sector**

The coordination of the collaboration of TB and TB/HIV control activities is the responsibility of the Public-Private Mix sub-committee of the TB/HIV Technical Working Group. This strategic plan also provides strategic guidance for the implementation of PPM activities in the country.

## **2.7. Partnerships for TB and Leprosy in Namibia**

There has been an increasingly broader partnership network for TB control in Namibia. A number of national and international organisations are working closely with the MoHSS in the effort to eliminate TB as a major public health problem in the country. Similarly WHO and The Leprosy Mission International have been supporting the implementation of treatment and rehabilitation services in Kavango and Caprivi regions. The existing partnerships are described below.

### **2.7.1. Inter-program, inter-divisional, inter-agency collaboration**

The DSP houses the NTLP and the National AIDS Control Program (NACOP). Both programs are responsible for the implementation of TB/HIV collaborative activities. Mainstreaming of TB activities in HIV/AIDS planning and management and vice versa is now more prominently reflected in the respective strategic documents<sup>14</sup>.

To bring TB and leprosy services closer to where people live and create a continuum of care for PLHIV and those suffering from TB and leprosy, the NTLP will seek closer collaboration with NGOs and community-based organizations that work in home-based care, in order to expand their involvement in community-based TB-DOT and leprosy surveillance, care and support services. Likewise, in order to strengthen the laboratory component of the DOTS Strategy, NTLP will seek closer collaboration and better communication with NIP.

To ensure an uninterrupted supply of quality anti-TB medicines and technical support for the programmatic management of drug resistant tuberculosis (PMDT), the NTLP will continue to collaborate closely with the Pharmaceutical Services Division of the MoHSS, and the WHO Green Light Committee (GLC).

### **2.7.2. Multi-sectoral Collaboration**

It is accepted that TB directly and indirectly affects the economic productivity (and earning capacity) of members of the workforce suffering from the disease and economic well-being of wider society mainly due to long absences from work. TB is therefore of interest to the multi-sectoral partners and should be included in workplace programs.

In order to facilitate the coordination and mainstreaming of TB in the above-mentioned sectors' health policies, terms of reference for TB have been added to the already existing multi-sectoral coordinating structures in place for HIV/AIDS<sup>11</sup>. Key agencies and organisations involved in TB and leprosy control in the country include the various government ministries as well as non-governmental organisations involved directly or indirectly in TB and TB/HIV care.

### **2.7.3. International Collaboration**

Existing collaboration with international technical agencies for TB and leprosy will be intensified under this strategic plan. WHO and KNCV will continue providing technical assistance for TB, while collaboration with TLMI and WHO on leprosy will be intensified. The collaboration network will be expanded whenever necessary.

Partners such as CDC have contributed to TB control by equipping and providing technical assistance to NIP. The Stop-TB Partnership's GLC has streamlined the management of MDR-TB and facilitates access to quality assured concessionary

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<sup>14</sup>NSF for HIV/AIDS: 2010 – 2015

priced second-line anti-TB medicines by DOTS based programmes. The Union and ITECH are playing an important role in skills training for TB control, and this is envisaged to continue during the implementation of this plan. Furthermore, leprosy training will be integrated into the existing TB training curricula.

In view of the strong historical gaps in resourcing capacity by the GRN, the importance and effectiveness of contributions by international partners and the need to sustain the program, this strategic plan seeks to enhance and continue to improve international stakeholder support and participation in TB and leprosy control in the country. The existing major international partners at the time of drafting this plan are: WHO, CDC, USAID, ITECH, IUATLD, UNAIDS, KNCV TB Foundation, GFATM MSH and TLMI.

## **2.8. Program level: The National TB and Leprosy Program**

In 1991, the Namibian government and the WHO acknowledged and declared that TB was a significant public health problem in Namibia. With technical assistance from the WHO, a situation analysis was conducted that revealed that attempts to provide TB services in the country were inadequate and lacking in the basic control and management principles of TB. Because of these findings, the National Tuberculosis Control Program (NTCP) was established.

In 1991, the NTCP adopted WHO and IUATLD recommended Directly Observed Treatment-Short Course Strategy (DOTS). The country introduced the six-month treatment regimen for all new patients and an eight-month re-treatment regimen in the same year. Furthermore, in 1995, a technical policy document based on the DOTS Strategy was developed. This was followed by the development of technical guidelines for the management of TB in 1996 and draft technical guidelines for the management of MDR-TB in 1999. The MoHSS introduced second-line anti-TB medicines in 1999. Currently, first-line anti-TB medicines are delivered in fixed-dose combination formulations. Treatment, including hospital admission is provided free of charge in all government and faith-based organization-run health facilities after a diagnosis of TB has been made.

The NTCP has been receiving technical support at national level from WHO. Since 2002 the programme has also been receiving technical and financial support from KNCV TB Foundation, with funding from USAID. The Leprosy Mission International has provided periodic technical support on leprosy management. Donor support has always been minimal, with government carrying the brunt of costs for staff, hospital admissions, laboratory examinations and anti-TB medicines. In some regions, NGOs have been supporting Government in implementing community-based DOT programs.

A WHO-led team conducted an external program review of the NTCP in 2000. The recommendations of this extensive review did not result in significant changes in program implementation due to inadequate human and financial resources until 2003, when the MoHSS received a grant of US\$1,500,000 from GFATM for 2004-2009, part of which went towards fulfilment of one of the recommendations from the external review, which was to formulate a comprehensive Medium-Term Strategic Plan for the NTCP.

The MTP-I (2004 – 2009) for TB was launched in March 2005 and was followed by the establishment of a multi-sectoral body, the National Steering Committee for Tuberculosis (TB-NSC) comprising key international developmental, governmental, non-governmental and civil society partners in TB control. The TB-NSC's mandate is policy advice, resource mobilization, coordination and advocacy for TB control in Namibia. It has hitherto not been mandated with coordination of leprosy issues. In GFATM round 5 (2005) NTCP made another successful application for U\$17,9 million which largely financed the implementation of the first strategic plan for TB. In 2009 NTLP applied again for a grant under Global Fund Rolling Continuation Channel (RCC) for Round 2, which was approved for U\$1,7m,

and supports one region (Omaheke) in scaling up the provision of care with a particular focus on TB/HIV, MDR-TB and CB-DOT.

In 2009 the NTCP changed its name to the National Tuberculosis and Leprosy Programme to reflect the increased attention that the programme has to put on leprosy activities in the country. In addition to providing leadership on TB issues, the NSC will additionally be tasked with steering leprosy eradication initiatives in the country.

A team of consultants from WHO, United CDC, UNAIDS and THE UNION conducted an external program review of MTP-I in February 2009. This strategic plan has been especially formulated to sustain progress made and address challenges identified under MTP-I and builds on recommendations emanating from this extensive review. Annex 3 is a summary of the key achievements and challenges arising from the review of the MTPI.

# CHAPTER 3

## Vision, Mission, Goal, Strategic Results, Outcomes And Outputs

### 3.1. Vision Statement:

A Namibia where tuberculosis and leprosy are no longer a public health threat.

### 3.2. Mission Statement:

Provision of high quality tuberculosis and leprosy prevention, diagnosis, treatment and care services with focus on universal access, equity for all those at risk and responsiveness to emerging challenges in the context of the Namibia Ministry of Health and Social Services Strategic Plan 2009-2013 and the Millennium Development Goals.

### 3.3. Goal

To reduce TB prevalence and mortality rates by 50% relative to 1990 levels, and to eradicate leprosy in Namibia by 2015<sup>15</sup>.

### 3.4. Strategic Results (SR), Outputs, Outcomes and Main Activities

The plan aims to achieve the following strategic results:

1. *High quality TB DOTS and leprosy services expanded and enhanced*
2. *Increased access to high quality TB/HIV treatment and care interventions*
3. *Programmatic management of drug resistant TB improved and scaled up*
4. *General health systems strengthened and effectively supporting TB and leprosy services*
5. *Partnerships for TB control and leprosy eradication strengthened.*
6. *Communities and people with TB and leprosy empowered*

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<sup>15</sup> This goal is consistent with the Namibia MOHSS Strategic Plan 2009-2013, the Call for Universal Access to AIDS, TB and Malaria services by 2010 by a United Africa and the Millennium Development Goals.

## **Strategic Result 1: High quality TB DOTS and leprosy services expanded and enhanced**

### **Overview:**

Namibia has made significant progress in the implementation of the DOTS strategy since the first medium term plan was launched. TB diagnosis, treatment and care services have become more widely available, interventions for combating TB/HIV co-infection are being scaled up, programme performance indicators have improved, and notified cases of all forms have been declining by at least 1% annually since 2005. Namibia is also one of the countries in the Africa Region that already achieved the leprosy elimination goal of less than one case per 10,000 inhabitants. It also achieves a TB case detection rate of 84%, against a WHO target of 70%. TB treatment success rate in new patients increased from 68% in 2004 to 82% in 2009 (2008 cohort). Community-based directly-observed therapy (CB-DOT) was expanded from one region (Omaheke) to 12 regions, covering 27 of the 34 health districts. This has resulted in a remarkable improvement in case holding.

These success stories notwithstanding, there are still major challenges related to accessibility of TB diagnostic services as well as ensuring direct observation of TB treatment primarily due to the vastness of the country. While there has been a significant improvement in providing CB-DOT services, there still remains significant gaps in patients level coverage of this intervention. The quality and turn-around time of TB direct microscopy results, especially in remote areas, needs to be improved further. Furthermore, deliberate efforts need to be made to ensure that the quality of first and second line anti-TB medicines meets minimum international standards, and that there is documentation thereof.

There are also significant challenges in the delivery of TB services among highly mobile populations and those in congregate settings that must be addressed. The remarkable improvements made in ensuring the timely availability of high quality data on TB control activities in the country will need to be consolidated; and sustainable strategies to wean the National NTLP from dependency on donor funding for the implementation of core TB control activities need to be put in place.

In 2008 NTLP conducted Namibia's first TB drug resistance survey. The prevalence of MDR-TB among patients who were never treated before was 3,8%; compared to 16.5% among patients previously treated for TB. The high prevalence of MDR-TB reflects historical deficits in the functioning of the TB control program. Because of this high prevalence of MDR-TB the current first line treatment regimens are no longer adequate for a considerable number of patients.

Since 2006, new cases of leprosy have started to emerge again in Kavango and Caprivi regions and there is currently no active surveillance system to monitor the incidence and prevalence of the disease. Furthermore, a backlog of old leprosy patients requiring continuing rehabilitation services has been documented and no coordinated efforts are currently being made to provide these within an organised comprehensive treatment and care programme.

In order to address these challenges, expanding and enhancing the quality of DOTS services will remain the backbone of the TB activities under this plan. WHO recommended MDT based treatment and rehabilitation services will form the central pillar for the push towards leprosy eradication in the country.

Specific strategies will be developed and implemented to make the NTLP less dependent on external funding by integrating it further into the overall strategy and planning processes of the MoHSS, as well as by leveraging on private sector financing of health care. DOTS services will be expanded to all 13 regional prisons in the country and to other congregate settings, and leprosy services will be scaled up to all districts in the most affected Kavango and Caprivi regions. CB-DOT will be expanded to all districts and regions, in a

sustainable manner allowing MoHSS to take full responsibility for this by 2015.

Special attention will be given to improving access to quality assured TB microbiology by covering all districts with high quality TB laboratory services through the introduction of a country wide internal and external quality assurance scheme for TB microbiology, routine surveillance for drug resistant TB in all previously treated TB cases, and introduction of new TB diagnostic technologies as they become available, affordable and appropriate according to international standards. Similarly, the quality assurance system for first and second line anti-TB medicines being used in the country will be reviewed and strengthened to meet international standards.

A comprehensive review of current TB and leprosy treatment guidelines will be conducted and new inclusive *National Guidelines for the Management of Tuberculosis and Leprosy* developed. Special attention will be paid to avoid the existence and proliferation of technical guidelines that respond only to specific intervention areas. NTLP will adopt and adapt the latest WHO TB and leprosy guidelines and update the *National Guidelines for the Management of Tuberculosis and Leprosy*.

The paper based recording and reporting system as well as the electronic TB register will be maintained and adjusted to reflect the revised policy guidelines. Standard leprosy recording and reporting tools will be developed and operationalised. The response framework will be supported by an operational research program aimed at informing decision making and strategy development at national and local level.

**Outcomes:**

1. Adequate funding for TB and leprosy activities for the period 2010 to 2015
2. Universal access to timely and quality assured TB diagnostic services
3. Treatment success rate (cure and completion rates) of 87% achieved for all patient categories on first line treatment
4. Universal access to high quality leprosy diagnosis, treatment and rehabilitation services
5. Uninterrupted supply of quality assured first and second line anti-TB medicines and MDT for leprosy
6. Effective TB DOTS services provided to people in congregate settings and other special situations
7. Comprehensive TB and leprosy management information systems strengthened and maintained

Outcome 1.1: Adequate funding for TB and leprosy activities for the period 2010 to 2015				
Outputs	Output indicators	Baseline	Target	Main activities
1.1.1. GRN funding for TB and leprosy activities sustained and increased	Percentage contribution of GRN funding for TB and leprosy activities	Unknown	>60%	Lobby for increased allocation of national health budget earmarked for TB and leprosy activities
1.1.2. Partner funding for TB and leprosy activities sustained and increased.	Proportion coverage of financing gap for TB and leprosy	Unknown	100%	Submit funding proposals for sustaining and scaling up TB and leprosy interventions to funding agencies
				Expand the TB stakeholder network to leverage additional resources from collaborating partners and stakeholders, including the private sector.

Outcome 1.2: Universal access to timely and quality assured TB diagnostic services				
Outputs	Output indicators	Baseline	Target	Main activities
1.2.1. All 34 district hospitals provide TB direct microscopy services	Number of district hospitals providing TB direct microscopy services	31	34	Equip three remaining district hospitals with physical infrastructure, human resources and equipment for TB microscopy services.
				Conduct routine laboratory tests for TB
				Conduct refresher trainings for laboratory technicians on smear microscopy techniques
1.2.2. Close contacts of all smear positive TB cases screened for TB	Proportion of TB patients with documented contact tracing	Unknown	80%	Enforce policy guidelines on contact tracing and strengthen data capture, recording and reporting on coverage of this intervention
1.2.3. Turnaround time (TAT) for sputum direct microscopy reduced to 48 hours	Number of operational research reports on TAT published	0	1	Conduct operational research on factors associated with long TAT for sputum smear results
				Implement interventions to reduce TAT for smear microscopy
1.2.4. External Quality Assurance (EQA) programme for TB laboratory services maintained	Proportion of scheduled EQA reports received from a SNRL	Unknown	100%	Participate in regular EQA programme for TB microbiology services
1.2.5. Internal Quality Assurance (IQA) scheme for TB microscopy established and functional	Percentage of district laboratories participating in IQA for TB microscopy following international standards	0	100%	Develop and implement national internal TB quality assurance scheme for microscopy in line with international practice
				Develop a system for routine and regular sharing of information on TB laboratory services between NIP and NTLP
				Monitor adherence to Standard Operation Procedures (SOPs) in all laboratories during routine supervision
1.2.6. Standardized TB laboratory forms used by all health facilities	Proportion of laboratories using standardized TB laboratory request forms	0	100%	Introduce standardized TB DM, culture and DST request forms in all DM labs

Outcome 1.3: Treatment success rate (cure and completion rates) of 87% achieved for all patient categories on first line treatment				
Outputs	Output indicators	Baseline	Target	Main activities
1.3.1. All categories of TB patients have access to direct observation of treatment at facilities or in community settings	Proportion of TB patients with documented access to DOT services during treatment	63% <sup>16</sup>	100%	Consolidate the use of anti-TB FDC as standard of care in public and private sectors
				Introduce tools to document DOT in all facilities
				Set up new DOT points in underserved areas
				Scale up community based treatment DOT systems in collaboration with civil society, FBOs and CBOs
1.3.2. Clinical management of TB improved at all facilities	Proportion of health facilities/ TB clinics with health workers trained on TB case management in the past 2 years	Unknown	100%	Conduct pre- and in-service training of health workers on TB case management
				Revise, print and disseminate <i>National Guidelines for the Management of Tuberculosis and Leprosy</i> to all public and private institutions in 2010 and 2014
				Update and utilize joint supervision checklists to capture data on health worker training
				Train TB and leprosy coordinators on supervision skills
				Allocate funding for supervisory activities at all levels
1.3.3. Default & transfer out rates, and proportion not evaluated reduced for all categories of patients in the country	Total proportion of notified patients who defaulted, were transferred out and were not evaluated at the end of treatment	<b>2007 Cohort</b>	<b>2013 Cohort</b>	Consolidate community and facility systems for patient retrieval
		10% (NSP)	<10%	
		15% (retreatment)	<10%	Strengthen patient referral system and information exchange between facilities, districts and regions
		14% (NSN)	<10%	
12% (EPTB)	<10%			
1.3.4. Community DOT coverage expanded to all districts.	# of districts implementing community DOT	27	34	Expand the network of NGOs for CB-DOT
				Conduct advocacy and social mobilization initiatives for CB-DOT
1.3.5. Workplace DOT programs expanded	# of districts implementing workplace DOT	2	34	Integrate TB workplace DOT into existing workplace HIV programmes
				Identify and sign MoUs with companies to initiate workplace programmes

<sup>16</sup> Calculated based on reports by CB DOT organizations on the number of patients supervised in 2009

Outcome 1.4: Universal access to high quality leprosy diagnosis, treatment and rehabilitation services				
Outputs	Output indicators	Baseline (Year)	Target	Main activities
1.4.1. Decrease number of leprosy cases with grade 2 disabilities	Number of active leprosy assessment sessions conducted per year	1 (2008)	2	Conduct bi-annual active search for leprosy cases among contacts of leprosy patients
				Conduct briefings on leprosy for health staff and community members
				Conduct outreach activities using local staff to increase case detection
				Conduct joint out reach services with social welfare and rehabilitation teams (Orthopaedic Technical Services and rehabilitation department)
	Provide counselling services to leprosy patients and families using a multi disciplinary approach			
1.4.2. Universal access to PMID services by leprosy patients	Proportion of leprosy patients for whom a documented baseline disability assessment was conducted	Unknown	100%	Build capacity of rehabilitation teams in leprosy affected areas to manage leprosy disabilities

Outcome 1.5: Uninterrupted supply of quality assured first and second line anti-TB medicines and MDT for leprosy				
Outputs	Output indicators	Baseline	Target	Main activities
1.5.1. Availability of first and second line anti-TB medicines guaranteed	Proportion of district health facilities reporting first line anti-TB medicines stock outs at any time during a year	0 (2009)	0	Maintain a budget line for first and second line anti-TB medicines and supplies within the essential medicines budget line of the CMS
	Proportion of designated DR-TB treating facilities reporting stock outs of 2 <sup>nd</sup> line anti TB medicines for treating registered DR-TB cases at any time during a year	0 (2009)	0	Conduct trainings for pharmaceutical staff at all levels, and TB coordinators at district level in Pharmaceutical and Supplies Management (PSM)  Periodically review and update the national essential medicines list to include new anti-TB medicines and other core supplies
1.5.2. Quality of anti TB and anti-leprosy medicines assured	Proportion of anti TB medicine consignment, complying with international minimum standards	Unknown	100%	Strengthen coordination and communication between NTLP and pharmaceutical services
				Assess the procurement, registration and quality assurance system of CMS and QSL and recommend improvements  Implement routine post marketing quality assurance scheme for first and second line anti-TB medicines
1.5.3. Availability of anti-leprosy medicines guaranteed	Existence of national leprosy treatment guidelines	0	1	Develop standard leprosy treatment guidelines as part of the <i>National Guidelines for the Management of Tuberculosis and Leprosy</i>
	MDT stock levels at various levels for affected regions	100%	100%	Maintain uninterrupted supply of MDT and prednipsacks for treating leprosy cases

Outcome 1.6: Effective DOTS services provided to people living in congregate settings and other special situations				
Outputs	Output indicators	Baseline	Target	Main activities
1.6.1. High quality DOTS services, including TB/HIV interventions, available in uniformed services health facilities and other congregate settings	Proportion of prisons and military and police health facilities with a documented and demonstrable system for providing DOTS in place	Unknown	100%	Establish an agreement with MoSS and MoD for delivery of DOTS services, including TB/HIV interventions in the respective settings
				Provide training on TB control and case management to staff in all uniformed service health facilities
				Support implementation, monitoring and evaluation of DOTS programmes in uniformed services health facilities
				Support the establishment and implementation of DOTS services in refugee camp and other congregate settings

Outcome 1.7: Comprehensive TB and leprosy management information system strengthened and maintained				
Outputs	Output indicators	Baseline	Target	Main activities
1.7.1. Timely high quality TB and leprosy data available	Proportion of districts submitting complete TB and leprosy quarterly reports in a timely manner	80%	100%	Revise NTLP recording and reporting forms and M & E tools
				Implement electronic register(s) for susceptible and DR-TB in all districts
	Number of quarterly programme performance review meetings at each level conducted per year	4	4	Conduct quarterly programme performance review meetings at regional and zonal level Conduct TB and leprosy control supportive supervisory visits
1.7.2. Epidemiological trend of leprosy established and regularly monitored	Number of districts reporting on leprosy case finding (including zero reporting)	5	34	Establish a surveillance system for leprosy that is integrated into the existing health information system
				Develop and disseminate leprosy surveillance and program monitoring and evaluation tools
				Integrate leprosy into TB quarterly review meetings
1.7.3. Implementation of the TB and leprosy strategic plan monitored and evaluated periodically	Program review reports	0	2	Organize one mid-term (2012) and one end-term (2015) NTLP review
1.7.4. Programme technical and financial capacity for TB and leprosy research built at national, regional and district levels	Existence of a research focal point within the NTLP central unit	0	1	Assign a research focal point within the NTLP Central Unit Maintain research as an agenda item for the NSC to advise on programme operational research
	Existence of a national TB operational research (OR) agenda	0	1	Develop a TB and leprosy OR agenda in collaboration with relevant stakeholders
	Number of staff members trained on research methodology	0	10	Provide international training on research methodology for identified staff at central and regional levels

Outcome 1.7: Comprehensive TB and leprosy management information system strengthened and maintained (cont.)				
Outputs	Output indicators	Baseline	Target	Main activities
1.7.5. TB and leprosy OR studies carried out and published	Number of TB and leprosy OR studies conducted and published each year	0	2	Mobilize funding for supporting TB and leprosy OR
	Number of TB and leprosy OR studies presented at international conferences each year	4	6	Organise technical support for TB and leprosy operations research studies, and disseminate results for action
1.7.6. Magnitude of TB disease burden known	Number of TB disease prevalence survey reports published	0	1	Conduct a TB disease prevalence survey

## **Strategic Result 2: Increased access to high quality TB/HIV treatment and care interventions**

### **Overview**

Patients with HIV are at high risk of developing and dying from TB disease, which is largely curable if diagnosed and treated promptly. About 60% of registered TB patients with known HIV status in Namibia are HIV positive. Evidence has shown that TB is the most important cause of ill health and death among PLHIV and that early identification and effective management of TB/HIV dual infection significantly reduces morbidity and death, and improves quality of life of the dually infected. Isoniazid Preventive Therapy (IPT) significantly reduces the likelihood of active TB among PLHIV who are latently infected with the TB bacilli, even when they are already on ART.

During a recent WHO leprosy burden assessment mission in Kavango and Caprivi regions, four out of seven leprosy patients were HIV positive and on ART, which necessitates a comprehensive approach to the management of both conditions in these patients. This second NTLP strategic plan and the HIV/AIDS National Strategic Framework (NSF) complement each other in the areas of treatment and care for the dually infected and affected. In this context, this section describes all activities related to TB/HIV collaborative activities, even when the implementation of some of these are clearly within the responsibility and domain of the HIV programme and are described in detail in the HIV/AIDS NSF 2010-2015. The TB/HIV Technical Working Group will continue to coordinate the implementation of TB/HIV collaborative activities.

Intensified TB case finding (ICF) among PLHIV will be promoted in settings such as HCT centres where more PLHIV are likely to be found. To facilitate this, HCT counsellors will be trained on the linkages between TB and HIV infection, how to recognize symptoms of TB disease, how to screen for active TB and refer for TB diagnosis or IPT. This is envisaged to enhance TB case detection and prevent TB (through IPT and early identification of potentially infectious cases) in PLHIV.

TB care providers staff on the other hand will be trained on provider initiated HIV testing and counselling (HTC) and HIV care and support options in order to be able to either properly manage, triage or refer patients to appropriate care and support services.

Under this strategic result, the following 3 outcomes have been defined:

1. TB/HIV collaborative activities coordinated between programmes
2. Burden of TB among PLHIV reduced
3. Burden of HIV among TB patients reduced
4. Burden of HIV among leprosy patients reduced

Outcome 2.1: TB/HIV co-management is well coordinated between the two programs				
Outputs	Output indicators	Baseline	Target	Main activities
2.1.1. Effective/functional TB/HIV coordination and monitoring meetings in place at national level	Proportion of scheduled TB/HIV working group meetings held	50% (2009)	100%	Conduct regular TB/HIV TWG meetings
				Update recording and reporting tools to incorporate relevant TB/HIV indicators (paper-based and electronic)
	Number of national TB/HIV review meetings held per year	0	1	Organize an extended TB/HIV national review meeting
	Proportion of regions and districts with managers trained on TB/HIV	Unknown	100%	Train regional and district staff on TB/HIV collaborative activities
	Number of zonal TB/HIV review meetings held per year	0	4	Conduct zonal TB/HIV review meetings by extending the TB review meetings to include TB/HIV
	Number of regional TB/HIV review meetings held per year	0	4	Conduct regional TB/HIV quarterly review meetings by extending the TB review meetings to include TB/HIV
2.1.2. TB/HIV +activities implemented in other high risk / high burden government sectors	Proportion of correctional facilities conducting routine screening for TB and offering routine HIV testing to inmates	Unknown	100%	Support the implementation of TB/HIV collaborative activities in sectors with high TB/TB-HIV burden (such as correctional services, police detention facilities, mines, etc.)
				Ensure active involvement of representatives from high burden sectors in the TB/HIV Technical Working Group

Outcome 2.2: Burden of TB among PLHIV reduced				
Outputs	Output indicators	Baseline	Target	Main activities
2.2.1. ICF and IPT mainstreamed into all HIV care settings	Proportion of health facilities reporting on ICF and IPT	No data	90%	Update pre- and in-service training materials on ICF and IPT
				Conduct trainings for health workers on ICF and IPT
				Include ICF and IPT in revised TB guidelines and all new TB and HIV policy guidelines
2.2.2. ICF and IPT introduced in congregate settings	Proportion of regions that report on ICF and IPT in congregate settings	< 10%	100%	Include 3 I's when training and supervising staff in congregate settings
2.2.3. TB ICF implemented in all HIV testing sites	Proportion of HIV testing sites reporting on TB-ICF	0%	90%	Design, print and distribute standardised TB screening and referral tools for use at VCT and other sites
				Train HCT providers in TB screening among PLHIV, and in use of recording and reporting tools
2.2.4. IPT offered to PLHIV in all HIV care clinics	Revised and standardised TB screening tool available	0	1	Revise and standardise the TB screening tool for IPT eligibility for use at all service delivery levels
	Proportion of newly enrolled HIV infected adults and children started on IPT every year	Incomplete data	>30%	Review national guidelines and recording and reporting tools used in HIV care clinics and ensure that IPT is incorporated
				Monitor INH availability during joint supervision visits
	Proportion of PLHIV commenced on IPT whose outcome is 'completed'	Unknown	>70%	Collect and collate data on IPT coverage as part of routine TB and HIV surveillance systems
				Introduce quarterly cohort reporting for PLHIV who will have been commenced on IPT

Outcome 2.3: Burden of HIV among TB patients reduced				
Outputs	Output indicators	Baseline	Target	Main activities
2.3.1. All registered TB patients have access to HIV testing and appropriate HIV care	Proportion of registered TB patients with an HIV test result	74% (2009)	> 95%	Implement routine PITC in all TB patients.
	Proportion of registered HIV positive TB cases registered for HIV care	Unknown	100%	Formalise referral systems between TB clinics and HIV care clinics for HIV positive TB patients
	Proportion of TB clinics with at least one member of staff trained in chronic HIV care including ART	Unknown	100%	Train staff in TB clinics in HIV care, including ART
	Proportion of registered HIV positive TB patients on ART at the end of TB treatment	35% (2009)	>95%	Implement new WHO Guidelines for commencement of ART in TB/HIV patients Update recording and reporting tools to include ART coverage for TB/HIV patients
2.3.2. CPT provided to all registered HIV positive TB patients	Proportion of registered HIV positive TB patients receiving CPT	98% (2008)	100%	Ensure availability of cotrimoxazole in all TB clinics
2.3.3. HIV prevention materials and commodities available to all registered TB patients	Proportion of TB clinics stocking condoms	Unknown	100%	Provide IEC on HIV prevention to TB patients
				Ensure availability of condoms in all TB clinics
				Include IEC on HIV prevention in TB guidelines and training materials

Outcome 2.4: Burden of HIV among leprosy patients reduced				
Outputs	Output indicators	Baseline	Target	Main activities
2.3.4. Status of HIV among existing leprosy cases determined	Analysis report	0	1	Conduct a retrospective desk analysis of HIV status of leprosy patients
				Conduct routine HIV testing and counselling for all leprosy patients

### **Strategic Result 3: Programmatic management of drug resistant TB improved and scaled up**

#### **Overview**

Provisional data from the TB drug resistance survey conducted in 2008 revealed an MDR-TB prevalence of 3.8% among patients who have never been treated for TB before and 16.5% among patients who have previously received at least one month of TB treatment. Furthermore there was a high prevalence of isoniazid resistance (13.5% in new cases and 38.4% in previously treated cases).

Namibia has reported a significant increase in the number of patients being diagnosed with DR-TB since the recording and reporting of DR-TB improved in 2007. The first finding of XDR-TB in 2007 in Namibia sparked renewed efforts to focus on the correct clinical management of DR-TB (including MDR-TB and XDR-TB), notification and evaluation of all diagnosed DR-TB patients, and development of a well accessible PMDT program in line with the latest WHO Guidelines. This strategic plan aims to consolidate universal access to PMDT in Namibia so as to prevent the development of XDR-TB, minimize the transmission of DR-TB, and ensure that patients with DR-TB receive optimal treatment and care.

The systematic screening for MDR-TB will be gradually expanded starting with patients having the highest risk of X/MDR-TB to the lowest risk category according to the *National Guidelines for the Management of Tuberculosis and Leprosy*. The screening policy will be changed during the implementation of this strategic plan depending on developments in molecular diagnostics for TB. Line Probe Assay (LPA) have been validated in Namibia and are already available in the private sector and have also been adopted by NIP. Unless other technologies are developed which have more advantages over LPA, LPA will systematically become the standard screening tool for MDR-TB in all high-risk category patients, and be introduced in a phased manner from highest to lowest risk group, on sputum specimens referred to those labs being equipped with LPA. C/DST will continue to be used for eligible patient categories according to national guidelines. The case management protocol for patients with DR-TB was revised in 2008 in line to the latest international WHO guidance. The spectrum of second-line drugs was revised, expanding it from 3 (ciprofloxacin, amikacin and ethionamide) to the list shown in *Box 3*.

#### **Box 3: Second line anti-TB medicines available in Namibia**

- Kanamycin (Km)
- Capreomycin (Cm);
- Levofloxacin (Lfx)
- Ethionamide (Eto);
- Cycloserine (Cs);
- Para-aminosalicylic acid (PAS)
- Clofazimine (Cfz);
- Amoxicillin/clavulanate (Amx/Clv);
- High-dose isoniazid (High-dose H);
- Clarithromycin (Clr);

Patients diagnosed with DR-TB requiring treatment with second-line drugs will be referred to designated referral hospitals as close to their home as possible.

From 2007 NTLP staff were trained on several occasions on Tuberculosis Infection Control (TBIC). In 2009 the MoHSS published its first *National Tuberculosis Infection Control Guidelines* and an architect was employed and trained to assist in facility assessments and

advise on modifications in environmental controls. In 2010 a TBIC focal person was appointed in the NTLP central unit to coordinate the implementation of TBIC.

During this strategic plan, TB-IC will be scaled-up to all health facilities in a step wise manner based on risk assessment. Furthermore an infectious disease unit will be constructed to provide facilities for the isolation of patients with infectious respiratory diseases such as H1N1 and patients with drug resistant TB requiring specialised care. Health workers working in community-based DOT will be trained in household TBIC, especially when the patient has MDR-TB.

Outcomes for this strategic result are:

1. All DR-TB suspects have access to prompt diagnostic services according to international standards.
2. All DR-TB patients access timely treatment and care according to international standards.
3. A national DR-TB recording and reporting system established and mainstreamed into the routine TB and Health Management Information Systems
4. TB infection control (TBIC) measures implemented in all DR-TB treatment centres and laboratories performing C/DST, and in >95% of all public health facilities by 2015 in line with the *National Tuberculosis Infection Control Guidelines*

Outcome 3.1: All DR-TB suspects have access to prompt diagnostic services according to international standards.				
Outputs	Output Indicators	Baseline	Target	Main activities
3.1.1. Profile and trend of anti-TB drug resistance regularly monitored	DRS conducted and report available	2008	2013	Conduct representative national anti-TB DRS
3.1.2. All retreatment cases and other DR-TB high risk patient groups are screened for TB drug resistance	Proportion of registered retreatment TB patients screened for TB drug resistance	Unknown	100%	Introduce rapid molecular MDR-TB diagnostic tests at the NIP reference laboratory
				Establish routine C/DST or rapid molecular MDR-TB diagnostic tests for all previously treated TB patients and symptomatic close contacts of laboratory confirmed MDR-TB patients
				Develop and operationalise a laboratory based DR-TB surveillance system linking the NIP laboratory system and the NTLP
				Decentralize TB culture services to two new sites outside Windhoek
				Screen MDR-TB patients for XDR-TB according to the <i>National Guidelines for the Management of Tuberculosis and Leprosy</i>
	Include PMDT in the <i>National Guidelines for the Management of Tuberculosis and Leprosy</i> and in the training of health care workers on TB control			
Proportion of DR-TB patients with documented contact tracing	Unknown	100%	Establish a tracing system for contacts of DR-TB patients	
			Conduct and document contact tracing for DR-TB contacts	

<b>Outcome 3.2: All DR-TB patients access timely treatment and care according to international standards.</b>				
<b>Outputs</b>	<b>Output Indicators</b>	<b>Baseline</b>	<b>Target</b>	<b>Main activities</b>
3.2.1. All DR-TB cases are promptly put on the appropriate second-line anti-TB medicines and complete treatment as per the national guidelines	Existence of a GRN funded focal point for DR-TB at central level	1	1	Convert the existing partner funded DR-TB focal point to an government funded MoHSS position
	Proportion of designated DR-TB sites with at least one medical officer and 2 nurses dedicated to DR-TB management.	0	100%	Recruit, train and retain staff for designated DR-TB sites
	Proportion of laboratory confirmed DR-TB patients started on appropriate treatment	Unknown	100%	Ensure prompt initiation of therapy in all laboratory diagnosed cases of DR-TB.
	Stock levels for second line anti-TB medicines on the national drug list	Unknown	60%	Ensure uninterrupted availability of quality assured second line anti-TB medicines at the CMS and at designated treatment facilities
	Proportion of DR-TB patients with documented DOT throughout treatment	Unknown	100%	Organize an effective DOT system for all DR-TB patients on treatment
3.2.2. Psychosocial support and rehabilitation put in place for DR-TB patients on second-line treatment	Proportion of patients with documented assessment for social status	0	100%	Develop and administer a social support system to complement the medical disability grant for supporting DR-TB patients on treatment
				Set up psychosocial support teams of social workers and rehabilitation staff in all regions
				Mobilize additional resources to complement the medical disability grant

<b>Outcome 3.3: A national DR-TB recording and reporting system established and mainstreamed into the routine TB and Health Management Information Systems</b>				
<b>Outputs</b>	<b>Output Indicators</b>	<b>Baseline</b>	<b>Target</b>	<b>Main activities</b>
3.3.1. DR-TB data readily available at national, regional and district levels	Proportion of districts providing timely complete DR-TB data	Unknown	100%	Implement a laboratory based DR-TB surveillance system
				Develop and operationalise an electronic M&E system for DR-TB in NTLP
				Incorporate PMDT in regular quarterly district and zonal review meetings
				Conduct regular technical support visits to DR-TB treatment sites.

**Outcome 3.4: TB infection control measures implemented in all DR-TB treatment centres and laboratories performing C/DST, and in >95% of all public health facilities by 2015 in line with the *National Tuberculosis Infection Control Guidelines***

Outputs	Output Indicators	Baseline	Target	Main activities
3.4.1. Basic TB-IC measures implemented at all district hospitals and major health facilities according to the national guidelines	Proportion of district hospitals and major facilities with TB-IC plans	Unknown	100%	Develop training materials on TB-IC for inclusion in the general pre-service and refresher training activities for health workers
				Include TB-IC in routine supervision checklists
				Conduct annual TB-IC assessments in all hospitals
	Proportion of DR-TB treatment hospitals with isolation facilities for management of DR-TB cases	25%	100%	Organize annual review and planning meetings at national level for regional staff to support districts to develop district hospital and other major health facility TB-IC plans
				Avail resources for implementing core administrative, environmental and personal protection measures contained in district TB-IC plans
				Implement TB surveillance and prevention program for health workers
Proportion of NIP laboratories with appropriate TB-IC measures in place	100%	100%	Maintains appropriate bio-safety level in all laboratories as per international standards	
3.4.2. Isolation facility available for infectious diseases	Infectious disease unit established	None	1	Construct a national infectious disease unit/ hospital

## **Strategic Result 4: General health systems strengthened and effectively supporting TB and leprosy services**

### **Overview**

An effective TB and leprosy programme needs a strong health system to support its essential inputs and functions. Conversely, a strong TB and leprosy program can contribute to strengthening of the general health system. At the time of developing this strategic plan, the NTLP was facing the following health system challenges:

- Limited human resources for TB and leprosy activities
- Inadequate technical competencies in the field of TB and leprosy treatment and care
- Inadequate management capacity at all levels of the program, and
- Insufficient coordination in program planning and implementation with other MOHSS programs and systems

This strategic plan therefore aims to strengthen human resource capacity for the provision of sufficient high quality TB, TB/HIV and leprosy services. In recent years, there has been rapid expansion of program activities that have created increased demand on the already over burdened health staff. During the life of this strategic plan, a Human Resource Development (HRD) plan for developing the capacity of general and NTLP specific staff in TB control will be developed and implemented. Capacity of general health staff will be developed through short but comprehensive training courses for all staff involved in TB and leprosy activities in all districts. Back up will be given by regular routine supervisory visits by NTLP staff at the district level.

The capacity of NTLP specific staff will be built through review of existing staff functions and training needs assessment to guide an HRD plan for the coming five years. A deliberate approach will be adopted to gradually increase the number of government posts at the central level to replace externally funded contracted long-term technical assistance staff positions.

Working conditions for NTLP staff will be reviewed to make the positions sustainable, and necessary communication and transport equipment will be provided. Quarterly meetings at district and regional level will be used to monitor program progress. The annual DTLC planning and evaluation workshop will be maintained for capacity and team building purposes, and several annual courses will be organised: a program management course for RTCs and DTLCs; a PMDT course for specialized dedicated staff working in DR-TB referral sites; and a TB/HIV management course for doctors, nurses and programme managers. Opportunities will be provided for NTLP staff to participate in international training courses and regional and international conferences.

While TB medicines management, laboratory services, and case management are already fully integrated, possibilities will be explored to determine how the NTLP can be better integrated into the general health services. In addition, efforts will be made to get TB and leprosy control activities fully integrated into the planning and monitoring processes at district, regional and national levels. The final aim is to have all TB and leprosy activities reflected in general district health planning and budgeting, even if funds are still provided externally. Through this approach, the program hopes to contribute to long term institutional and financial sustainability of programme activities.

Against this background, this strategic result focuses on the following outcomes:

1. Adequate and competent human resources for TB and leprosy control at all levels
2. Enhanced joint planning and implementation under the stewardship of the MOHSS

Outcome 4.1: Adequate and competent human resources for TB and leprosy control at all levels				
Outputs	Output Indicators	Baseline	Target	Main activities
4.1.1. Medium-term HRD plan for TB and leprosy in place	HRD plan developed	0	1	Develop a capacity development plan for NTLP staff at national, regional and district levels, including a strategy to scale down the dependence on external technical assistance.
4.1.2. Adequate management capacity available at all levels	Number of technical staff at national level funded by GRN	4	13	Increases MoHSS posts for central unit from 4 to 14, including one post for a National Leprosy Coordinator at the level of SHPA
	Number of regions with a substantive RTLC	0	13	Create, fill and maintain a substantive post of RTLC at the level of SHPA
	Number of districts with a substantive DTLC	0	34	Create, fill and maintain a substantive post of DTLC as a promotional post at the level of a Principal Registered Nurse (PRN)
4.1.3. Adequate technical assistance provided to the program	Number of long term resident technical advisors	4	1	Provide long term resident TA
	Number of technical support visits per year	3	3	Provide general regular short term intermittent technical assistance
	Number of technical support visits per year	3	3	Provide specialised short term TA for specific topics
4.1.4. Health care workers trained using standardized comprehensive NTLP modules	Number of nurses and pharmacist assistants trained on TB and leprosy per year	344 (2009)	390	Revise training curricula for all trainings in line with NTLP guidelines
				Organize one training on TB for nurses and pharmacist assistants in each region per year
				Conduct supervision & mentoring activities at all levels
	Number of medical officers and pharmacists trained in TB and leprosy per year	84	100	Organize quarterly national training courses for medical officers and pharmacists
				Include TB and leprosy modules in pre-service curricula of health training institutions
4.1.4. Health care workers trained using standardized comprehensive NTLP modules				Organize specialized training courses on TB for medical officers and nurses working in TB reference hospitals
4.1.5. Technical knowledge and skills of core NTLP staff at national, regional and district levels enhanced	Proportion of core NTLP staff at national, regional and district levels who have received specialized training on TB and leprosy	Unknown	80%	Conduct annual trainings for DTLCs
				Organize specialized TB and leprosy training courses for core NTLP staff at national, regional and district levels
				Organize a NTLP programme management course
				Participate in international training courses
				Support staff to participate in national MPH course
				Participate in regional and international conferences
				Maintain membership to THE UNION and other international publications for technical staff at national and regional levels
Organize annual national program review and planning meeting for DTLCs				

4.1.6. Transport and logistics support provided to various levels of the programme	Number of vehicles purchased to support TB and leprosy activities	0 <sup>17</sup>	52	Procure vehicles for national, regional and district coordination of TB and leprosy activities, replacing old vehicles
	Proportion of districts supported with telephone and internet connection Proportion of regions and districts supported with funding for programme administrative running costs and supportive supervision	100%	100%	Provide financial support for running costs at district level
				Provide financial support for running costs at regional level
				Provide financial support for running costs at national level

Outcome 4.2: Enhanced joint planning and implementation under the stewardship of the MoHSS				
Outputs	Output indicators	Baseline	Target	Main activities
4.2.1. TB plans at all levels included in general health planning documents, and budgeted for	Proportion of district plans with budgeted annual plans for TB	Unknown	100%	Disseminate TBL MTP-II to all districts
				Promote the integration of TB activities in district planning and budgeting
				Train DTLCs in TB planning and budgeting
4.2.2. Leprosy control plans included in general health planning documents and budgeted for in affected districts and regions	Proportion of district plans in leprosy affected areas that include budget lines for leprosy activities	Unknown	100%	Disseminate TBL-MTPII to all districts
				Promote the integration of leprosy activities in district planning and budgeting

<sup>17</sup> This only relates to vehicles procured during the implementation of this plan

## **Strategic Result 5: Partnerships for TB control and leprosy eradication strengthened**

### **Overview**

The 2009 NTLP Programme review noted a number of national partnerships for TB control that have been forged during the implementation of MTP-I, especially:

- Significant financial and technical assistance commitments from collaborating and development partners, donors and non-governmental organizations
- Collaboration with the International Training and Education Centre for Health (ITECH) on basic and in-service training of health care workers on TB control.
- Partnerships with a number of Community-based Organisations in the implementation of Community-based Directly-observed therapy (CB-DOT), and,
- Partnerships with the Namibia Business Coalition on HIV/AIDS (NABCOA) in the implementation of TB/HIV activities in the private sector.

There was however rudimentary evidence of participation and resource commitment from other government sectors towards implementation of TB and TB/HIV control activities; exceptions are the Namibian Defence Force and the Ministry of Safety and Security (MoHSS) which have established medical services are also providing TB care. Furthermore, partnership with the private health care providers (individual practitioners, private hospitals, industrial companies directly providing or financing health care, insurance companies, private pharmacists, and private laboratories) received a low priority from NTLP and remains sub-optimal.

The program will therefore develop and implement strategies to enlist the active participation of the private sector in TB and leprosy activities and to ensure adherence to minimum standards of TB and leprosy care by all care providers in the public and private sectors. Training will be provided to all providers including those in the private sector, and possibilities will be explored to capacitate the private sector with free TB and leprosy medicines in a framework of compliance with national guidelines and observance of accountability requirements to the NTLP.

This strategic result also recognises sectors with potentially high TB and TB/HIV burden such as prisons, police detention cells, mining companies, fisheries, uniformed services, education, cross border travellers, as well as highly mobile and hard-to-reach populations. The NTLP will seek to establish partnerships, either directly or through NGO's to reach these high risk sectors (as discussed under Strategic Result 2).

Outcome 5.1: Enhanced public - private partnerships for TB control and leprosy eradication				
Outputs	Output indicators	Baseline	Target	Main activities
5.1.1. Functioning of the National TB and Leprosy Steering Committee (NSC) strengthened	Number of NSC meetings held per year	4	4	Organize quarterly TB and leprosy NSC meetings
				Expand the mandate of the NSC to include leprosy issues
				Promote participation of all relevant stakeholders in the NSC
5.1.2. Legal and regulatory framework for private sector involvement in TB control in place	National accreditation system for private providers of TB services in place	None	1	Develop a plan to engage private providers in TB and leprosy control through the Medical Association of Namibia and other relevant partners
				Hold regular sensitization and consultation meetings on TB control with private health facility managers
	Existence of a formal agreement for partnering with private providers of TB services	None	1	Develop an accreditation system for qualifying private health care providers / facilities to provide TB diagnosis and treatment services
				Develop and use a formal agreement for partnering with private providers of TB and leprosy services
5.1.3. TB cases attending the private sector managed in accordance with NTLTP guidelines	Proportion of private providers participating in TB control activities in the context of a government regulated PPM initiative	Unknown	100% (2015)	Disseminate and promote the International Standards of TB Care (ISTC) among private providers.
	Proportion of private providers of TB care that are trained on the NTLTP guidelines			Sign MoUs for the delivery of TB services with private providers
				Capacitate accredited private sector providers of TB services with commodities and tools in the context of a government regulated PPM strategy
	Proportion of private health care facilities and providers reporting quarterly on TB case finding	Unknown	100%	Monitor and supervise TB control activities in the private sector
				Regularly collect data of TB patients managed in the private sector

## **Strategic Result 6: Communities and people with TB and leprosy empowered**

### **Overview**

Namibia is already successfully engaging communities, civil society and people with TB and leprosy in the fight against the two diseases. This has been most useful in sensitizing communities to the importance of early case identification and adherence to treatment. The recent programme review recognised the important role community based DOTS services and community workers had played in the significant improvement in treatment success rates for new smear positive TB cases, observed in the country in the past few years. The review findings also showed that stigma and defaulting from treatment are reduced when community members participate in supervising treatment of TB patients. Former TB patients have also been shown to contribute to increasing early case detection, case holding and stigma reduction in the community.

However, available information suggests that while there has been significant improvements in consumer involvement in the decision making process for HIV prevention and care, the same cannot be said of the TB and leprosy patient community where patient involvement is minimal. The need for consumer involvement in TB control activities is much greater now because of the advent of DR-TB which has heightened the need for improved infection control as well as the need for patient adherence to prolonged and complicated treatment regimens. It is also of particular importance in the management of leprosy where patient involvement in contact identification, tracing and rehabilitation are vital.

There are also a number of other challenges to increasing community participation in TB and leprosy care. These include the absence of a substantive ACSM strategy to raise community awareness and increase community participation in TB and leprosy care. Similarly, there are no clear linkages between TB and HIV care at community level to address care and stigma among those co-infected. Finally, the information linkages between communities and health care facilities still remain weak.

This strategic result therefore aims to mobilise and involve communities and NGOs more in TB and leprosy control and care activities, and to promote healthy behaviours. ACSM initiatives will be promoted and relevant trainings will be given to Community Health Committees, field promoters and other community-based health workers. Supervision to this process will be given by the NTLP either through NGOs involved or directly by staff of local health facilities. A KAP survey will be conducted to better understand health seeking behaviours within community settings and to inform the development of appropriate IEC materials and design of ACSM strategies and initiatives.

Outcome 6.1: Increased community participation, improved health seeking behaviour towards TB and leprosy				
Outputs	Output indicators	Baseline	Target	Main activities
6.1.1. ACSM strategy for TB and leprosy developed	Existence of TB and leprosy ACSM strategy	0	1	Develop ACSM strategy and implementation plan for TB and leprosy
				Revise and promote the utilization of TB patient charter
6.1.2. ACSM activities implemented at district and peripheral levels	Number of districts reporting quarterly on ACSM activities	2 (2009)	34	Commemorate World Leprosy Day (last Sunday of January); World TB Day (24 March), and National TB Awareness Week (first week of October)
				Support districts to develop ACSM activity plans
				Conduct community sensitization meetings and campaigns on TB and leprosy
				Train members of CHCs, Field Promoters and other community health workers on TB and leprosy care and support.
				Provide support and back up to communities and community groups to participate in TB and leprosy activities
6.1.3. TB and leprosy suspects seek care early	Number of KAP studies conducted	0	2	Conduct 2 KAP surveys (pre-implementation and end term)
				Include TB KAP questions in DHS surveys
				Organise a ACSM course for regional management staff.
				Develop and implement IEC activities
6.1.4. Increased awareness and knowledge and reduced leprosy related stigma and discrimination in most affected areas				Develop and disseminate health promotion materials on leprosy
				Conduct awareness campaigns on leprosy
				Provide support to treatment supporters and self-help groups of patients with TB and those with leprosy

# CHAPTER 4

## TB and Leprosy Programme Monitoring and Evaluation Framework

### 4.1. TB Control Targets

#### 4.1.1 World Health Assembly targets

In 1991, the World Health Assembly (WHA) adopted a resolution<sup>18</sup> setting two targets for global TB control: 70% case detection rate and 85% treatment success rate, to be reached by all WHO Member countries by the year 2000. By 2005, only a small number of countries had reached the targets and the WHA recommended that all continue to pursue these programme performance targets as the minimum required for achieving impacts on TB epidemiology. By 2009 Namibia had achieved 84% CDR and 82% treatment success for new smear positive patients.

#### 4.1.2 Millennium Development Goal (MDG) targets and indicators for TB Control

In 2000, world leaders established the Millennium Development Goals (MDGs) with the target of having halted and begun to reverse the incidence of TB by 2015. Two TB-specific indicators under this goal are:

- Incidence, prevalence and mortality rates associated with TB, and
- Proportion of TB cases detected and cured under DOTS.

To operationalise the MDG targets, the Stop TB Partnership re-stated the TB control targets to require that at least 70% of people with sputum smear positive TB will be diagnosed and at least 85% of them cured by 2005 and that the global burden of TB (per capita incidence, prevalence and mortality rates) will be reduced by 50% compared to 1990 levels by 2015. Furthermore, the global incidence of TB disease will be less than 1 case per million inhabitants per year, a definition adopted for TB elimination. Since 2009, the target for treatment success rate has been adjusted to 87% following the attainment of this level globally based on the 2008 treatment cohort.

#### 4.1.3 Abuja Call for Accelerated Action towards Universal Access to HIV/AIDS, TB and Malaria Services<sup>19</sup>.

In May 2006, the Heads of State and Government of the African Union held a special summit on HIV/AIDS, TB and Malaria<sup>20</sup> to review the status of implementation of the Declarations and Frameworks for Action of the 2000 Abuja Summit on Roll Back Malaria, and the 2001 Abuja Summit on HIV/AIDS, TB and Other Related Infectious Diseases (ORID). At the end of the summit, the Heads of State and Government adopted the "Abuja Call for Accelerated Action towards Universal Access to HIV/AIDS, Tuberculosis and Malaria Services by 2010 by a United Africa". In April 2007, the third Session of the African Union Conference

<sup>18</sup> World Health Organization Forty-Fourth World Health Assembly. Resolution WHA44.8. Geneva, World Health Organization 1991. Report No: WHA44/1991/REC/1

<sup>19</sup> Abuja Call for Accelerated Action towards Universal Access to HIV and AIDS, Tuberculosis and Malaria Services in Africa. Sp/Assembly/ATM/2(I). Rev 3

<sup>20</sup> Special Summit of African Union on HIV/AIDS, Tuberculosis and Malaria (ATM). Abuja, Nigeria. 2-4 May, 2006. Sp/Assembly/ATM/2(I). Rev 3

of Ministers of Health, agreed on a Monitoring and Reporting Mechanism for Implementation of the 2006 Abuja commitments. In addition to pursuing the WHA, MDG and Stop TB Partnership targets, the Call requested that 100% of TB patients have access to HIV testing and counselling services, and 100% of eligible HIV-positive TB patients have access to anti-retroviral treatment by 2010.

In line with these benchmarks, standard M&E indicators in the input-process-output-outcome-impact framework will be used for monitoring the implementation and impact of this strategic plan. The ultimate implications of the MDG targets are that national programmes go beyond outcomes and outputs to the measurement of impacts of control activities on disease burden (per capita incidence, prevalence and mortality rates).

Monitoring and evaluation for the implementation phase of this strategic plan will be based on the existing national Monitoring and Evaluation (M and E) Framework for TB (MoHSS, 2009) that will be revised to respond to all aspects of this strategic plan. Monitoring and evaluation will allow assessment of effectiveness, efficiency and equity aspects of the program.

Effectively, monitoring and evaluation of the TBL MTP-II will comprise routine monitoring of programme processes on one hand, and monitoring of programme performance indicators, results and outcomes as specified under each strategic result, and in consistency with other national and global targets for TB and leprosy control.

#### **4.1.4 Programme results**

**TB and leprosy burden:** Trends in TB and leprosy case notification rates will be collected through the existing NTLTP health information system (both paper and electronic TB register) at district level and aggregated at regional and national levels on a quarterly basis. This will include data on registered TB and leprosy cases of all forms, including various forms of drug resistant TB; and prevalence of TB/HIV and leprosy/HIV co-infection rates. The MDG TB control targets envisage a 50% reduction in per capita incidence, prevalence and mortality rates by 2015 relative to 1990 rates, and TB elimination (defined as TB incidence of less than 1 case per million inhabitants per year) by 2050.

The following indicators will be used to measure and monitor leprosy disease burden over time:

- i. Number and rate of new cases detected per 100 000 population per year (<10/100,000 pop)
- ii. Proportion of multi-bacillary (MB) cases among new cases
- iii. Proportion of child cases among new cases
- iv. Number and rate of new cases with grade-2 disabilities per 100 000 population per year
- v. Proportion of patients who develop new/additional disability during MDT per year
- vi. Prevalence/detection ratio

These will be monitored using standard data collection tools to be introduced as part of the implementation of this plan. The national and global elimination target of less than 1 case per 10,000 inhabitants, which was long achieved at national level in Namibia, will be applied and pursued in all regions and districts.

**TB and leprosy treatment results:** Standard treatment outcomes as outlined in national and global guidelines will be used to assess the people level results of individual treatment. This information will continue to be routinely collected through the existing health information system at national, regional and district levels for each quarterly cohort of patients, and compared to national and international targets over time. Treatment success rate, defined as cure and treatment completion rates combined

will be the key indicator for favourable TB treatment outcomes. The target for first line treatment will be 87%. In addition, individual patient data will be collected for each patient with DR-TB who is treated with second-line anti-TB medicines to help the NTLP monitor adherence of clinicians to national treatment and results of DR-TB treatment.

The leprosy treatment success rate target on MDT is set at 90%. Other measures of successful treatment to be monitored are the number of relapses among patients cured by a full MDT treatment course.

**TB/HIV collaborative activities:** This plan envisages strengthened collaboration mechanisms between TB and HIV programmes; scale up of interventions that reduce TB burden among PLHIV and scale up of interventions that reduce the burden of HIV on dually infected TB patients as outlined in the international policy framework for collaborative TB/HIV activities. In this context, the NTLP will monitor the functionality of collaborations mechanisms, the proportion of TB patients tested for HIV and accessing the appropriate care, and the proportion of people living with HIV accessing “3Is” interventions. This will be done in collaboration with the HIV programme and the sub-division responsible for M&E.

**Surveillance on anti-TB drug resistance:** Periodic serial country wide surveys of anti-TB drug resistance prevalence in patients never before treated with anti-TB medicines is a good long-term indicators for TB programme performance. Similarly, prevalence of MDR-TB among TB patients eligible for retreatment is a good proxy measure of the quality of retreatment. Prevalence of XDR-TB is a good measure of the quality of management of patients with MDR-TB. In this context, a repeat country wide anti-TB DRS will be conducted in 2013, five years since the last one was done in 2008. At the same time, a laboratory based and programme based anti-TB drug resistance surveillance system will be set-up for routine monitoring of anti-TB drug resistance among patients who fail on first line treatment or relapse after successful initial treatment. The gradual expansion of screening for MDR-TB from all retreatment patients to all new patients will enable NTLP to have a reliable routine TB drug resistance surveillance system which will in future offset the need for periodic resistance surveys.

**Disease burden estimation and impact measurement:** Achieving the impact targets of prevalence and incidence of TB is now the focus of international efforts to control TB, and demonstrating whether or not these are achieved is of major importance for individual countries, the United Nations (UN), WHO, the Stop TB Partnership, and a variety of technical, financial and development agencies. The WHO Global Task Force on TB Impact Measurement instituted in 2006 has come up with recommendations on approaches to measure and monitor incidence, prevalence and mortality in countries. These include that all countries should strengthen their routine surveillance systems towards the ultimate goal of directly measuring trends in prevalence and incidence from:

- Trends in notifications adjusted for changes in the quality, range and coverage of TB diagnostic and treatment services;
- A series of data from Annual Risk of Infection (ARI) or disease prevalence surveys, and
- Trends in mortality

This strategic plan proposes to adopt these approaches and carry out a TB disease prevalence survey as the ultimate to determining the definitive baseline burden of disease in Namibia. It is envisaged that repeat surveys will be conducted in subsequent plan timeframes to establish a trend.

#### 4.1.5 Focus and levels of monitoring process

The processes for monitoring the implementation of this TBL MTP-II plan will focus mainly on input, activity, output/outcome, and strategic result chain at all levels of the Namibia health care delivery system. For each of the areas, the plan has clearly outlined key indicators that will allow monitoring and evaluation of the TB and leprosy activities. The following will apply:

- **Input level:** This will be done to assess planned versus available inputs such as human and financial resources, and technologies required for performing a specific activities /task included in an annual work plan.
- **Process level:** This will be done on the basis of comparing the quarterly planned activities against implementation on the basis of process indicators, included in the quarterly and annual work plans
- **Output / Outcome level:** Outputs / outcomes refer to actual services that become available under the program such as laboratories for TB culture, and CB-DOT, and measures of achievements arising from implementation of programme activities such as case detection and treatment success rates. To this end, the plan has identified key output indicators that make monitoring and evaluation of this aspect of the plan possible. On an annual basis, an assessment will be made of the progress made against output indicators defined in MTP-II for each of the strategic results, which will include an assessment against the targets set in the plan.
- **Strategic Result level:** At mid-term and at the end of the TBL MTP-II time frame, an overall review will be done with the aim of evaluating the extent to which each of the strategic results are being or have been achieved. This will include a SWOT (strength, weaknesses, opportunities, threats) analysis for each of the strategic results to facilitate redirection and reprogramming as necessary.
- **Impact level:** Impacts are measures of broader ultimate goals of the program such as decreased TB and leprosy morbidity and mortality. For TB and leprosy, these are ordinarily realized in the longer term than the life of this plan. Nevertheless, it is envisaged that a baseline measure of the burden of disease will be established to allow subsequent measures to establish trends overtime. Periodic country wide or targeted disease prevalence surveys will be planned for during the life of this plan

**Figure 6: M&E Framework for the National Tuberculosis and Leprosy Programme**

<u>Context:</u>	<u>Health systems:</u>	<u>Socioeconomic conditions:</u>	<u>Epi-context:</u>
<ul style="list-style-type: none"> <li>• Political commitment</li> </ul>	<ul style="list-style-type: none"> <li>• Availability</li> <li>• Access</li> <li>• Utilisation</li> </ul>	<ul style="list-style-type: none"> <li>• Demographics</li> <li>• Urban/rural</li> <li>• Gender</li> <li>• Poverty</li> </ul>	<ul style="list-style-type: none"> <li>• HIV prevalence</li> <li>• Malnutrition</li> <li>• Alcoholism</li> </ul>

<b>INPUT</b>	<b>PROCESS:</b>	<b>OUTPUT:</b>	<b>OUTCOME</b>	<b>IMPACT</b>
<ul style="list-style-type: none"> <li>• Policy environment</li> <li>• Human resources</li> <li>• Infrastructure</li> </ul>	<ul style="list-style-type: none"> <li>• Management</li> <li>• Training</li> <li>• Medicine management</li> <li>• Laboratories</li> <li>• Communication</li> <li>• Advocacy</li> </ul>	<ul style="list-style-type: none"> <li>• Diagnostic services</li> <li>• Treatment services</li> <li>• Improved knowledge, attitudes &amp; practices</li> <li>• Reduced stigma</li> </ul>	<ul style="list-style-type: none"> <li>• Case detection</li> <li>• Case treatment</li> </ul>	<ul style="list-style-type: none"> <li>• Reduced prevalence of TB and leprosy infection</li> <li>• Reduced prevalence of TB and leprosy disease</li> <li>• Reduced TB and leprosy morbidity</li> <li>• Reduced TB and leprosy mortality</li> </ul>

The shaded area around the input, process, and output boxes illustrates how the elements within these components of the framework are interchangeable. For example, depending on what stage of implementation the program is functioning, a national policy may be an output at the early stages but may be an input once a program is fully functional.<sup>21</sup>

<sup>21</sup> Adapted from: *Compendium of Indicators for Monitoring and Evaluating National Tuberculosis Programs*; WHO, 2004

# CHAPTER 5

## Conditions for Success and Sustainability

### Introduction

The expected success from implementation of the TBL MTP-II will depend on four critical factors, namely:

- Availability and efficient use of qualified and competent staff at all levels of the programs
- Timely availability of sufficient financial resources
- Political leadership and stewardship
- Programme governance

The plan therefore serves as a rallying call for mobilisation of concerted efforts and commitment for the successful implementation and execution of activities necessary for the control of TB and eradication of leprosy in Namibia.

#### 5.1. Availability of sufficient, qualified and competent staff at all levels

Adequate staffing with skilled personnel at all levels is essential for sustainable and effective TB and leprosy control. There should be a deliberate move by the MoHSS to ensure that the current staff positions contracted through partner support are converted to full time government funded positions within the NTLP that are also filled with competent staff. This will ensure that there is continuity in the operations of the NTLP. The position of a National Leprosy Officer should be created to ensure effective coordination of leprosy activities.

At regional level, all 13 regions now have filled posts of CHPAs and SHPAs who provide support to the regional CMOs, responsible for the coordination and implementation of TB, leprosy, HIV/AIDS, STIs, and malaria and other vector-borne disease program activities. The existing arrangement does not allow due attention to be focused on TB and TB/HIV since both officers have to attend to all these programmes. It is therefore crucial to have a dedicated RTLC at regional level at the level of SHPA.

Similarly there is need to have a substantive DTLC at district level to oversee the implementation of TB, TB/HIV and leprosy activities. This position needs to be a promotional position at the level of PRN so that there is sufficient incentive as well as administrative and supervisory authority associated with the position.

For reasons of efficiency in building and maintenance of a pool of sustainable and effective skills, staff would need to stay in the same function for a number of years in order to become productive, experienced and competent in their job. Halting the quarterly rotation of nurses in TB clinics and retaining staff at other levels for a number of years will help ensure the investments in HRD yield benefits with a higher proportion of sufficiently competent staff working in TB and leprosy programmes at any given time

## **5.2. Timely availability of sufficient financial resources**

It is essential to provide pledged funding and technical support for TB and leprosy program activities in good time before scheduled commencement of program activities according to the approved annual plans in order to implement the operational plans effectively.

Operational plans will need additional funding support to complement MoHSS funds. Although the MoHSS is the main funding source of NTLP, paying for health facilities, TB medicines, TB laboratory services and salaries, these costs are not reflected in operational plans for TB and leprosy activities.

This plan has identified an indicative total budget of US\$152 million using the WHO's planning and budgeting tool for TB ([http://www.who.int/tb/dots/planning\\_budgeting\\_tool/en/index.html](http://www.who.int/tb/dots/planning_budgeting_tool/en/index.html)), over the five year implementation period (*Annex 4*). The costs of ACSM activities is however expected to increase since this is dependent upon the contents of the envisaged ACSM strategy, which is yet to be developed. While the government will cover at least sixty-percent of these costs (US\$91 million), additional resources will need to be mobilised in order to fully fund the implementation of this plan.

## **5.3. Political leadership and stewardship**

The appointment of the TBL-NSC and the support given to this strategic body has buttressed the political commitment necessary for steering and linking the TB control program with other programs within and outside the health sector. It is therefore essential for the GRN and MoHSS to continue supporting, maintaining and enhancing the constitution, capacity and continued function of the TBL-NSC. Additionally the NSC should be expanded to include leprosy so that the implementation of leprosy activities is also addressed.

## **5.4. Program governance**

Effective management of the NTLP in Namibia is essential for making progress towards attaining the goal of reducing TB and leprosy to such levels that the two are no longer public health problems in the country. To this end, it is important to strengthen and further develop existing management systems for human, financial, infrastructural and technological assets invested in the TB and leprosy program. Comprehensive, systematic and transparent recording of asset needs, supply allocation and use supported by strong systems for timely auditing and implementation of recommendations from audits will go a long way in achieving good program governance.

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- MoHSS
- NIP
- UNAM
- KNCV
- NTLP
- NRCS
- USAID
- WHO-AFRO

# ANNEXES

## Annex 1: Summary of public health roles for governmental stakeholders in TB and leprosy control

Stakeholder group	Public health/ TB and Leprosy control role
<b>Governmental</b>	
Office of the Prime Minister	<ul style="list-style-type: none"> <li>Enabling public service staff rules, policies and procedures</li> </ul>
Ministry of Home Affairs	<ul style="list-style-type: none"> <li>Expedient and timely issuing of work permits and visas for expatriate health personnel</li> <li>Provision of complete data on civil registration</li> </ul>
Ministry of Safety and Security	<ul style="list-style-type: none"> <li>Provision of health services to staff, prisoners and trial-awaiting prisoners</li> <li>Coordination of the provision of quality services in the prison settings</li> </ul>
Ministry of Defence	<ul style="list-style-type: none"> <li>Assistance with transport and logistics in emergency situations</li> <li>Adherence to health standards</li> <li>Provision of health services to soldiers</li> </ul>
Ministry of Education, and academic institutions	<ul style="list-style-type: none"> <li>Provide assistance in HRD for the health sector</li> <li>Implement school health programmes</li> <li>Produce adequate and properly trained human resources for health and social services</li> </ul>
Ministry of Works and Transport	<ul style="list-style-type: none"> <li>Construction and proper maintenance of health infrastructure and facilities and equipment</li> <li>Timely consultation and formal notification on contractor appointments</li> <li>Provide guidelines for the transfer of maintenance functions</li> </ul>
Ministry of Regional, Local Government and Housing and Rural Development	<ul style="list-style-type: none"> <li>Provision of reliable water, electricity and sanitation services</li> <li>Ensure that de-centralized functions are implemented</li> </ul>
Ministry of Gender Equality and Child Welfare	<ul style="list-style-type: none"> <li>Proper co-ordination of provision of social welfare services between the two ministries</li> <li>Address social problems</li> </ul>
Ministry of Agriculture, Water and Forestry	<ul style="list-style-type: none"> <li>Ensure sufficient food security</li> <li>Provision of safe and reliable water supply</li> </ul>
Ministry of Labour and Social Welfare	<ul style="list-style-type: none"> <li>Provide assistance and guidelines in the implementation of the Labour Act in the health sector</li> <li>Co-ordinate social welfare services between the two ministries</li> <li>Share the available health personnel statistics in the country</li> </ul>

Ministry of Justice, and Attorney General	<ul style="list-style-type: none"> <li>• Assist with the review and update of health and social services sector related legislation</li> <li>• Provision of legal advice and services</li> </ul>
Ministry of Finance	<ul style="list-style-type: none"> <li>• Provide sufficient health care and social services financing</li> <li>• Timely implementation of tenders</li> </ul>
National Planning Commission	<ul style="list-style-type: none"> <li>• Mobilize resources for health care and social services</li> <li>• Provide criteria for budget allocation</li> <li>• Develop poverty reduction programmes</li> <li>• Provision of statistics and statistical services</li> </ul>
Ministry of Information and Communication Technology	<ul style="list-style-type: none"> <li>• Information dissemination and publicity</li> </ul>

#### **Annex 2: Summary of international organisations providing technical, financial and logistical support to the NTLP**

1. World Health Organization
2. Joint United Nations Programme on HIV/AIDS (UNAIDS)
3. United States Centres for Disease Prevention and Control
4. KNCV Tuberculosis Foundation
5. Global Fund to fight HIV/AIDS, Tuberculosis and Malaria (GFATM)
6. Management Sciences for Health (MSH)
7. United States Agency for International Development (USAID)
8. United States President's Emergency Plan for AIDS Relief (PEPFAR)
9. International Training and Education Centre for Health (ITECH)

### Annex 3: Summary of key achievements and challenges arising from the MTP-I review

Intervention area	Key achievements	Key challenges
<p><b>Political commitment and programme management</b></p>	<ul style="list-style-type: none"> <li>• Significant progress in strengthening the technical and managerial capacity of the TB program at national, regional and district levels through establishment and filling of key posts;</li> <li>• The staff complement at the Central Unit has been increased significantly with one Public Health Medical Officer, in addition to re-assignment of additional senior nursing staff to the Unit; all 4 existing posts at the Unit including that of CHPA and CMO have been filled; as well as support from a staff complement from 4 medical officers from TBCAP/KNCV, and 4 technical staff funded through Global Fund grants;</li> <li>• There is evidence of significant and increasing government funding mostly for core clinical TB control activities such as staffing, first line and re-treatment medicines, and laboratory services over the life time of the MTP-I;</li> <li>• There was also rudimentary but clear participation and resource commitment from other government sectors, especially the army and police, towards implementation of TB and TB/ HIV Control activities; There was evidence of stated and demonstrated high political and government recognition of the gravity of the TB situation in the country and the need to intensify control efforts;</li> <li>• TB has been identified as one of the priority programs under a new DSP, and government investment into the program has been increasing over time.</li> </ul>	<ul style="list-style-type: none"> <li>• Non-substantive DTLCs have diffuse roles and no accountability for TB control</li> <li>• Implementation of the MTP-I was hugely and disproportionately dependent on financing from donor and partners (GFATM and USAID) resources</li> <li>• NGOs, with donor funding, support the majority of community health care providers</li> </ul>

Intervention area	Key achievements	Key challenges
<b>Basic DOTS</b>	<ul style="list-style-type: none"> <li>• There was evidence of improving recording and reporting practices across programs;</li> <li>• The NTLP has also established strong partnerships with multi-lateral, bilateral, NGO and CBO partners for capacity building in TB control activities and logistic support at various levels;</li> <li>• Treatment success rate for new smear positive TB has increased from 70% to 83% between 2004 and 2007, and 12 regions have functional CB-DOT services of various models to increase access to DOT services;</li> <li>• The use of community field workers, especially “Field DOTS promoters” and “Lifestyle ambassadors” as part of community TB care scale up has been remarkable and critical to the expansion of patient-centered delivery of treatment including direct observation of treatment (DOT) at community level</li> </ul>	<ul style="list-style-type: none"> <li>• No significant increases in cure rates for previously treated cases, smear negative cases and paediatric patients (&lt;70%); high levels of default and transfer out;</li> <li>• Increase in the number of DR-TB cases and TB/HIV co-infection that can fuel the generation and spread of drug resistant TB strains</li> <li>• High case fatality and treatment failure observed among previously treated patients is most likely due to high levels of MDR-TB and HIV co-infection</li> <li>• Visibility of TB IEC materials is variable and mostly limited to TB clinics</li> <li>• TB IEC materials focus mostly on basic TB diagnosis and treatment adherence</li> <li>• Donor-funded Communication for Behavioural Impact (COMBI) strategy for TB control has been implemented without the involvement of the unit responsible for health information and education in the MoHSS</li> <li>• There was generally no triage of TB suspects in hospital OPDs, ART clinics or peripheral clinics and masks were not provided to TB suspects or other patients presenting with cough</li> <li>• There were limited TB workplace safety measures for health workers, and there are no statutory TB screening and monitoring programmes for health workers or laboratory staff</li> </ul>

Intervention area	Key achievements	Key challenges
<b>TB/HIV collaborative activities</b>	<ul style="list-style-type: none"> <li>• There was impressive improvement in uptake of collaborative TB/HIV activities at service level;</li> <li>• Between 74 and 90% of notified TB patients were tested for HIV in some clinics visited, and most TB/HIV co-infected patients were accessing appropriate HIV care and treatment, including ART;</li> <li>• IPT was being scaled up within the HIV program as part of the 3 Is package and isoniazid was freely available at HIV testing clinics and sites</li> </ul>	<ul style="list-style-type: none"> <li>• Functional collaboration between the TB and HIV programs remains suboptimal</li> </ul>

Intervention area	Key achievements	Key challenges
<b>Drug Resistant TB Control</b>	<ul style="list-style-type: none"> <li>• Most requisite second line medicines are available and are reportedly procured from a WHO recommended pre-qualified supplier of second line medicines, after which the medicines are subject to further quality verification upon arrival in the country;</li> <li>• A government sponsored DR-TB treatment program complete with standard guidelines for case management and a sufficient selection of second line medicines exists;</li> <li>• To assist peripheral decision making on DR-TB care, a CCRC has been set up at central level; personal respirators for use by health workers in DR-TB sites are generally available, and some supplemental environmental controls (UV lights) were available in Katutura Hospital (the designated XDR-TB referral centre) in the capital Windhoek;</li> <li>• In a number of facilities designated as DR or TB referral centres, administrative measures were in place to separate infectious TB patients from other patients (in small peripheral clinics, patients generally sat outside on the veranda while awaiting care)</li> </ul>	<ul style="list-style-type: none"> <li>• There is no national notification system for DR-TB</li> <li>• There are no facility TB-IC plans, enforced isolation or patient separation policies, poor linkages and collaboration between the NTLP and NIP Central TB laboratory, and inadequate linkages between hospitals and NIP laboratories</li> <li>• Most facilities lacked written TB-IC, had limited facilities to isolate infectious TB patients, and had poor TB-IC practices</li> </ul>

Intervention area	Key achievements	Key challenges
<b>Laboratory services</b>	<ul style="list-style-type: none"> <li>• There is a well equipped and sufficiently functioning TB laboratory network (Central “Reference” TB laboratory in Windhoek linked to 36 district and facility laboratories) in place;</li> <li>• TB microscopy and C/DST for first line anti-TB medicines using liquid media technology and gene probe approaches for species identification is being done;</li> <li>• There were funded plans to pilot newer molecular assays for rapid MDR-TB diagnosis, and decentralizing liquid medium C/DST services to two other sites in the regions;</li> <li>• Specimen flow from the peripheral to the central laboratory for C/DST purposes is relatively unimpeded;</li> <li>• All laboratories in the country are linked to an electronic laboratory data management information system (Medi-tech), to manage information flow between the laboratories</li> </ul>	<ul style="list-style-type: none"> <li>• NIP has no direct link or accountability to the NTLP</li> <li>• The NIP Central TB laboratory in Windhoek is still Biosafety Level 2 (rather than 3 to reduce the risk of transmitting infectious agents to staff and communities)</li> </ul>
<b>Partnerships</b>	<ul style="list-style-type: none"> <li>• There has been significant financial and technical assistance commitment from collaborating and development partners, donors and NGOs, especially USAID, GFATM, CDC, KNCV, MSH, and the WHO. USAID has been bringing close to US\$2.2m per year and the GFATM Round 2 and 5 grants brought a total of US \$19.5 million over the life time of the MTP-I;</li> <li>• Funding from PEPFAR has also been instrumental in strengthening the TB laboratory capacity of the NIP</li> </ul>	<ul style="list-style-type: none"> <li>• There was poorly coordinated (fragmented and inefficient) partner support to TB and HIV control strategies</li> </ul>

**Annex 4: Cost Estimates for the TBL MTP-II, 01 April 2010-31 March 2015<sup>22</sup> (\$U,000)**

	2010	2011	2011(i)*	2012	2012(i)*	2013	2013 (i)*	2014	2014(i)*	2015	2015(i)*	Total	Total(i)
<b>Strategic Result 1</b>	4 106	5 276	5 593	5 358	6 020	5 377	6 404	8 402	10 607	2 476	3 313	30 995	36 044
<b>Strategic Result 2<sup>23</sup></b>	3 132	5 581	5 916	5 671	6 372	5 815	6 926	5 900	7 449	1 493	1 998	27 592	31 792
<b>Strategic Result 3</b>	1 055	1 520	1 611	1 792	2 013	1 963	2 338	1 623	2 049	421	563	8 374	9 630
<b>Strategic Result 4</b>	4 475	6 201	6 573	6 205	6 972	10 973	13 069	11 200	14 140	6 362	8 514	45 416	53 743
<b>Strategic Result 5</b>	62	82	87	82	92	82	98	82	104	21	27	410	469
<b>Strategic Result 6</b>	241	373	395	326	366	328	391	326	412	288	385	1 882	2 190
<b>General use of health services<sup>24</sup></b>	5 591	7 396	7 840	7 339	8 246	7 284	8 675	7 230	9 128	1 416	1 895	36 256	41 375
<b>Leprosy specific cost estimates<sup>25</sup></b>	107	143	152	143	161	143	170	143	181	36	48	715	818
<b>Total</b>	<b>18 769</b>	<b>26 572</b>	<b>28 166</b>	<b>26 916</b>	<b>30 243</b>	<b>31 965</b>	<b>38 071</b>	<b>34 906</b>	<b>44 068</b>	<b>12 513</b>	<b>16 745</b>	<b>151 641</b>	<b>176 062</b>

\*These figures represent the inflation adjusted cost estimates for the respective year based on an inflation rate of 6% (<http://www.sss.com.na/admin/data/downloads/Nam%20inflation150310x.pdf>)

<sup>22</sup> The estimated budgets are presented for the respective calendar years, and for 2010 and 2015 are taken as three quarters and one-quarter of the projected annual costs respectively

<sup>23</sup> This strategic result is co-funded by both TB and HIV programmes. About 50% of this cost is for ART, which is funded by the HIV programme

<sup>24</sup> These costs are fully funded by the government budget

<sup>25</sup> These costs pertain to the leprosy specific costs that are not included in the general costing, and are mainly related to the activities targeting the leprosy endemic regions of Kavango and Caprivi

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