REPUBLIC OF NAMIBIA

Ministry of Health and Social Services

Third Medium Term Strategic Plan for Tuberculosis and Leprosy

2017/18 – 2021/22

END TB

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Third Medium Term Strategic Plan for Tuberculosis and Leprosy

2017/18 – 2021/22

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Directorate: Special Programmes

Private Bag 13198

Windhoek

Tel: +264 61 203 2432

Fax: +264 61 300359

Vision

A Namibia free of tuberculosis and leprosy.

Mission

Universal access to tuberculosis and leprosy care and prevention per international standards, while addressing the determinants and consequences of the diseases in line with the Sustainable Development Goals.

Goals

Reduce the national burden of tuberculosis to less than 50 cases per 100,000, and reduce the burden of leprosy to less than one leprosy patient per 1,000,000 population by 2035.

Targets

- To have reduced the incidence of TB from 489/100,000 in 2015 to 321/100,000 by 2021.
- To have reduced TB mortality from 68/100,000 in 2015 to 34/100,000 by 2021.
- To have reduced the incidence of leprosy from 10/1,000,000 in 2016 to 4/1,000,000 by 2021.

Foreword

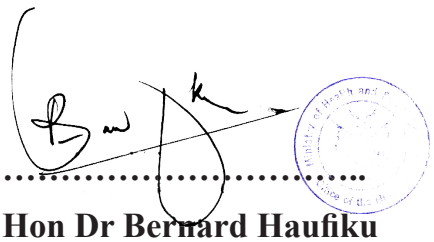
Despite progress made towards reducing the burden of tuberculosis (TB) in Namibia, the disease remains a major public health concern in the country. While there has been a consistent decrease in reported TB cases since 2004, it is noteworthy that the 2016 World Health Organisation (WHO) *Global Tuberculosis Report* included Namibia among the 30 countries with the highest TB burden globally, due to the country's high estimated per capita TB incidence. The country is also included among the countries with very high rates of TB/HIV coinfection, with an HIV prevalence of 38% among TB patients in 2016.

Namibia also continues to report relatively low but significant numbers of leprosy cases, with active case finding efforts resulting in increased case numbers. This suggest that the current case routine reports underestimate the true burden of the disease in the country, hence the need to ensure focused attention on ensuring sustained efforts to further eliminate the disease.

Systematic and progressive efforts to address TB in Namibia were first formalised with the development of the country's first Medium Term Plan for Tuberculosis 2005-2009 in 2004 (TB MTP-I). The successor plan, the second Medium Term Plan for Tuberculosis and Leprosy 2010-2015 (TBL MTP-II) was the first strategic plan in the country to specifically include focussed attention on leprosy, and was based on the Stop TB Strategy as well as the Global Strategy for Further Reducing the Leprosy Burden and Sustaining Leprosy Control Activities 2006-2010; the plan was extended to end in 2016/17 in line with the country's national development plans.

This third Medium Term Plan for Tuberculosis and Leprosy (TBL MTP-III) was guided by the Sustainable Development Goals (SDGs), WHO's End TB Strategy, the Stop TB Partnership's Global Plan to end TB (2016-2020) and the WHO Global Leprosy Strategy (2016-2020). The plan is also in line with the overall vision and mission of the National Health Policy Framework 2010-2020, the fifth National Development Plan (NDP5), Vision 2030 and the Harambee Prosperity Plan 2016/17 - 2019/20. It includes ambitious but necessary targets for ending TB and leprosy in Namibia. Achievement of these targets will require a paradigm shift from a health sector focused approach to a multi-sectoral approach to TB and leprosy care and prevention. In particular, it calls for increased human and financial resources and close collaboration between government ministries and departments, non-governmental organisations (NGOs), civil society, academic institutions, development partners, private sector and communities.

I would like to thank all individuals and organisations who contributed to this document, and I urge all stakeholders to take ownership of the initiatives contained herein, and ensure full implementation towards ending TB and leprosy in Namibia.



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Hon Dr Bernard Haufiku

Minister of Health and Social Services

Table of contents

Preface

According to the 2016 Global TB Report, the global TB epidemic is larger than previously estimated. In 2015 there were an estimated 10.4 million new TB cases worldwide, with an estimated 1.8 million TB deaths in the same year. While there was a 1.5% decline in estimated incidence between 2014 and 2015, the rate of decline needs to increase to at least 4% annually if the End TB targets are to be met.

The case notification rate of 394 cases per 100,000 inhabitants in 2016[1] in Namibia indicates a very high TB burden in the country, especially considering that the country is estimated to be missing up to a third of incident TB cases annually. HIV continues to significantly contribute to Namibia's TB burden; 38% of TB patients in 2016 tested positive for HIV. Other contributing factors include poverty and associated risk factors (overcrowding, poor housing conditions, poor nutrition and delays in seeking health care), smoking, alcohol use and general community transmission due to the high prevalence of the disease in the country.

Globally 213,899 leprosy cases were reported in 2014. Namibia continues to be among the countries to report leprosy cases every year, with 23 cases reported in 2016, primarily in the northern regions of the country. Thus while the country has achieved leprosy elimination status, there is need to ensure that efforts to address the disease, including surveillance, are sustained.

While the country has made progress in TB control and prevention, challenges still exist with inadequate case detection, suboptimal treatment outcomes, high burden of drug-resistant TB, and the high TB/HIV coinfection rates. Similarly leprosy case detection, management and rehabilitation efforts remain inconsistent and inadequate. Inadequate human resources for health, upon which the TB and leprosy programme depends, limited access to health services due to vastness of the country, and inadequate health infrastructure all pose significant constraints to service delivery.

This strategic plan is therefore designed to accelerate Namibia's progress towards national and international TB and leprosy targets. It aims to secure domestic and international financial resources for implementation of the plan, strengthen TB and leprosy programme leadership and programme and patient management capacity, accelerate appropriate diagnosis of TB, manage all forms of TB (including drug-resistant TB), manage TB/HIV and other comorbidities, prevent transmission of TB in health facilities and selected congregate settings, relieve the economic burden associated with TB and leprosy, enhance monitoring, evaluation and research, and manage all forms of leprosy and associated disabilities.

Monitoring and evaluation will be integral to ensuring optimal, sustained and responsive implementation of this plan. The various monitoring and evaluation responsibilities are thus also included in this plan.

The Ministry of Health and Social Services (MoHSS) would like to thank all stakeholders who provided valuable inputs for the conceptualisation and finalisation of this plan. In addition to all government and non-governmental stakeholders who provided input into this plan, the MoHSS specifically acknowledges the technical support provided by the World Health Organisation and KNCV TB Foundation towards the drafting of this document.

Masabane

PERMANENT SECRETARY MINISTRY OF HEALTH & SOCIAL SERVICES

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P. Masabane (Ms)

Acting Permanent Secretary

[1] MoHSS, 2014. National Tuberculosis and Leprosy Programme 2013/14 Annual Report

List of acronyms

ACSM	Advocacy, Communication and Social Mobilisation
ADRs	Adverse Drug Reactions
AFB	Acid-fast bacilli
ART	Anti-Retroviral Therapy
ASLM	African Society of Laboratory Medicine
CBTBC	Community-Based Tuberculosis Care
CCM	Country Coordinating Mechanism
CCRC	Central Clinical Review Committee
C/DST	Culture and Drug Susceptibility Testing
CDC	United States Centres for Disease Control and Prevention
CDR	Case Detection Rate
CHWs	Community Health Care Workers
CMS	Central Medical Stores
CPT	Cotrimoxazole Preventive Therapy
CSOs	Civil Society Organizations
CXR	Chest X-Ray
DAPP	Development AID From People to People
DHIS2	District Health Management Information System version 2
DOT	Direct Observed Therapy
DOTS	Direct Observed Therapy Short Course
DPS	Division of Pharmaceutical Services
DRS	Drug resistance survey
DRTB	Drug resistant Tuberculosis
DSP	Directorate of Special Programmes
DST	Drug susceptibility testing
DTLC	District Tuberculosis and Leprosy Coordinator
ePMS	Electronic Patient Management System
EPTB	Extra Pulmonary Tuberculosis
EQA	External quality assessment
FLDs	First Line (anti-TB) Drugs
HBC	Home Based Care
HEW	Health Extension Worker
IEC	Information Education and Communication
IC	Infection Control
ICD	International Classification of Diseases
ICF	Intensified (TB) Case Finding
IPC	Infection Prevention and Control
IPT	Isoniazid Preventive Therapy
ISTC	International Standards for Tuberculosis Care
KAP	Knowledge Attitude and Practices

KNCV	Royal Dutch Tuberculosis Foundation
LPA	Line Probe assay
LTBI	Latent Tuberculosis Infection
MDGs	Millennium Development Goals
MDR	Multi Drug Resistant
MDT	Multi Drug Therapy
M&E	Monitoring and Evaluation
MoHSS	Ministry of Health and Social Services
MOHAI	Ministry of Home Affairs and Immigration
MSH	Management Sciences for Health
MTB	Mycobacterium tuberculosis
NAMAF	Namibian Association of Medical AID Funds
NAMPOL	Namibia Police Force
NCS	Namibian Correctional Service
NDP-4	National Development Plan -4
NEMLIST	Namibia Essential Medicines List
NICD	National Institute of Communicable Diseases
NIMART	Nurse Initiated Management of Anti-Retroviral Treatment
NGO	Non-Governmental Organisation
NHLS	National Health Laboratory Services
NIP	Namibia Institute of Pathology
NMRC	Namibian Medicines Regulatory Council
NTLP	National Tuberculosis and Leprosy Programme
NRL	National Reference Laboratory
PDR	Poly Drug Resistant
PEPFAR	Presidential Emergency Plan for AIDS Relief
PHC	Primary Health Care
PLHIV	People Living with HIV
PMDT	Programmatic Management of Drug Resistant TB
PMIS	Product Management Information System
PMTCT	Prevention of Mother to Child Transmission (of HIV)
PoD	Prevention of Disabilities
PPE	Personal Protective Equipment
PPM	Public –Private Mix
RMS	Regional Medical Stores
PB	Pauci- Bacillary
PoD	Prevention of Disability
PSCM	Procurement and Supply Chain Management
PSM	Procurement and Supply Management
QA	Quality Assurance
QC	Quality Control

QLS	Quality Surveillance Laboratory
R	Rifampicin
SADC	Southern Africa Development Committee
SDGs	Sustainable Development Goals
SLDs	Second Line (anti-TB) Drugs
SMS	Short Message Service
SOP	Standard Operating Procedure
TAT	Turn Around Time
THCSS	Tertiary Health Care and Clinical Support Services
TBIC	Tuberculosis Infection Control
SRL	Supranational Reference Laboratory
STI	Sexually Transmitted Infections
UHC	Universal Health Coverage
UHCAN	Universal Health Coverage Advisory Committee of Namibia
USAID	United States Agency for International Development
USG	United States Government
UN	United Nations
UNDP	United National Development Programme
The Union	International Union Against Tuberculosis and Lung Disease
UVGI	Ultra Violet Germicidal Irradiation
WHO	World Health Organization

Executive summary

This strategic plan builds upon the successes and lessons learnt during the implementation of the second Medium-Term Plan for Tuberculosis and Leprosy 2010-2016/17 (TBL MTP-II). It provides a framework for robust and efficient coordination of the country's response to TB and leprosy by all sectors, service providers and communities towards ending TB and leprosy in Namibia.

This plan includes nine strategic objectives:

1. Secure at least 90% of the required funding for TBL MTP-III and maintain focussed positions for TB and leprosy at national, regional and district levels.
2. Test 100% of presumptive TB patients with rapid molecular tests, and achieve universal drug susceptibility testing by 2019.
3. Increase treatment success rate for drug-susceptible from 83% (2015 cohort) to 90%, and for drug-resistant from 60% (2014 cohort) to 77%, by 2021.
4. Increase coverage of HIV testing among TB patients to 100%, coverage of ART among TB/HIV patients to 100%, and coverage of diabetes screening among TB patients to 75%.
5. Increase coverage of TB screening for health facility staff to 90% and establish infrastructure standards for airborne infection control by 2021.
6. Transition to online case-based electronic recording and reporting system and establish a TB research network by 2019.
7. Establish the catastrophic costs due to TB and increase coverage of socio-economic assessment of TB and leprosy patients to 80% by 2020.
8. Maintain 100% health facility coverage of community-based TB and leprosy care in all districts.
9. Attain 100% coverage of annual active leprosy screening in regions reporting leprosy cases since 2010, and 100% coverage of MDT treatment for all leprosy patients.

On the diagnostics front, rapid molecular TB diagnostic tests have been rolled-out, enabling earlier and faster detection of TB, as well as detection of more patients with rifampicin-resistant TB, which is a proxy for multi-drug resistant (MDR) TB. The line probe assay (LPA) to detect resistance to second line anti TB medicines is now available at Windhoek National Reference Laboratory (NRL). A revised TB diagnostic algorithm that incorporates these tests was introduced in February 2017. This third Medium Term Plan for Tuberculosis and Leprosy 2017/18 - 2021/22 (TBL MTP-III) focuses on optimising the use of these tools for improved case detection for both drug-susceptible and drug-resistant TB.

With ambitious plans to ensure universal access to TB and leprosy care and prevention, this plan focuses on multisectoral engagement as a tool to universal access. Plans to map the sub-national TB and leprosy burden and ensure targeted interventions are included in this plan. The strategic plan also takes into account the special needs of these high-risk key populations for TB as it seeks to intensify case finding and case holding among these groups. Targeted interventions are proposed, tailored to the epidemiological, socio-economic, behavioural and biological determinants related to increased risk of TB among PLHIV, health care workers, miners, cross border populations, prisoners and detainees, and people living in informal urban settings.

Epidemiological evidence suggests that childhood TB is likely being underdiagnosed, especially among children less than 5 years old. Strategies to improve the quality of paediatric diagnosis will be employed. Prevention of TB in children will be strengthened through integration of screening for TB at maternal and child health services for earlier diagnosis, improved contact investigation, and provision of preventive therapy.

This TBL MTP-III reflects increased focus on a patient-centred approach to TB and leprosy care and prevention, through service integration, decentralisation of services as well as implementing community-based models of care. Vital to successful patient management will be the availability of uninterrupted, quality-assured laboratory commodities and anti-TB medicines. The plan acknowledges the needs to strengthen supply chain management systems, optimally based on demand as expressed through an interoperable electronic case-based recording and reporting system with links between laboratories and service providers for the laboratory commodities and an electronic stock card system linked to a Product Management Information System (PMIS) for the anti-TB medicines.

This plan includes innovative models for building human resource capacity through improved supervision and clinical mentoring by supervisors from national, regional and district level.

A robust and responsive surveillance, monitoring and evaluation system is important for ensuring evidence-based planning, implementation of quality TB and leprosy care and prevention activities and tracking progress towards achieving its goals, strategic objectives and targets. Periodic data review and analysis meetings will be held at national, regional and district level to enable comparison among regions and districts, understand micro-epidemics and improve the service delivery of relatively lower-performing districts and sites. The monitoring and evaluation system will increasingly shift from paper to electronic, real-time data capture and management systems, including the use of GIS technologies, integration of TB into the DHIS2 and laboratory and pharmaceutical systems, strengthening of vital registration for more consistent recording of TB-related deaths and decentralisation of data analysis skills. To better coordinate TB related research, this plan includes the establishment of a TB Research Network; a TB and leprosy research agenda will be developed and implemented to expand the evidence base for TB and leprosy interventions in the country.

This TBL MTP-III provides a framework for universal access to TB and leprosy care and prevention, and social protection to eliminate catastrophic costs among TB and leprosy affected households. A catastrophic cost survey will be conducted to determine out of pocket expenses and economic impact of TB and leprosy, which will inform strategies to eliminate these costs.

Finally, this plan includes plans for periodic active leprosy campaigns, coupled with capacity building initiatives for leprosy case detection and surveillance. Sourcing of MDTs from WHO will be continued and streamlined with Central Medical Stores (CMS)'s supply chain system.

Chapter 1: Background

1.1. Introduction

The Government of the Republic of Namibia (GRN) is committed to funding its health programmes and has successfully mobilised complementary financial resources for health. In 2013, health expenditure per capita was USD749, and the proportion of government expenditure on health reached 13.9% against an Abuja Declaration target of 15%. According to the 2013 National Health Accounts report, about 91% of total health expenditure was from domestic sources (54% from GRN and 38% from the private sector), while 8% was from donors. Of the 38% private sector contribution, households, private sector employers and other institutions contributed 16%, 11% and 11% respectively. Only about 19% of the population is covered through some form of health insurance (Ministry of Health and Social Services, 2015).

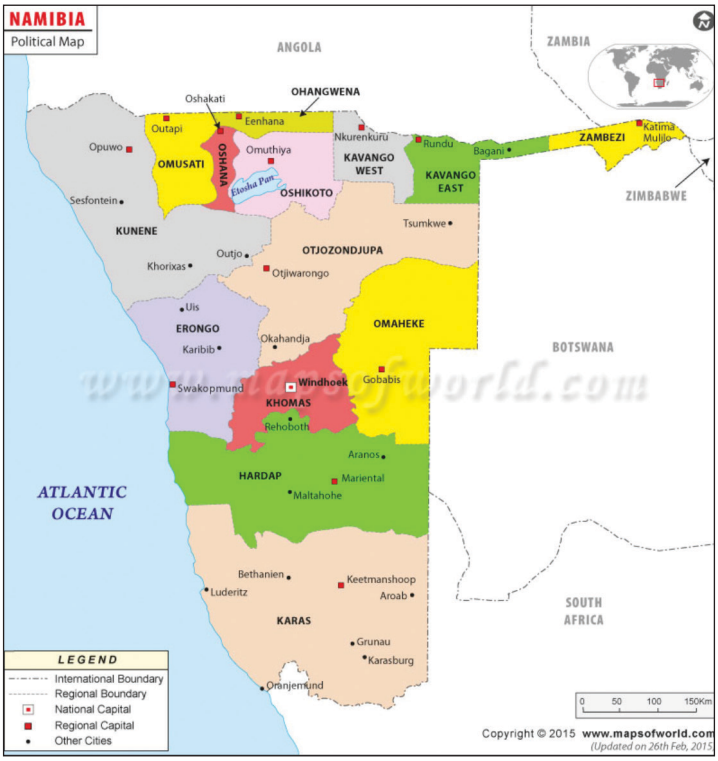
1.2. Country profile

1.2.1 Geography

Namibia is located in Southwest Africa and covers about 800,000 square kilometres (km^2), making it Africa's fifth largest country. The country has an ethnically and culturally diverse population with eleven major language groups. It is bordered by Angola, Botswana, South Africa, Zambia and the Atlantic Ocean. Annual rainfall in Namibia ranges from 0mm/year in the coastal deserts to about 600 mm/year in Zambezi region. The country is prone to droughts, posing a severe threat to water and food security. Only about 1% of Namibia's land is considered arable.

Namibia is divided into fourteen (14) administrative regions (see Figure 1).

Figure 1: Map showing the countries bordering Namibia as well as the administrative regions

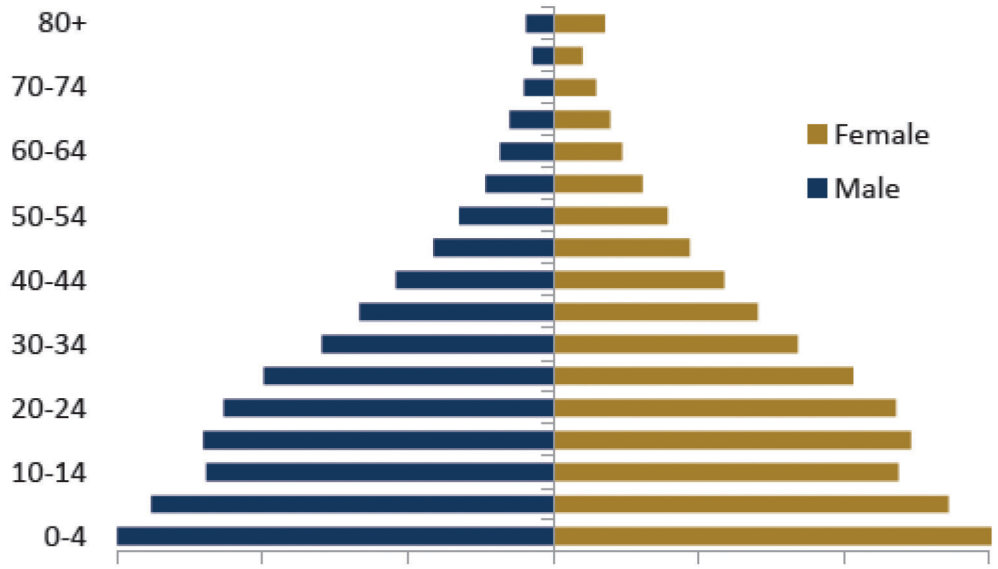


1.2.2 Demographics

Based on the 2011 Namibia national population and housing census results[4] and a population growth rate of 1.3% per annum, the population of Namibia for the year 2017 was estimated to be 2,368,747 comprising 1,151,533 (48.6%) males and 1,217,214 (51.4%) females[2]. The population is young, with 57.8% of the population aged 24 years or less, while those aged 15-64 years comprised 59% of the population. Only 3.5% of the population is aged 65 or older. According to WHO estimates, life expectancy at birth was 63 years for males and 68 years for females (2015). Namibia has a high literacy rate at 89% with a near equal rate between males (90%) and females (88%)[3].

The majority (57%) of the population lives in communal and commercial farming areas while 43% reside in urban areas. Sixty percent (60%) of the population lives in the northern regions while 7% live in the arid and sparsely populated southern part of the country. The rest (33%) lives in the central highlands. At less than 3 people per km^2, Namibia has one of the lowest population densities in the world. Figure 2 shows the population pyramid for Namibia for 2015.

Figure 2: Population pyramid for Namibia, 2015[3]



1.2.3 Socio-economic profile

Namibia is classified by the World Bank as an upper middle-income (UMI) country, with a gross domestic product (GDP) of USD10.27 billion and a gross national income (GNI) per capita of USD 4,620 in 2016[4]. The annual GDP growth rate was 1.2% in 2016. The economy is largely driven by the mining sector which contributes about 20% of the GDP. Namibia is the largest and fourth largest producer of diamonds and uranium in the world respectively. Other minerals extracted in Namibia include lead, zinc, tin, silver, tungsten among others.

Despite the significant contribution of the mining sector to the economy, this sector employs only 3% of the working population, while agriculture accounts for about 12% of GDP but employs 70% of the working population, primarily through subsistence farming. The fishing industry contributes about 6% to the GDP and employs over 5,000 people in the primary industry and nearly 8,000 in associated activities.

[2]Namibia Statistics Agency, 2014; Namibia Population Projections 2011-2041
[3]Namibia Statistics Agency, 2014; Namibia 2011 Population and Housing Census Report
[4]http://databank.worldbank.org/data/Views/Reports/ReportWidgetCustom.aspx?Report_ Name=CountryProfile&Id=b450fd57&tbar=y&dd=y&inf=n&zm=n&country=NAM

Despite the UMI status, Namibia continues to have populations experiencing poverty and social deprivation. The proportion of the population living below the national poverty line was 28.7% in 2009. Additionally, the World Bank estimated that Namibia's Gini-index was 61 in 2015, suggesting significant inequalities in wealth distribution in the country.

1.2.4. Policy context

Vision 2030

Published in 2004, Vision 2030 is Namibia's policy framework for long term development. It aspires for "A prosperous and industrialised Namibia, developed by her human resources, enjoying peace, harmony and political stability"[5]. Vision 2030 is designed as a broad, unifying vision which serves to provide direction to government ministries, the private sector, NGO's, civil society and regional and local government authorities. It includes controlling preventable, infectious and parasitic diseases and securing access to quality health and other vital services among its priorities, and is implemented through five-year national development plans.

National development plans

Namibia's fourth National Development Plan 2012/13-2016/17 (NDP4), highlighted TB as a health priority, alongside HIV and malaria. The fifth National Development Plan (NDP5) includes reduction of TB related mortality from 73/100,000 in 214 to 47/100,000 by 2021/22. The purpose of NDP5 is to provide a roadmap for achieving rapid industrialisation while adhering to the four integrated pillars of sustainable development: economic progression, social transformation, environmental sustainability and good governance.

Harambee prosperity plan

The Harambee Prosperity Plan 2016/17-2019/20 is an ambitious 4-year plan that envisages achievement of rapid economic growth and prosperity for all Namibians through a multi-pronged approach. The plan has five pillars which include effective governance, economic advancement, social progress, infrastructure development and international relations and cooperation. The components of the social progression pillar address hunger and poverty, housing and sanitation, vocational training and infant and maternal mortality. Given that the plan is based on the principle of inclusivity, it provides an opportunity for addressing poverty related diseases such as TB and leprosy.

National health policy framework 2010-2020

The National Health Policy Framework 2010-2020 forms the basis of more detailed programme policies which are to be operationalised through management plans and strategic plans. It is the third such policy framework since independence in 1990. This framework identifies infectious diseases as a major cause of morbidity and mortality in Namibia, and TB as a priority endemic disease.

The vision set out in this framework is a healthy nation which is free of diseases of poverty and inequality. The mission of the MoHSS, "to provide integrated affordable, accessible quality health care and social services responsive to the needs of the population", underscores the priority that the government places on universal health coverage.

1.2.5. Health financing

The GRN is the main funder for health care in Namibia. In 2013, health expenditure per capita was USD749 and the proportion of government expenditure on health reached 13.9% (against the Abuja Declaration target of 15%). About 71% of total health expenditure in 2013 was from domestic resources (54% from GRN, 11% from private employers and 16% from household contributions).

[5] http://www.gov.na/vision-2030

Out of pocket payment was 11% in 2013, and only 19% of the population is covered through some form of health insurance.

1.3. Health profile and burden of TB, leprosy and co-morbidities

1.3.1. Health and disease

While infectious diseases such as HIV, TB, acute respiratory infections, diarrheal diseases and parasitic infestations remain prevalent there is an increasing burden of non-communicable diseases (NCDs) including diabetes, hypertension, cancer, and chronic respiratory disease. According to WHO estimates, communicable diseases, NCDs and injuries were responsible for 60%, 27% and 12% of deaths respectively in 2015. In the same year communicable diseases, NCDs and injuries were responsible for 52%, 37% and 10% of disability-adjusted life years (DALYs) respectively, emphasising the increasing significance of NCDs in Namibia as a cause of mortality and mortality.

Table 1: Summary of key health indicators for Namibia[6]

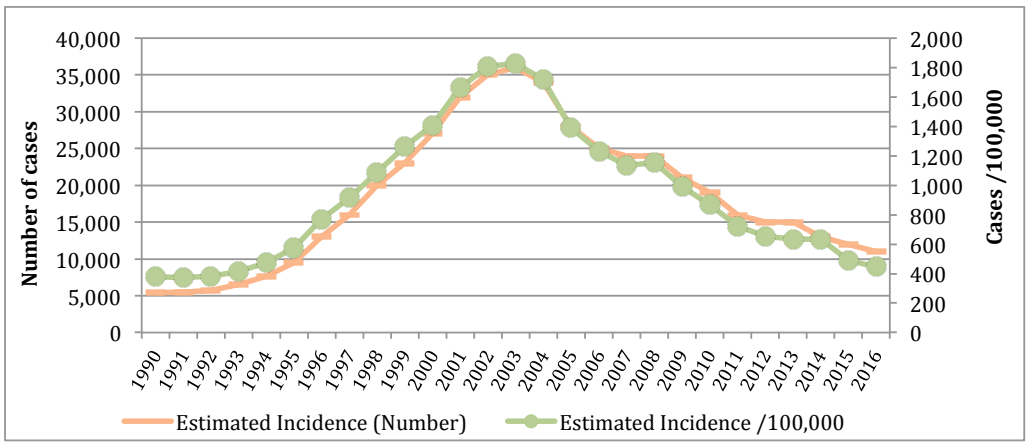
Heath Indicator		Value
Adult Mortality Rate/1000 population (2013)	Male	225
	Female	168
Maternal Mortality Rate (2015)		265
Under Five Mortality Rate (deaths /1000 live births) 2015		45
Infant Mortality Rate (deaths /1000 live births) 2015		33
Age Standardized deaths rate /100,000 population		1,013
Age Standardized deaths rate /100,000 population due to CDs		357
ANC coverage (at least one visit) 2013	Rural	93%
	Urban	96%

1.3.2. Tuberculosis (TB)

Despite declining case notification rates since 2004, TB remains a major public health concern. According to the WHO's 2016 Global TB Report, the estimated incidence declined by 6.2% between 2010 and 2015. With an estimated incidence of 489/100,000 in 2015, Namibia is on WHO the list of the thirty countries with the highest burden of TB globally.

Figure 3 shows the trends in estimated incidence (rates and numbers) of TB between 1990 and 2015 in Namibia.

Figure 3: Trend in the estimated incidence of TB in Namibia, 1990-2015[7]



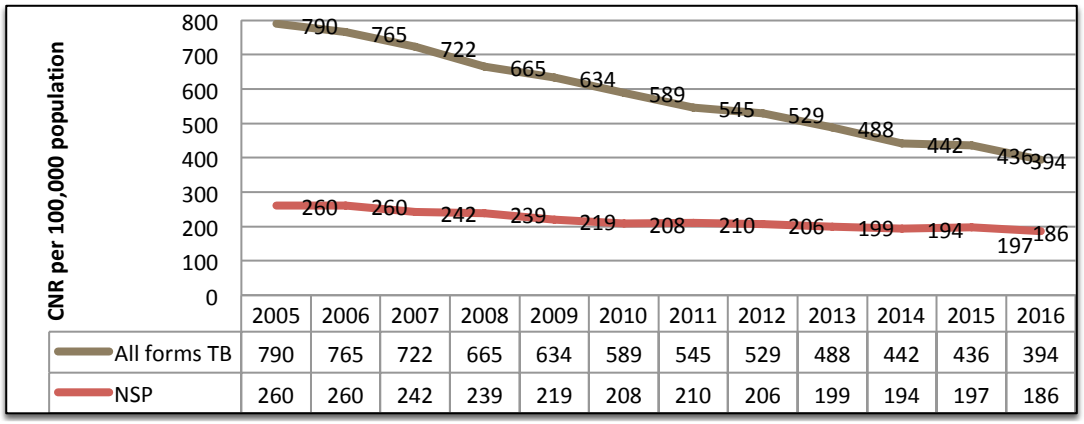
[6]Atlas of African Health Statistics 2016; Health Situation Analysis of the African Region, WHO Regional Office for Africa
[7]http://www.who.int/tb/country/data/download/en/

Tuberculosis notifications

In 1998 Namibia reported 12,286 cases of all forms of TB, increasing to peak at 16,156 cases in 2004. The number of cases has been gradually declining since then, with the country notifying 9,154 cases in 2016, giving a case notification rate of 394/100 000. Despite this decline, Namibia had the eighth highest estimated TB incidence rate in the world in 2015.

Figure 4 shows the trend of TB case notification rates (CNR) of all forms of TB and new smear positive cases between 2005 and 2016.

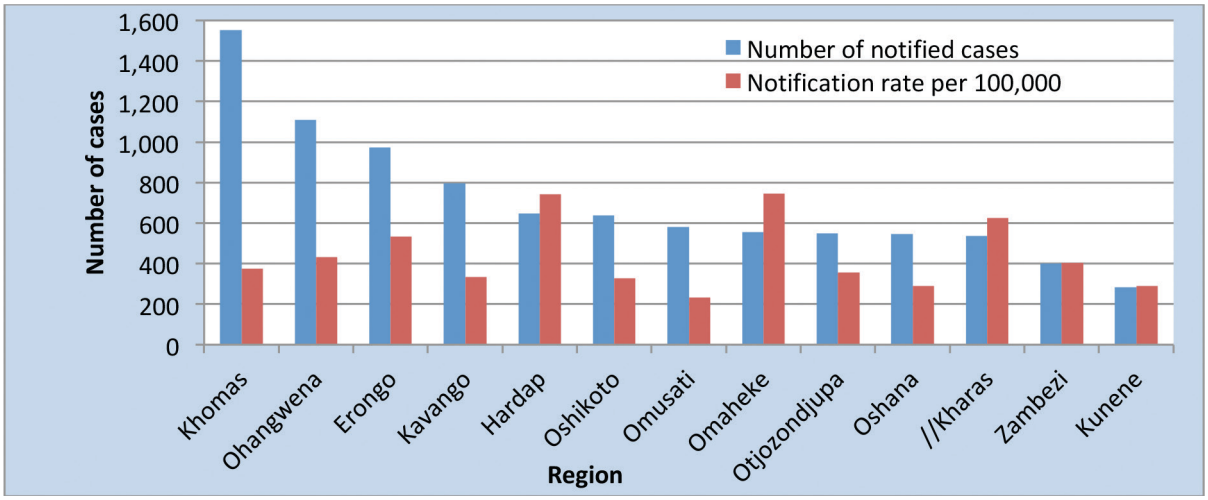
Figure 4: Trend in notification rates of all forms of TB and new smear positive TB cases in Namibia 2010-2015



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
All forms TB	790	765	722	665	634	589	545	529	488	442	436	394
NSP	260	260	242	239	219	208	210	206	199	194	197	186

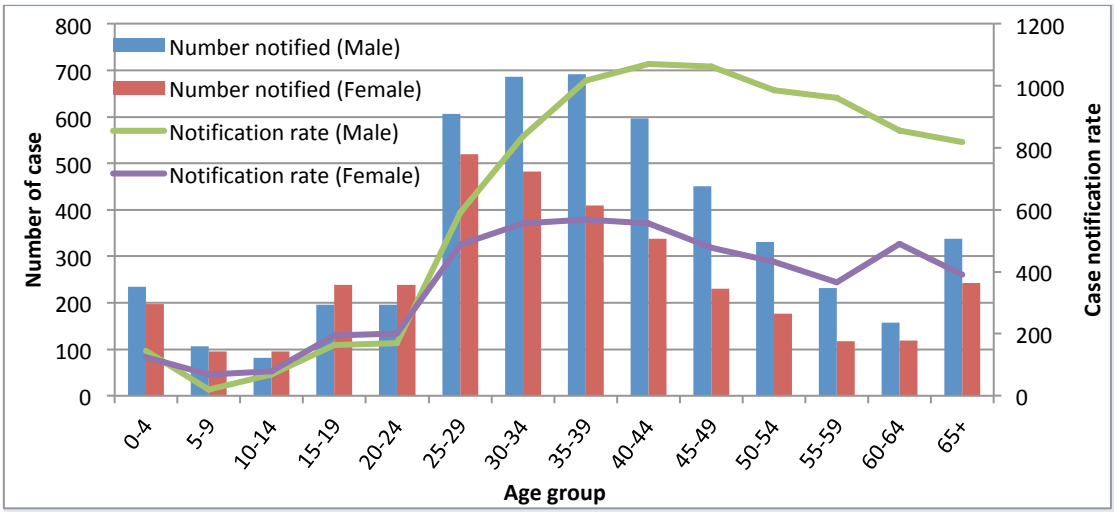
There are significant regional differences in TB case notification rates in the country. In 2016, Khomas, Ohangwena, Erongo and Kavango regions respectively reported the highest cases in absolute numbers. The per capita disease burden is however highest in Omaheke (746), Hardap (741), //Kharas (625) and Erongo (532). Khomas region accounts for the highest proportion (16%) of the country's disease burden.

Figure 5: Regional distribution of number of notified cases and notification rates, 2016



TB significantly affects the economically productive age groups (25-44 years). While there is male preponderance in most age groups, there are more females than males notified with TB in 05-24 age range. The relative differences in the notification between males and females are also reflected in the age-group specific notification rates (Figure 6). TB case notification in children below the age of 15 years, as a proportion of all notified TB cases has averaged about 6-8.5% between 2015 and 2016.

Figure 6: Age-sex distribution of new and relapse TB cases, 2016

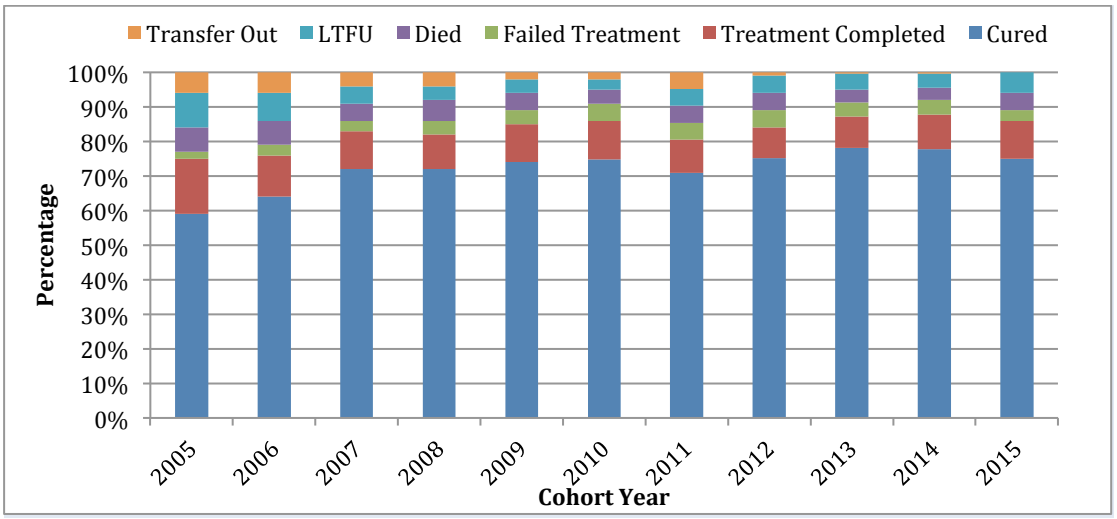


Treatment outcomes

The target treatment success rate for Namibia is 90%. There was a gradual rise in the treatment success rate from 2005 (75%) to 2015 (86%) for new smear positive TB cases in the country. For the 2015 cohort, 5% of patients died, 3% failed treatment and 6% were lost to follow-up.

The treatment success rate for all forms of TB for 2015 cohort was 85%, largely due to high death (8%) and loss-to follow up (6%) rates. Figure 6 shows the trends in treatment outcomes for new sputum smear positive cases.

Figure 7: Trends in treatment outcomes for NSP cases; 2005-2015 cohorts



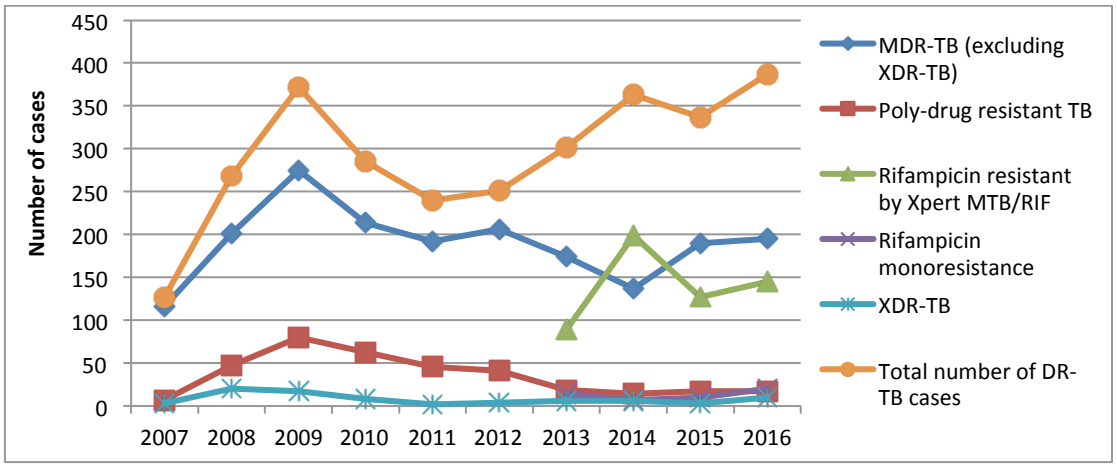
Drug resistant tuberculosis (DR-TB)

Drug-resistant TB is one of the greatest threats to ending TB in Namibia. The 2015/6 anti-TB drug resistance survey (DRS)[8] showed MDR-TB prevalence of 3.9% and 8.7% among new and previously treated patients respectively. In 2016, the country reported 387 cases of drug-resistant TB, 195 of who had MDR-TB, while 10 were XDR-TB. A significant number (145) of patients were reported as rifampicin resistance by Gene Xpert. Male patients constituted 56% of the reported DR-TB cases, while 5% of the reported cases were children under the age of 15.

[8] Report of the 2nd National Anti-Tuberculosis Disease Prevalence Survey, 2016

Figure 8 shows the trend of DR-TB cases reported between 2007 and 2016.

Figure 8: Trends in reported DR-TB cases, Namibia 2007-2016

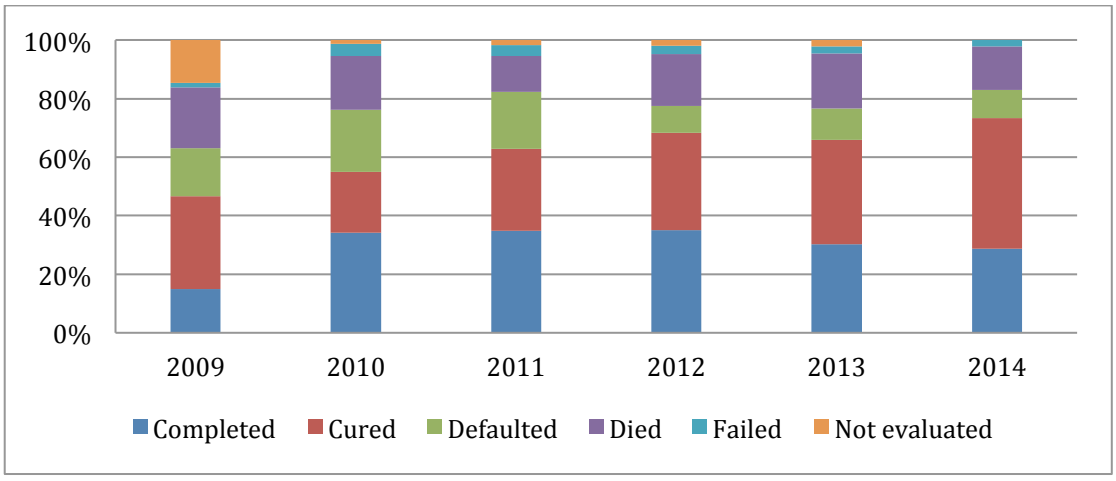


In 2016, 98% of the DR-TB patients were tested for HIV, and 46% were HIV infected. Coverage of antiretroviral therapy among DR-TB patients was 93%.

Treatment outcomes for DR-TB patients

The treatment success rate for MDR-TB (including rifampicin resistance) for the 2014 cohort was 74%. Death (15%) and loss to follow-up (10%) accounted for the majority of the patients who were not successfully treated. Figure 9 shows the trend in treatment outcomes for DR-TB patients by cohort year between 2009 and 2014.

Figure 9: Trend in treatment outcomes for DR-TB patients, 2009-2014

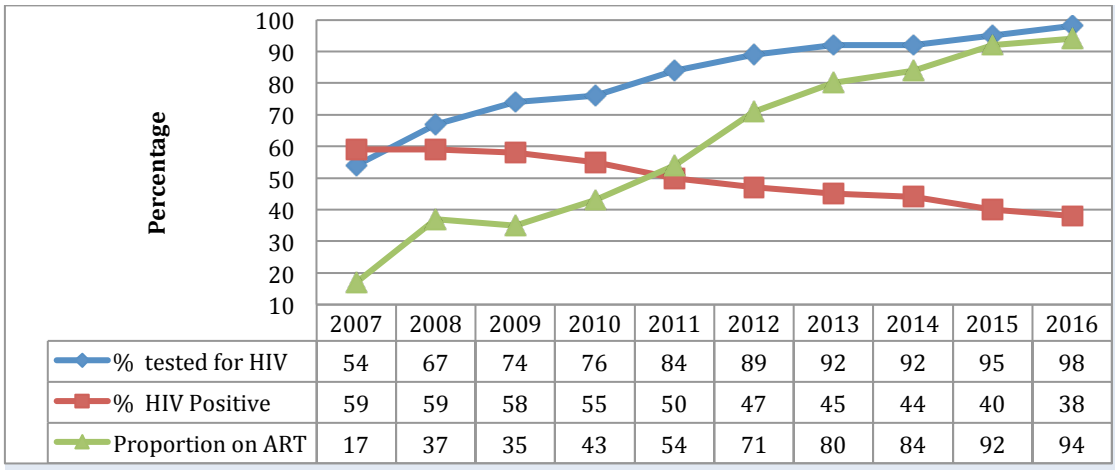


TB/HIV

With 38% of TB patients being HIV positive in 2016, Namibia is classified among the countries with the highest TB/HIV burden globally. In 2015, the estimated prevalence of HIV among those aged 15- 49 was 13.3%; HIV therefore contributes significantly to the high incidence of TB in Namibia.

Overall, there has been progress in the implementation of TB/HIV activities, particularly HIV testing and provision of ART for TB/HIV patients. In 2016, 98% of TB patients had a documented HIV status and 38% were HIV positive, a significant decline from a peak of 67% in 2006. ART coverage among HIV-infected TB patients increased from 54% in 2011 to 94% in 2016 (Figure 10). The treatment success rate for TB/HIV patients was however relatively low (81% for the 2015 cohort), primarily due to a relatively high (11%) death rate.

Figure 10: Trends in selected TB/HIV indicators 2007-2015



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
% tested for HIV	54	67	74	76	84	89	92	92	95	98
% HIV Positive	59	59	58	55	50	47	45	44	40	38
Proportion on ART	17	37	35	43	54	71	80	84	92	94

TB and other co-morbidities

Apart from HIV, there has hitherto been limited attention paid to the systematic detection and monitoring of comorbidities among TB patients. The incidence of non-communicable diseases (NCDs) is reportedly increasing in the country, which has potential implications for TB care and prevention. Service integration thus presents an opportunity for improved diagnosis and management of both TB and NCDs.

a) **Diabetes mellitus**

According to the 2013 Namibia Demographic and Health Survey, 6% of women and 7% of men had diabetes. An additional 7% of women and 6% of men were pre-diabetic. Only 1 percent of women and men were taking medication for diabetes. These data suggest a high prevalence of undiagnosed diabetes mellitus.

Factors associated with increased risk of diabetes include the following: affluence, obesity, urban residence and tertiary education. The prevalence of diabetes mellitus among TB patients and the contribution of diabetes to the country's TB burden are currently unknown.

b) **Smoking**

Smoking is a risk factor for developing TB, as well as the recurrence of TB in people who have previously been successfully treated for TB[9]. According to the 2013 DHS, 5% percent of women aged 15-49 smoke cigarettes or pipe. At 16% and 7% respectively, the prevalence of cigarette smoking is particularly high among women in Hardap and Omaheke regions, while it is lowest <1%) in Ohangwena and regions. Smoking is more popular among urban than rural women. The prevalence of smoking is significantly higher among men; 19% of men smoke cigarettes or pipe, as compared with 5 percent of women. Men in Hardap region are most likely to smoke cigarettes or pipe (39%), while men in Omusati (8%) are least likely to smoke.

c) **Alcohol consumption**

According to the 2013 DHS, 50% of women and 57% of men aged 15-49 reported drinking alcohol at some point in their lives. Twenty-six percent (26%) of women and 32% of men reported that they had consumed alcohol on 1-2 days during the previous two weeks; 9% and 19% respectively had consumed alcohol on 3-4 days during the previous two weeks, and 8% and 14% respectively had consumed alcohol on 5 or more days.

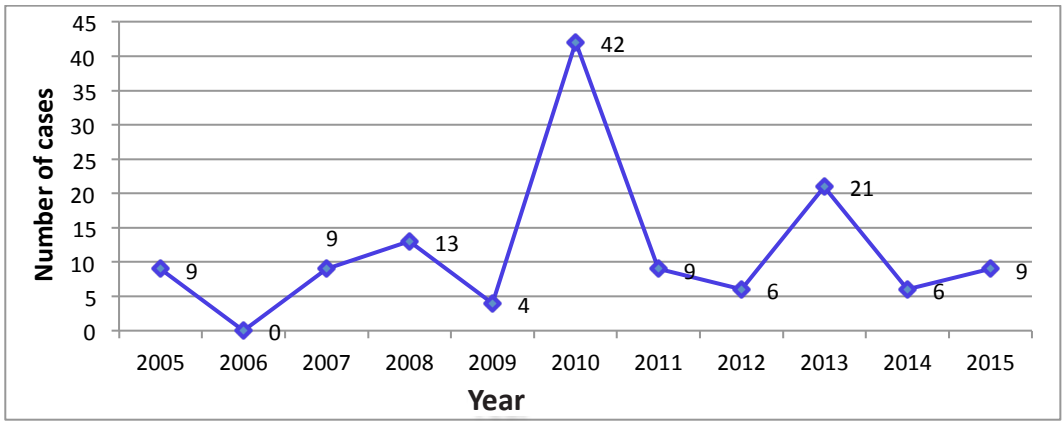
[9] http://www.who.int/tobacco/resources/publications/factsheet_tb_tobacco_sep09.pdf

The data show that 45% of women and 38% of men consumed 1-2 drinks per day, 24% of women and 28% of men consumed 3-4 drinks per day, and 22% of women and 27% of men consumed 5 or more drinks per day. Alcohol consumption is very high (five or more drinks per day) among men age 25-29, 35-39, and 40-44 (about one in three men), urban men, men in Hardap, men with no education and those in the highest wealth quintile.

1.3.3 Leprosy

Namibia is among the countries that have achieved the global leprosy elimination status of less than 1 case per 10,000 population since 2004. Leprosy however continues to be sporadically reported particularly in the northern regions. This is in part due to historical factors: a leprosarium established in Mashare constituency in Kavango region housed all the leprosy cases in Namibia before it was closed down during the 1970s, and the leprosy patients stayed and integrated within the community. There are also many old cases with residual disabilities that require continuing rehabilitation services. Over the past 10 years expanded leprosy case detection efforts have been accompanied by increased numbers of reported cases, suggesting that the current surveillance system could be under-reflecting the magnitude of the leprosy burden in the country. In 2016, leprosy cases were notified in Ohangwena (2), Oshana (2) and Zambezi (6) regions.

Figure 11: Trends in the number of notified cases of leprosy, 2005- 2015



Chapter 2: Development process for the 3rd medium term plan for tuberculosis and leprosy

2.1 TBL MTP-II programme review

The second Medium Term Plan for Tuberculosis and Leprosy (TBL MTP-II) was implemented during the period 2010 to 2016/17. The plan comprised six strategic results:

1. Expanded and enhanced high quality DOTS and leprosy services.
2. Increased access to high quality TB/HIV treatment and care interventions.
3. Expanded implementation of programmatic management of drug-resistant tuberculosis (PMDT).
4. Strengthened general health system to effectively support TB and leprosy services.
5. Strengthened partnerships for TB control and leprosy eradication.
6. Empowered communities and patients with TB and leprosy.

An external review of the implementation of this plan was conducted under the leadership of the World Health Organisation in July-August 2017. In addition to assessing the implementation of TBL MTP-II, the review also assessed the country's readiness and requirements for adapting and implementing the End TB Strategy. The report from this review was the main reference document that informed the consultative meetings to define the areas that should be addressed in the successor strategic plan.

2.2 Consultative meetings for developing TBL MTP-III

First consultative meeting: September 2016

The first consultative meeting focused on reviewing the report of the external programme review of TBL MTP-II, and was used to define the key programmatic gaps as well as identify key interventions and activities to be implemented in the third Medium-Term Plan for Tuberculosis and Leprosy (TBL MTP-III). As part of efforts to strengthen multisectoral engagement, this meeting also identified key stakeholders to be included and engaged in the development of the plan; these additional stakeholders were invited to the second consultative meeting.

Second consultative meeting: October 2016

The second consultative meeting focussed on refining the key activities for TBL MTP-III, as well as breaking these down into detailed activities. The role of the various stakeholders in the implementation of the proposed activities was also discussed. A draft activity framework for discussion at the consensus meeting was the main output of this consultative meeting.

Third consultative (consensus) meeting: January 2017

This meeting was used to review the draft strategic plan framework in terms of its alignment and responsiveness to the known and identified gaps as well as to further elucidate the implementers of the various activities. This meeting also served as a platform to sensitise stakeholders on the focus for TB and leprosy care and prevention for the next five years. The main output of the meeting was an agreed-upon activity matrix to inform costing as well as development of the monitoring and evaluation plan.

2.3 Finalisation, costing and M&E plan development

These were conducted in February - April 2017 with the assistance of consultants from the World Health Organisation and KNCV Tuberculosis Foundation.

Chapter 3: Institutional framework for tuberculosis and leprosy care and prevention

3.1 Health care facilities

Health services are delivered through a network of hospitals, health centres, clinics and outreach points (Table 2)

Table 2: Health care facilities in Namibia

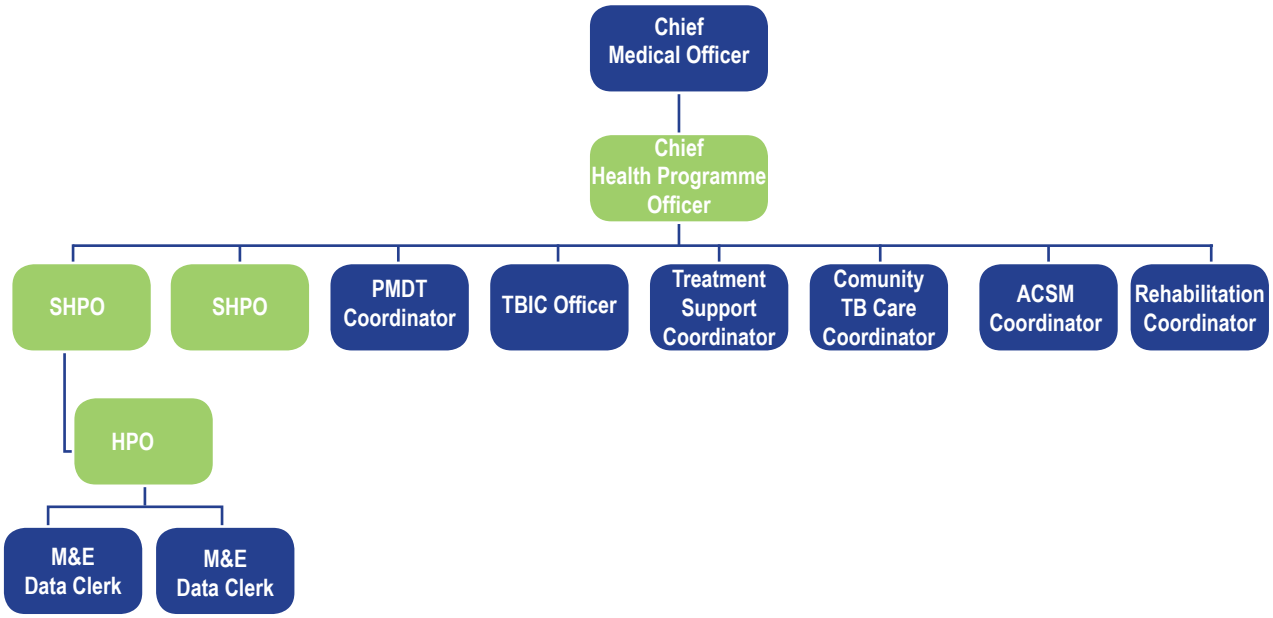
Type of Facility	Public Sector	Private Sector
Hospitals	48	13
Health Centres	52	8
Primary Care Clinics	370	75
Private clinics and pharmacies		637
Mobile outreach clinics	1,150	

3.2 The national tuberculosis and leprosy programme (NTLP)

Housed within the Directorate of Special Programmes (DSP) of the Ministry of Health and Social Services (MoHSS), the National Tuberculosis and Leprosy Programme (NTLP) coordinate the implementation of TB and leprosy interventions in the country. The DSP comprises two main divisions, the Health Sector and Expanded National AIDS Response Coordination (ENARC) divisions, each headed by a deputy director. The ENARC division is responsible for providing support to the national HIV/AIDS response, as well as resource mobilisation and development cooperation, and for multi-sectoral monitoring and evaluation. 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 Chief Medical Officer (CMO).

The organogram of the NTLP as of July 2016 is shown in Figure 12.

Figure 12: NTLP organogram (July 2016)[10]



[10] Positions in green are funded by GRN while positions in blue are partner-funded

3.3 Regional, district, facility and community levels

The Ministry of Health and Social Services coordinates health services at sub-national level through into 14 regions and 35 health districts. The regional health director heads each regional health directorate, assisted by the regional Chief Medical Officer (CMO) who is responsible for coordination of all public health interventions including TB and leprosy. Each region also has a substantive Chief Health Programmes Officer (CHPO) and a Senior Health Programmes Officer (SHPO) responsible for TB, HIV/AIDS and malaria activities. Currently, there is no officially designated dedicated focal point for TB and leprosy at regional level.

The district level is headed by a Senior Medical Officer (SMO), and 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 Tuberculosis and Leprosy Coordinator (DTLC) is usually designated to focus on TB and leprosy.

At facility level nurses are allocated to the TB clinic, usually on a rotational basis.

TB care and prevention at community level are mainly spearheaded by community-based organisations (CBOs) using lay care providers who will have been trained on the basic of TB care prevention. There has hitherto been minimal involvement of these CBOs in leprosy care and prevention. The government has since introduced community health workers to strengthen the delivery of primary health care services at community level.

3.4 Multisectoral coordination

The National Tuberculosis and Leprosy Steering Committee (TBL-NSC) steers and guides the multisectoral implementation of initiatives to address TB and leprosy in the country. The committee advises the NTLP and other stakeholders on TB, TB/HIV and leprosy care and prevention. The following are the objectives of the TBL NSC as they relate to TB, TB/HIV and leprosy in Namibia:

- To ensure the delivery of a comprehensive and high quality prevention, diagnosis and management service,
- To foster stakeholder engagement in the implementation of TB, TB/HIV and leprosy control initiatives in the country,
- To stimulate discussion and ensure prioritization of TB, TB/HIV and leprosy as public health concerns in all relevant sectors,
- To facilitate multisectoral coordination in the prevention-diagnosis-management-care continuum,
- To provide a forum for stakeholders to identify and explore options to address key programme gaps,
- To facilitate sustained programme focus on key priorities, and
- To identify and prioritise key emerging issues regarding TB and leprosy care and prevention.

3.5 International collaboration

Various technical and funding agencies are currently supporting TB care and prevention efforts in Namibia. The existing major international partners at the time of drafting this plan were the World Health Organisation (WHO), United States Centers for Disease Control and Prevention (CDC), United States Agency for International Development (USAID), International Training and Education Centre for Health (ITECH), International Union Against Tuberculosis and Lung Disease (The Union), KNCV Tuberculosis Foundation, The Global Fund to fight HIV/AIDS, Tuberculosis and Malaria (GFATM) and Management Sciences for Health (MSH). WHO and The Leprosy Mission International (TLMI) support leprosy care and prevention.

3.6 TB notification, monitoring and surveillance system

The NTLP surveillance system is based on traditional, aggregate paper-based system which relies on district staff to compile aggregate quarterly paper data reports, from the case-based district register, which are brought to the national level where they are collated in an excel template. In parallel, case based data are also entered into the electronic surveillance system ETR.net at the district level and electronic files are transmitted by email to the national level on a quarterly basis where they are uploaded onto the system.

The new TB electronic system

A new electronic system is under development and is being designed for data entry via PC or table, with the source code being owned by MoHSS. Data entry is expected to take place at the district level, with potential entry at some large referral facilities. This system is expected to be rolled out in 2018, and it is envisaged that it will eventually be interfaced with the laboratory information system as well as the e-TB Manager.

A module in DHIS2 has been developed to safeguard aggregate historical data. Transitioning to the new system will require migration of data from ETR.net and development of appropriate data validation and quality checks. Furthermore, until laboratory data have been integrated it is important to establish a routine process for de-duplication and matching.

e-TB manager

The e-TB Manager is a web-based tool that integrates data across all aspects of TB control, and is being used as the electronic recording and reporting system for drug-resistant TB.

Laboratory information system (Meditech)

NIP has a DOS-based computer system (MediTech) that collects data on tests performed; however this system was designed primarily for billing purposes and does not currently interface with ETR. Net or ETB manager, and programmatic data cannot easily be exported.

Vital registration system

Civil registration is under the mandate of the Ministry of Home Affairs and Immigration. The Ministry of Health is a key player in birth and death registrations, including determining the causes of death. Where unnatural death is involved, the police ascertain the cause of death.

Namibia has comparatively high levels of birth and death registration, estimates of birth registration 89.3% and death registration of 88.5[11].

Health management information system (HMIS)

Primary Health Care data generally start at the facility, where they are entered into registers or tally sheets, then summarised and written onto monthly paper-based summary forms. The summary forms are then sent to the district Health Information System (HIS) officer, who validates them for obvious errors before entering the information into the District Health Information System (DHIS 2). These summaries are due to reach the district HIS officer within five days of the end of any given month.

[11] 2011 National Population and Housing Census, 2014

Chapter 4: Vision, mission, goal and strategic objectives

4.1 Vision

A Namibia free of tuberculosis and leprosy.

4.2 Mission

Universal access to tuberculosis and leprosy care and prevention per international standards, while addressing the determinants and consequences of the diseases in line with the Sustainable Development Goals.

4.3 Goals

Reduce the national burden of tuberculosis to less than 50 cases per 100,000, and reduce the burden of leprosy to less than one leprosy patient per 1,000,000 population by 2035.

4.4 Targets

- To have reduced the incidence of TB from 489/100,000 in 2015 to 321/100,000 by 2021.
- To have reduced TB mortality from 68/100,000 in 2015 to 34/100,000 by 2021.
- To have reduced the incidence of leprosy from 10/1,000,000 in 2016 to 4/1,000,000 by 2021.

4.5 Strategic objectives

Objective 1: Secure at least 90% of the required funding for TBL MTP-III and maintain focussed positions for TB and leprosy at national, regional and district levels.

The National Tuberculosis and Leprosy Programme (NTLP) is among the disease programmes under the Directorate of Special Programmes (the others being HIV/AIDS and STIs and malaria and other vector-borne diseases). The NTLP is headed by a Chief Medical Officer under who were eleven technical officers in 2016. Three of these technical officers were government funded, while the other eight were partner supported. All regions have functionally designated one of the regional Health Programme Officers for Special Programmes as a Regional Tuberculosis and Leprosy Coordinator. At district level, the position of DTLC is non-substantive, with staff assigned to this role often being required to perform duties in other sections of the facilities. Most public health facilities and some of the larger private health care facilities have a TB focal person who provides clinical care in addition to carrying out public health functions (recording and reporting, contact tracing and patient follow-up). Community based TB care activities are carried out by community health care workers linked to a health care facility. These activities have been hitherto largely partner funded, primarily by the Global Fund.

The National Tuberculosis and Leprosy Steering Committee (TBL-NSC) is a multi–sectoral forum that includes other MoHSS directorates, line ministries (including ministries responsible for education, labour, agriculture, correctional services, police, defence, mining, poverty eradication, immigration, civil registration, and urban development), civil society, technical partners, funding agencies and the private sector. The TBL NSC meets quarterly and is chaired by the Deputy Permanent Secretary of the MoHSS.

Namibia has been successful in mobilising resources for the TB response from various sources, including the GRN, GFATM, USAID and CDC. In 2016, the NTLP budget to implement TB prevention, treatment and care activities totalled US$ 38,468,061. Given the move to end TB, it will be vital to scale up investments to ensure that the country gets and stays on track to achieve targets.

Strengths and opportunities

- The bulk of the available financing (around 70%) was from domestic resources, with government fully covering the costs of diagnostics as well as first- and second line anti-TB medicines
- There has been complementary funding from international partners, predominantly the Global Fund and the United States Government.
- There is strong political commitment to health as evidenced by its inclusion as a key component of the 5th National Development Plan 2017/18-2021/22 (NDP5). TB related mortality is one of the key indicators being monitored in NDP5.
- Namibia has taken a pathfinding role in developing a multi-sectoral approach to TB care and prevention. Thus there is broad engagement of other sectors within government in addition to the engagement of a wide array of local and international NGOs and partners. This engagement has been facilitated by the inclusion of these stakeholders in the TBL-NSC.
- There are defined programme structures at all levels of the health care system including the community.
- The MoHSS is pursuing a policy of task shifting to mitigate the shortage of health workers.

Gaps and challenges

- Significant shortfall in financing, amounting to almost US$ 9 million per annum needed to fully implement interventions in the previous strategic plan.
- Namibia's out of pocket expenditure (11%) is the highest in the Southern Africa region, which may have significant implications for financial risk protection of households seeking health care, especially TB patients.
- Due to the international classification of Namibia as an upper middle income country, there is a risk of reduction in external financing for TB. This will most significantly affect funding for CBOs and NGOs that have largely been funded by external partners and who are implementing critical elements of the TB response.
- Delays in accessing funding for activities from donors, notably the Global Fund, have led to disruption in implementation of planned activities. There was a particularly low implementation rate of Global Fund supported activities due to implementation and disbursement bottlenecks.
- The majority (8 out of 12) of the technical staff at national level were funded by partners, which poses a sustainability risk. Similarly, all TB field promoters and, except for Katutura Hospital, dedicated clinical staff providing care for MDR-TB patients, were partner funded.
- There was inadequate staff particularly for the clinical management of DR-TB, programmatic and clinical management of leprosy, and for focussed and sustained implementation of TB infection control.
- Despite having identified making the DTLC position substantive as an important issue in TBL MTP-II, this position remained non–substantive.
- Certain key ministries (such as Ministry of Urban and Rural Development, Ministry of Poverty Eradication, Ministry of Labour and Social Welfare, among others) and some key MoHSS entities were not yet actively engaged in the TB response.
- There was inadequate supervision, clinical mentorship and in-service training of health workers. Facility level leadership and coordination of TB and leprosy programmes was also found to be suboptimal.

Activities

1.1. Advocate additional government funding for TB and leprosy prevention and care: Motivations and investment case scenarios will be submitted for increased government funding for TB and leprosy care and prevention. Specific justification for increased funding will also be submitted for selected sectors, such as correctional settings and other high risk sectors.

1.2. Mobilise alternative resources for community TB care and prevention: The private sector will be engaged to co-finance community based TB care interventions. A strategy for the sustainable implementation of community-based TB care primarily dependent on local resources will be developed and implemented.

1.3. Mobilise donor funding to bridge key human resources gaps: Additional funding from donors will be solicited to bridge key gaps, particularly human resources.

1.4. Sensitise and engage relevant MOHSS departments and other ministries on TB and leprosy: A biennial national stakeholders' forum on TB and leprosy will be held, with an annual update meeting being organised for senior leadership in MoHSS and line ministries. The coordinating role of the National Tuberculosis and Leprosy National Steering Committee (TBL NSC) will be strengthened, with membership being expanded to include other key offices and sectors crucial to the country's efforts to end TB and leprosy. Quarterly NSC meetings will be organised to guide and mutually account for the implementation of TBL MTP-III.

To spearhead the childhood TB agenda, quarterly meetings of the childhood TB technical working group will be organised at national level, and childhood TB shall remain a standing agenda item for the NSC.

1.5. Conduct TB and leprosy capacity building initiatives for clinical and programme staff: Leadership and programme management trainings will be organised for TB and leprosy programme staff at national, regional and district levels. To strengthen facility level coordination, leadership and accountability, annual trainings on national TB and leprosy guidelines will be organised for health facility managers on national TB and leprosy guidelines. Curricula for pre-service training of health workers will be updated in line with the national guidelines. Standard operating procedures for programme mentorship at all levels will be developed, and will be used to guide supervision and mentorship. Selected staff will be supported to participate in international trainings and conferences, particularly on childhood TB and other emerging priorities.

1.6. Formalise task-shifting for TB and leprosy prevention and care: A task shifting plan for TB and leprosy prevention and care will be developed and implemented.

1.7. Update national guidelines in line with WHO recommendations: National TB guidelines will be revised in line with WHO and other international recommendations, and training and orientation sessions will be conducted for the various categories of health workers, including community health workers, and stakeholders.

1.8. Recruit, train and retain staff to complement MoHSS and MoSS staff establishment: Doctors and nurses will be recruited to provide focussed clinical care and programmatic support at high burden DR-TB sites. Similarly, resources will be solicited to retain and sustain key positions at national level that are funded by partners.

1.9. Update strategic plan for TB and leprosy in line with latest international guidance: Following the end-term programme review in 2021, a successor strategic plan for the period 2022/23-2026/27 will be developed.

Objective 2: Test 100% of presumptive TB patients with rapid molecular tests, and achieve universal drug susceptibility testing by 2019.

Introduction

A network of 40 Namibia Institute of Pathology (NIP) laboratories provides services to public health facilities in the country. Specific TB laboratory tests available at NIP include fluorescent microscopy, rapid molecular tests (Gene Xpert), liquid culture and drug susceptibility testing and line-probe assay (LPA) to first and second-line drugs. These tests are paid for by the government and are available at no cost to the patient. The laboratory quality assurance system is coordinated by the NIP headquarters in Windhoek through the senior quality manager and a quality assurance team. External quality assurance is provided by National Institute of Communicable Diseases (South Africa), a Supranational Reference Laboratory (SNRL).

NIP has an integrated specimen transport system within the town/cities where NIP laboratories are located; however the MoHSS are responsible for transporting specimens from peripheral health facilities to NIP laboratories. NIP has also provided 18 Meditech terminals and 153 Short Message Service (SMS) printers to accelerate relaying of laboratory results to some peripheral health facilities.

In the private sector, there are about 40 laboratories, some of which provide TB diagnostic services. There is no active linkage between private laboratories and NTLP for TB case notifications. In addition, TB diagnostic services in private sector laboratories are provided at a significant cost to patients, either directly or through medical aid schemes.

The national guidelines recommend that contact tracing and investigation for TB be conducted for all close contacts of people diagnosed with bacteriologically positive pulmonary TB. Isoniazid preventive therapy (IPT) is recommended for asymptomatic HIV positive contacts and children less than 5 years irrespective of HIV status.

Children with presumptive TB identified at primary health care facilities (clinics and health centres) are usually referred to a hospital for further assessment, diagnosis and treatment initiation by a medical officer. The bacteriologic confirmation of TB diagnosis in children with pulmonary TB involves chest radiography and obtaining naso-gastric or naso-pharyngeal aspirates for bacteriologic testing. Chest radiography is however not widely accessible for the diagnostic workup of pulmonary TB in children.

Strengths and opportunities:

- The NIP laboratory network is well equipped, with an efficient electronic laboratory management system in all laboratories. A daily courier system for transporting specimens from peripheral laboratories to the Windhoek Central Laboratory is in place.
- There is adequate in-country laboratory diagnostic capacity to implement universal drug susceptibility testing (DST) using GeneXpert and line-probe assay (LPA).
- The National TB Reference Laboratory (NRL) has capacity for second-line DST using LPA (rapid) and MGIT.
- The NIP laboratories were in 2016 undergoing WHO/SLMTA accreditation process, and were moving towards ISO 15189 accreditation.

Gaps and challenges

- The linkage between the NTLP and NIP is not formalised, which makes direct monitoring of TB laboratory services difficult.
- The diagnostic laboratory system only reaches down to district level, with specimens for patients care at clinic or health centre level having to be transported to the district laboratory. Resultant transport and resulting delays lead to long turn-around times.

- There are inadequate linkages between diagnostic laboratories and health facilities, with limited or no fora to adequately monitor and account for specimens tested.
- A hierarchical system of the TB laboratory network that make external quality assurance (EQA) effective does not exist due to the structural organisation of NIP. The microbiology section and the NRL have not yet achieved ISO 15189 certification.
- The NRL is not providing the full complement of public health functions such as
    - Re-checking for smear microscopy,
    - Patient level data system to support TB laboratory surveillance,
    - Provision of routine laboratory data to the MoHSS to facilitate tracking and monitoring of TB diagnosis. As a result of the inadequacies of the Laboratory Management Information System (LMIS) for public health programming it is difficult to abstract or analyse the TB laboratory data for routine reporting. The NIP also does not use standardised TB laboratory reporting formats especially for TB culture and DST results.
- There is often unjustified concurrent (duplicate) testing with multiple laboratory tests, such as performing both smear microscopy and Xpert on the same specimen, and repeated first-line DST in patients confirmed to have DR-TB.
- The costs of laboratory tests are relatively high, which may limit access particularly for patients seeking care in the private sector.
- Second-line DST is not routinely and systematically performed for MDR-TB patients, thereby delaying detection and appropriate treatment of patients with extensively drug resistant TB (XDR-TB).
- There are weak linkages with private sector laboratories, some of which are carrying out TB diagnostic tests.
- Sputum examination registers and laboratory TB registers are not regularly filled in, and there is no regular tracking of time taken between specimen collection and treatment initiation. Similarly there is inadequate documentation of patients diagnosed with TB but who do not end up in TB treatment registers.
- There is generally low index of suspicion for TB in areas/departments providing care to children.
- There is limited capacity to diagnose childhood TB at peripheral health care facilities, leading to delayed commencements of treatment.

Activities

2.1. Enhance laboratory sample and results delivery systems for health centres and clinics: Real-time results delivery systems or terminals will be installed at health facilities, with priority being accorded to remote facilities and to facilities with relatively high patient numbers.

2.2. Introduce point of care diagnostic tests for TB: A pilot will be conducted for point-of-care TB diagnostics in selected regions, particularly the Gene Xpert Omni (or other new technologies). These tests will be rolled out, guided by the lessons learnt during the pilot.

2.3. Build capacity for clinical and laboratory staff on the national TB diagnostic algorithm: Standard operating procedures and job aids will be developed for health workers and laboratory staff on the TB diagnostic algorithm. Additionally, staff will be trained and mentored on the algorithm, and additional equipment (Gene Xpert or other WHO recommended rapid molecular test) will be procured. Where necessary facility renovation or reorganisation will be conducted to increase laboratory space.

2.4. Upgrade the TB laboratory surveillance system in line with national and international reporting

requirements: As an interim measure, use of the paper-based TB laboratory register will be strengthened pending introduction of an electronic LMIS responsive to surveillance needs. Laboratory reports (including reports on TB drug resistance) will be included in routine quarterly reports. To facilitate this reporting, the LMIS will be upgraded/modified to serve TB surveillance needs, and a unique identification system for presumptive and confirmed TB cases will be introduced.

Sentinel surveillance for resistance to isoniazid and other drugs amongst patients with rifampicin-susceptible TB will be conducted to inform diagnostic approaches and treatment regimens.

2.5. Develop a regulatory framework for TB laboratory services for both public and private service providers: Comprehensive guidelines for the provision of TB laboratory services (notification, safety and quality assurance) by both public and private laboratories will be developed and introduced.

2.6. Implement national quality assurance programme for public and private TB laboratory services A TB laboratory quality assurance technologist will be recruited at NIP and capacitated to oversee the implementation of a comprehensive quality assurance system for all TB laboratory investigations in all laboratories.

2.7. Explore ways to reduce cost of laboratory diagnostics: A collaborative assessment of the cost drivers for TB laboratory investigations will be conducted, and subsequent consultative meetings held to address the relatively high cost of TB laboratory tests.

2.8. Conduct TB screening in child health care settings: Detection of TB in children will be enhanced through introduction of standard operating procedures for TB screening in children in general out-patient settings as well as mother and child care settings. Health workers will be trained on these SOPs as well as overall approach to the diagnosis and management of TB in children.

2.9. Conduct active contact investigation for all eligible TB patients: Contact investigation will be enhanced through implementation of standardised SOPs that target all key TB care providers in health facilities and communities. Health and community workers will be trained on contact investigation for both drug susceptible and drug resistant TB, and the subsequent management of these contacts.

Objective 3: Increase treatment success rate for drug-susceptible from 83% (2015 cohort) to 90%, and for drug-resistant from 60% (2014 cohort) to 77%, by 2021.

Introduction

Medicine supplies: Selection, procurement, quality assurance, warehousing and distribution of medicines and supplies (including anti-TB medicines and supplies) is coordinated by the Division: Pharmaceutical Services under the Directorate of Tertiary Health Care and Clinical Support Services (THCCSS). The Central Medical Stores (CMS) oversee procurement of all health related commodities for public sector health facilities. The CMS has deployed SYSPRO®, a proprietary electronic system for inventory management, quantification, procurement and contract/order management which has reduced manual processes and enhanced efficiency at the store.

A medicines quality assurance system is in place, and anti-TB medicines are only procured from WHO pre-qualified manufactures or must be approved by a stringent regulatory authority.

Distribution of medicines from CMS or regional medical stores to health facilities is done through a pull system with anti-TB medicines being integrated into the general essential medicines supply system. This system can generate data on various stock related indicators based on monthly inventory control data submitted from all levels, for purposes of monitoring and managing the supply chain.

A system for pharmacovigilance has been established, with all health workers expected to report any adverse drug reactions to the Therapeutics Information and Pharmacovigilance Centre (TIPC).

Treatment and patient support: The national TB guidelines provide health care workers with the knowledge and guidance to conduct TB screening and testing, and nurses have been empowered to initiate treatment for bacteriologically confirmed pulmonary TB.

The sparse population in Namibia poses a significant challenge to delivery of health services. To mitigate this, the MoHSS is also pursuing a community approach to support the delivery of selected health interventions. Support for patients on treatment for TB is provided through 'DOT' at health facilities, the 'DOT point', or at home or workplace using a 'DOT supporter'. This practice was being implemented by most heath care facilities providing TB treatment services. Community health care workers dispense TB medicines and provide ongoing support to patients at 'DOT points'.

Key populations: The following have been identified as key populations at higher risk of TB and/or facing barriers in access to care in Namibia: PLHIV, children, health care workers, miners, inmates (police) and offenders (correctional services), cross-border populations, migrants and nomadic groups (such as the Ovahimba, San and Ovazemba), and residents of informal urban settings.

Health care workers: The national TB-IC guidelines recommend mandatory screening and routine monitoring of TB disease among health care workers. Screening for TB among health workers has been introduced, with variable implementation across regions.

Mineworkers: Namibia is a signatory of the 2012 Southern African Development Community (SADC) declaration on TB in the mining sector, which aims to strengthen accountability and collaboration at national and regional levels, and to facilitate the national and regional response to TB in the mining sector.

Correctional facilities and police holding cells: There have been several documented TB screening campaigns in correctional facilities and to a lesser extent, police holding cells.

Children: Epidemiological evidence suggests that childhood TB is likely being underdiagnosed, especially among children under the age of 5 years. There is a current drive to use of Gene Xpert for childhood TB diagnosis. Opportunities exist for improved detection of TB in children through integration of TB screening in maternal and child health services and expanded contact investigation. Coverage of (isoniazid) preventive therapy among childhood contacts of TB patients remains low.

Drug-resistant TB: Namibia has an integrated programme for the management of drug-resistant TB, with second-line medicines procured by the government. Patients on second-line treatment are admitted to a designated centre in each region throughout the intensive phase. While newer medicines (bedaquiline and delamanid) have been introduced, the shorter DR-TB treatment regimen has not yet been introduced. Rationalisation of treatment regimens is ensured by ensuring that all cases are reviewed and regimens approved by a Central Clinical Review Committee (CCRC). An online system, the e-TB Manager is utilised for patient and programme management purposes.

About 30% of patients on treatment for DR-TB in 2016 were from Angola, especially in regions bordering Angola. This negatively affects patient retention due to limitations in conducting cross-border patient follow-up.

Strengths and opportunities

- Procurement of anti-TB medicines is fully funded by the government, and a functional medicines quality assurance system is in place.
- An electronic system for pharmaceutical supply chain management is in place, and there are on-going efforts to improve technical capacity in pharmacovigilance and management of essential medicines.
- The establishment of DOT points and appointment of community health workers (field promoters) has strengthened treatment adherence, while the treatment support system has contributed to reduction in the proportion of TB patients that are lost to follow up.
- Guidelines for PMDT and paper and electronic recording and reporting tools are available and in use.
- Patients with DR-TB receive free treatment in a decentralised manner using a standardised regimen, and biochemical, bacteriological and audiological monitoring are routinely performed. Patients are linked to community TB care providers for treatment support at facility or community level.
- Most DR-TB patients are benefiting from a government funded medical disability grant as well as Global Fund supported transport and nutritional enablers.

Gaps and challenges

- TB morbidity data are not routinely used during the quantification exercises, with inadequate stakeholder involvement in the quantification process.
- The procurement cycle is protracted (>15months) with long tendering and contract management processes as well as delayed deliveries from suppliers. The prices paid by CMS are significantly higher than the Global Drug Facility (GDF) prices and the International Drug Price Indicator Guide (IDPIG) prices.
- Interruptions in the supply of paediatric medicines and second line anti-TB medicines at all levels were reported. This resulted in some patients on second-line treatment receiving suboptimal regimens.
- The country has not yet started using the new child-friendly formulations of anti-TB medicines.
- Storage capacity for pharmaceutical commodities is inadequate at all levels.
- There is underreporting of adverse drug reactions to the Therapeutics Information and Pharmacovigilance Centre.
- Human resources to effectively carry out pharmaceutical and clinical management functions are inadequate at all levels. At facility level, there is inadequate inventory management capacity, with many facilities not maintaining updated stock records. This is compounded by inadequate supportive supervision and monitoring by regional and district pharmacy teams to the facilities.

- Systematic screening of miners for TB is not yet fully implemented and monitored.
- There is inadequate screening and follow-up of TB patients in correctional facilities, with lack of clarity on how screening in police holding cells could be effectively implemented. There is inadequate focus on TB in informal settlements among urban populations.
- Documentation and follow-up of migrants who access TB services is inconsistent, while patient numbers and lost-to-follow-up rates among cross-border migrant patients in the northern regions are increasing. Similarly, there is no comprehensive strategy to reach migratory populations with TB services.
- Not all patients Gene Xpert results showing rifampicin resistance have full DST results, and not all DR-TB patients have 2nd line DST results.
- Some patients with rifampicin-resistant TB are not promptly initiated on treatment. Initiation of treatment is often delayed due to protracted approval of treatment regimens by the CCRC.
- Inadequate treatment support and clinical management, particularly for previously treated patients; this has manifested in suboptimal treatment success rates. The treatment success rates for DR-TB are particularly low, primarily due to deaths and lost-to-follow-up. Opportunities for ambulatory DRTB care in intensive phase are underutilised, and available funding for transport enablers and nutritional support is inadequate.
- Pharmacovigilance and active monitoring and management of adverse drug reactions are not systematically being performed and documented.
- Implementation of National Guidelines for the Management of Tuberculosis is inconsistent, with some nurses uncomfortable to initiate first-line anti-TB for bacteriologically confirmed patients.
- There is limited evidence of systematic contact tracing, especially for children aged 5 years or below. Similarly, there is inadequate data on the coverage of IPT for children aged five years or below who are contacts of bacteriologically confirmed pulmonary TB.

Activities

3.1. Maintain uninterrupted supply of quality assured anti-TB and anti-leprosy medicines: Given the cost-effectiveness of utilising the Global Drug Facility (GDF) mechanism, efforts will be made to make use of this mechanism as much as possible. Furthermore, stakeholder involvement in quantification and supply planning will be strengthened, with increased use of morbidity data through annual quantification meetings and quarterly reviews. Child friendly formulations of anti-TB medicines will be introduced.

3.2. Conduct capacity building in inventory management and pharmacovigilance for relevant staff: Training and mentorship will be conducted for selected staff on inventory management and active drug safety monitoring for TB. These trainings will be complemented by annual supervision and mentorship visit. Active surveillance for adverse reactions to anti-TB medicines will be enhanced through standard operating procedures and procurement and maintenance of relevant equipment (such as audiometers and ECG machines).

3.3. Review and update pharmaceutical facility standards and norms: Storage space at all levels will be assessed for adequacy to store anti-TB medicines and supplies, and pharmaceutical facility standards and norms will be updated accordingly. Selected facilities will be renovated in line with the revised standards and norms.

3.4. Develop and operationalise updated guidelines on the management of DR-TB: Guidelines for the management of drug-resistant TB will be revised, which will be followed by development and operationalisation of relevant SOPs (including SOPs for ambulatory management of DR-TB). Training will be conducted for clinical medical officers, pharmacists, nurses, pharmacist assistants, community health workers, rehabilitation staff, and others on these guidelines.

3.5. Develop and operationalise targeted strategies for TB service delivery for specific populations: A mapping exercise for key populations for TB and TB/HIV will be conducted, and specific strategies will be developed and implemented for nomadic and semi -nomadic populations, informal settlements, trial awaiting inmates, mining sector and cross-border patients.

Objective 4: Increase coverage of HIV testing among TB patients to 100%, coverage of ART among TB/HIV patients to 100%, and coverage of diabetes screening among TB patients to 75%.

Introduction

Namibia has made strides in addressing TB/HIV at the various levels of the health care system. TB and HIV services are available in all hospitals, health centres and most clinics. ART initiation is however less decentralised than TB treatment, with nurse-initiated ART being expanded to facilitate further decentralisation of ART.

Strengths and opportunities

- Structures for TB/HIV integration are in place at national, regional and district levels. Quarterly TB/HIV review meetings held in districts provide a forum for programmatic and data review.
- Guidelines and tools for documenting TB and HIV activities are available in all health facilities. The TB screening tool is incorporated into the HIV patient booklet.
- Patients enrolled in HIV care are routinely screened for TB at every visit in most health facilities, while TB patients (95% in 2015) are tested for HIV. Virtually all co-infected patients are provided ART in accordance with national guidelines.

Gaps and challenges

- There is inadequate collaboration between TB and HIV programmes at the central and regional levels with limited evidence of joint planning, training, supervision and advocacy. At hospitals TB and HIV services are often offered at different service points, while in health centres and clinics, services are often provided at different times and by different nurses.
- There is inadequate national guidance on TB/HIV service delivery approaches. Implementation, monitoring and supervision of TB/HIV activities vary by facility, district and region. Treatment for TB is not always initiated in HIV clinics; similarly TB patients are not always provided with ART in TB clinics, but are referred to hospitals instead. In some ART clinics patients requiring sputum collection are referred to the TB clinic.
- Documentation of IPT is inconsistent, with low (<50%) or undocumented completion rates.
- There is inadequate knowledge on the clinical management of TB and HIV among some health workers.
- Integration of TB and non-communicable disease programmes is lacking. The contribution of diabetes and smoking to Namibia's TB burden is therefore unknown.

Activities

4.1. Develop and operationalise an implementation guide for TB/HIV activities: An operational guide for the implementation of TB/HIV activities at various levels will be developed, which will include job aids, standard operating procedures and terms of reference for coordinating committees at all levels. Health care workers will be oriented and mentored on these procedures, and trainings and mentorship will be conducted for health workers on clinical and programmatic management of TB/HIV.

4.2. Strengthen district and regional TB/HIV quality improvement projects: Quality improvement indicators for TB/HIV service delivery will be reviewed and updated accordingly, with a national TB/HIV review meeting being conducted to review progress on implementation of TB/HIV activities

4.3. Introduce screening for diabetes and smoking among TB patients: Standard operating procedures will be developed for screening confirmed and presumptive TB patients for diabetes mellitus as well as smoking. These SOPs will also be included in the training and mentorship for health workers.

Objective 5: Increase coverage of TB screening for health facility staff to 90% and establish infrastructure standards for airborne infection control by 2021.

Infection prevention and control (IPC) measures in health care settings are of central importance to the safety of patients, health care workers and the environment, and to the management of communicable disease threats to the global and local community. National guidelines for TB infection control are in place, with a number of initiatives being implemented to strengthen infection control in health facilities and congregate settings. There has been hitherto limited attention paid to prevention of infection at community level.

Strengths and opportunities

- Updated (2014) national Tuberculosis Infection Control guidelines are available in all health facilities.
- Laboratory staff routinely undergo pre-employment and periodic TB screening, and there is variable but improving coverage of annual TB screening for health workers.
- In many facilities general outpatients are routinely screened for cough, provided with face masks, and fast-tracked for TB screening.
- Sputum collection is largely conducted outdoors, with some health facilities having designated custom-made sputum collection booths.
- Most health facilities and DOT points implement an open-window policy. At several sites and prefabricated DOT containers, wind-driven roof turbines are also installed.

Gaps and challenges

- Although all hospitals have someone responsible for IPC, there is no designated post for IPC at the regional, district or facility levels to ensure consistency of implementation. A system for routine monitoring of TBIC practices has not been established.
- There is inadequate implementation of administrative measures such as triaging, isolation and separation. Sputum registers are not optimally used to track diagnosis and time to treatment initiation following TB diagnosis.
- Systematic screening and surveillance of for TB among health workers has not yet been fully established.
- Many health facilities do not meet the required standards for airborne infection control. Building standards for the prevention of airborne infections for construction and renovation of health facilities and residential infrastructure are not available. The upper-room ultraviolet germicidal irradiation (UVGI) is still underutilised, and where these systems are installed a comprehensive preventive maintenance programme is not in place.
- Use of respirators is not well coordinated, with inconsistent and incorrect use in most facilities. Most health workers have not undergone respirator fit testing.
- TB is not recognised as an occupational disease in Namibia.

Activities

5.1. Operationalise implementation of TBIC guidelines in health facilities: Facility specific standard operating procedures (SOPs) and job aids for TB infection control will be developed, and these will include maintenance of UVGIs and respirators. Training on TB infection control at pre-service and in-service level will be conducted, and IEC materials for TB infection control will be developed and disseminated. Comprehensive SOPs for health worker TB screening will be developed and operationalised through targeted training and programme monitoring.

5.2. Upgrade facilities to enhance airborne infection control: Facility TBIC assessments will be conducted, which will inform targeted facility modification to enhance TBIC. Guidelines/ minimum standards for airborne infection control for health facility and residential infrastructure will be developed and disseminated.

5.3. Ensure appropriate maintenance of UVGIs: Regular supervision and review of maintenance of UVGIs will be conducted.

5.4. Develop and implement a respirator fit testing programme for health workers: Regular respirator fit testing will be conducted for health facility staff as per facility-specific TBIC SOPs.

5.5. Advocate classification of TB as an occupational disease: Motivation will be prepared and submitted to the Ministry of Labour and Social Welfare to have TB classified as an occupational disease for specified high risk professions.

Objective 6: Transition to online case-based electronic recording and reporting system and establish a TB research network by 2019.

As part of the 2016 end term review of TBL MTP-II, an assessment of the TB surveillance system was undertaken based on the WHO's Standards and Benchmarks for TB Surveillance and Vital Registration Systems. The checklist consists of 13 standards and their associated benchmarks, with nine standards related to measurement of TB cases and one related to measurement of TB deaths. The final three standards are supplementary standards that can be used to assess whether a country's TB surveillance system provides a direct measure of the number of MDR-TB cases, the number of HIV-positive TB cases, and the burden of paediatric TB.

This objective aims to strengthen the M&E system for TB and leprosy that will collect process and transform data into strategic information for informed decision-making at all levels.

Strengths and opportunities

- There is nationwide (100%) coverage of electronic and paper-based TB monitoring and evaluation systems, with processes in place for data verification, review and analysis in place. A vital registration system is in place, and a new electronic system for TB recording and reporting was under development. There is a countrywide laboratory information system with the potential to serve TB and DR-TB surveillance purposes.
- Supervisory visits that include a quantitative supervisory checklist are conducted.
- Quarterly regional and zonal review meetings are being conducted to verify, review and analyse programme data, and provide feedback accordingly.
- There is good data completeness and accuracy on key epidemiological indicators in the electronic system (ETR.Net). TB data are externally consistent with regards to the proportion of all cases that are 0-14 years old.
- Surveillance data provide a direct measure of TB-HIV co-infection; high rates of HIV testing and ART coverage, and a Drug Resistance Survey (DRS) had been recently carried out to measure drug resistance. A TB disease prevalence survey was planned for 2016/17.
- An epidemiological annual report is routinely produced, and periodic programme reviews are regularly conducted.

Gaps and challenges

- Recording and reporting tools are not fully updated in line with WHO reporting requirements.
- There is limited technical and human resource capacity for comprehensive TB and leprosy monitoring and evaluation at all levels.
- There is inadequate tracking of some key programme areas such as TB infection control, isoniazid preventive therapy, community TB care, private sector and patient costs of TB and leprosy care.
- The vital registration system is not using ICD 10 to provide information on causes of mortality.
- The proportion of notified TB cases who are children is relatively low, possibly due to underreporting, under-detection or both.
- The laboratory information management system (Meditech) is not able to produce data for programme indicators, and is not linkable to the ETR.net. There is no procedure in place for matching laboratory and TB notification data, partly due to a lack of unique identifier. Similarly there are no linkages between the pharmaceuticals information system and the TB and leprosy information system.
- There are two electronics systems (ETR.net for drug-susceptible TB and ETB manager for DR-TB) concurrently in use. The system for storing historical aggregate national TB surveillance data

is cumbersome and inconsistent, making attempts to carry out time series analysis difficult.

- Coordination and capacity for programme based research is limited, with no comprehensive research agenda for TB and leprosy.
- There is minimal systematic data quality or validation checks at national or regional level, with inaccurate and incomplete data in the paper registers at some facilities. There is no system for data cleaning for case based data, with no procedure for de-duplication of TB notification and laboratory data.

Activities

6.1. Upgrade and strengthen the M&E system in line with international standards: The monitoring and evaluation system and tools for TB and leprosy will be updated in line with national and international reporting requirements, and for the country to effectively track progress towards ending TB in Namibia. Advocacy and engagement for the full implementation of the ICD-10 system linked to the vital registration system to facilitate tracking of TB related mortality, a key impact indicator for the SDGs and the End TB Strategy, are also included in this plan. Staff at national, regional, district and facility levels will be trained on monitoring and evaluation, including the revised system and tools. To ensure high quality data, annual on-side data verification will be conducted in all regions, and bi-annual data quality audits will also be conducted. Data analysis, dissemination will be facilitated through quarterly bulletins and annual reports.

6.2. Transition from paper to electronic recording and reporting: The recording and reporting system will be transitioned to a primarily electronic case based online system interlinked with the DHIS2 as well as GIS to map the country's TB epidemic. Equipment to facilitate this transition will be procured; M&E trainings (under Activity 6.1) will also be used to build implementer capacity for electronic recording and reporting.

6.3. Conduct periodic programme reviews: Quarterly data review and analysis meetings will be conducted at national, regional and district level. These meetings will be used for ongoing data verification, analysis and to track and address programme implementation issues. A mid-term (2019) and end-term (2021) programme reviews will be conducted to assess progress on strategic plan implementation.

6.4. Establish a national TB research network: All key stakeholders will be engaged to establish a formal TB research network to serve as a platform for coordinating and collaborating on TB research. Following its launch in 2018, the network members will meet quarterly to deliberate on TB and TB/HIV research. An annual forum on TB research will be organised to review progress with TB research, and to update the TB research agenda accordingly.

6.5. Develop and implement a comprehensive research agenda for TB and leprosy: Selected staff at national, regional and district levels will be trained on research, and a comprehensive research agenda will be developed in collaboration with academic and research institutions. The TB disease prevalence which was being planned in 2016 shall be continued and completed by 2018.

Objective 7: Establish the catastrophic costs due to TB and increase coverage of socio-economic assessment of TB and leprosy patients to 80% by 2020.

Introduction

Namibia has established the Universal Health Coverage Advisory Committee of Namibia (UHCAN) to provide advice and guidance to the Social Security Commission Board and the MoHSS on the development of systems and policies for UHC in Namibia.

Although Namibia provides TB diagnosis and treatment free of charge within public health services, many TB patients and their families may still face high indirect costs due to TB and the related care seeking, thereby hampering access and putting people at risk of impoverishment (referred to as catastrophic health spending). One of the global targets of the End TB Strategy is to ensure that no TB-affected family will be facing catastrophic costs due to TB by 2020.

Namibia has a Social Security (1994) and Employees Compensation (1941) Acts which provide for registration of employers and employees, collection and investment of contributions, assessment and payment of claims, employee benefits, training and employment schemes, and financial aid to students.

Health insurance is provided by various medical aid societies, with Namibian Association of Medical Aid Funds (NAMAF) as the umbrella body. The NAMAF benchmark tariffs used by medical aid funds represent a specific threshold which medical aid funds must adhere to when reimbursing health care treatment and services rendered to registered members. These health insurance schemes are largely limited to the employed and cover treatment and other medical services offered by private and public providers.

The first social protection conference in Namibia was held in July 2015 with a theme "Towards Comprehensive Social Protection for All", and the Namibian government is spearheading discussions to identify mechanisms to extend social security benefits to cover the informal sector.

Strengths and opportunities:

- Apart from a minimal registration fee upon entrance to a health care facility of between NAD5-14, public health facilities offer free health services for all patients who qualify to be classified as "State patients" and for all services. Patients who are unable to pay this nominal fee can be assisted through a waiver system that is in place in all public facilities.
- There is a government funded disability grant of NAD1,120 per month for persons who suffer prolonged ill health or disability, which is accessed on recommendation by a medical doctor.
- There is a national food fortification and supplementation programme for TB patients currently funded with the support of the Global Fund. The nutritional supplements (E-pap) are centrally procured and distributed to patients through community-based organisations (CBOs). The CBOs are also funded to establish income generating activities such as chicken rearing, vegetable gardening, etc. whose produce is used to provide nutritional support to patients and their families.
- There is also a Global Fund funded transport reimbursement scheme for patients on treatment for DR-TB which is implemented through CBOs. The CBOs are reimbursed for expenditures incurred in transporting patients from their respective residences to treatment facilities and back. The reimbursement is usually calculated at N$20 per patient per day for a total of 20 days per month.
- An Orphans and Vulnerable Children (OVC) grant is in place for orphans and other vulnerable children irrespective of the cause. It provides N$250 per month per child. Children of patients receiving the medical disability grant automatically qualify for the OVC grant.

Gaps and challenges

- Mandatory registration of employees under the Social Security Act was not being enforced, and there was lack of awareness among employees on financial benefits. Similarly, TB patients may not be aware of their eligibility to access the available benefits.
- Many households still faced challenges in raising the minimal user fees for public health facilities. Furthermore, there were no data on costs incurred by patients while seeking TB and leprosy treatment and care.
- Some patients lacked national identification documents, and were thus unable to access benefits that they would otherwise be entitled to.
- Rehabilitation services for TB patients are not well integrated as part of the TB care package.
- There were significant delays in processing of disability grants.
- There was significant variability in the way nutritional supplementation was being provided to TB patients, and coverage of nutritional support to TB patients was unclear.

Activities

7.1. Conduct community sensitisation on social insurance and social assistance: IEC materials to sensitise communities and employees on social protection and social assistance will be developed and disseminated through employers, local authorities and community leaders. A Social Protection Technical Working Group will be established and maintained to spearhead the social protection agenda.

7.2. Conduct surveys and ongoing monitoring of catastrophic costs incurred by TB patients: A survey to determine catastrophic costs incurred by TB patients will be conducted, and will inform strategies and targets for initiatives to eliminate these catastrophic costs.

7.3. Coordinate rehabilitation services for TB patients: Recording and reporting tools for rehabilitation of TB patients will be developed and rolled out, and rehabilitation staff will be trained on TB and leprosy and the associated rehabilitation needs.

7.4. Develop and implement a comprehensive and inclusive patient support system: Updated guidelines including comprehensive patient support for TB and leprosy patients will be developed, and indicators for patient support will be incorporated in routine quarterly reports. The patient support system will include nutritional support, income generating projects and other support. Patients without national identity documents will be supported to obtain through a fast-tracked process.

Objective 8: Maintain 100% health facility coverage of community-based TB and leprosy care in all districts.

Community-Based Tuberculosis Care (CBTBC) has been a key pillar of Namibia's TB response, and has been implemented through the following:

- A cadre of partner (primarily Global Fund, and to a lesser extent USAID) supported contractual community health workers referred to as 'TB field promoters' whose role covers TB prevention, case detection, referral, health education, nutritional support and treatment adherence support. The 'field promoters' are the backbone of Namibia's community-based TB care approach and contribute to case finding, treatment success and stigma reduction.
- Expansion of the network of community-based DOT points to support community engagement and enable treatment adherence support to be provided within communities, reducing distance to access daily medication and cost of transport.
- A network of Health Extension Workers (community health workers) employed by the government whose role is to create awareness on numerous health care topics and provide treatment and care for selected health issues. Community health workers are well positioned to expand case finding by performing TB screening at community level and referring identified presumptive cases for TB testing.

The private health sector in Namibia is accessed by a significant proportion of the 19% of Namibia's population who are covered by some form of health insurance. Private sector providers include private hospitals, doctors, laboratories and pharmacies. The corporate sector or companies in mining, fishing, agriculture and other industries also provide health services to their employees. Traditional healers also provide services to a variable extent in different communities. In 2012-2013, around 34% of health funds in the country were spent in the private sector.

Key strengths

- There are strong systems for community TB care based on the model of a well-trained cadre of TB field promoters.
- The establishment of DOT points located within communities has reduced distances that patients need to travel to access treatment and thus improved access to treatment while reducing costs for TB patients and are helping to reduce treatment interruption.
- Health education is provided to all TB patients and these patients demonstrate a good understanding of TB prevention, care and treatment.
- Regulations and guidance exist to encourage collaboration with the private sector. The Public Health Act makes TB case notification mandatory by all care providers including the private sector. Information on new guidelines is provided to the private sector and public sector trainings are open for participation by the private sector. Regional and district TB coordinators are mandated to reach out to private providers.
- Many companies independently provide health and TB care services to their employees. Additionally, some big companies provide health services to surrounding communities.

Key gaps

- Information, education and communication (IEC) materials are inadequate, and messages are often not appropriately formulated to target communities and patients.
- The sustainability of the TB community health workers (field promoters) is uncertain since they are exclusively donor funded.
- Community health workers working on TB (field promoters) do not have adequate job aids (such as flip charts, standard operating procedures, pamphlets) to support and standardise the

execution of their responsibilities. Shortage of transport prevents effective outreach and contact and interrupter tracing by the field promoters.

- Supervision of community health workers field promoters by facility nurses. There is often inappropriate and excessive delegation of tasks to field promoters (for example being assigned responsibility for maintaining and updating TB registers and patient card). Furthermore, reporting lines for community TB care providers are often unclear.
- The DOT points are not enough and require further expansion to minimise the distances that patients have to travel for treatment.
- The contribution of community interventions to TB case finding is not systematically monitored.
- There is inadequate enforcement of the regulations on notification and management of TB outside the public sector. There is anecdotal evidence of inadequate case management of TB patients in some private sector facilities.
- Police holding cells in the country are overcrowded and offenders are not screened for infectious diseases like TB.
- Not all employees, especially those in vulnerable employment (over 30% of the employed population in Namibia) are covered by health schemes. The farming sector which is the largest employer (over 30%) is currently not adequately engaged in TB care and prevention efforts. Over 102,000 workers in the agricultural sector have vulnerable employment in this sector and thus could be vulnerable to TB. TB outbreaks have been reported in certain farms.
- Inadequate involvement and participation of (linkage with) private health care providers and alternative (traditional) healers in TB care and prevention.

Activities

8.1. Support and standardise the implementation of community-based TB care: Standardised mentorship and supervision procedures for community health workers will be developed and used for mentorship and support visits. Guidelines for community-based TB care will be updated to include home-based TB treatment support and ambulatory treatment for drug-resistant TB, among other updates.

8.2. Integrate TB and leprosy prevention and care into other health services: NGOs, local and religious leaders and traditional healers will be engaged through advocacy and sensitisation meetings to support TB and leprosy care and prevention.

8.3. Conduct TB and leprosy TB awareness campaigns: Periodic TB and leprosy awareness mass media campaigns will be conducted, and World TB Day and World Leprosy Day will be commemorated for awareness and advocacy.

8.4. Facilitate establishment of community health committees: Generic terms of reference for community health committees will be developed to guide regional and district staff in efforts to increase community awareness and participation in health issues. Quarterly meetings will be conducted for community health committees in all districts.

8.5. Develop and operationalise health education guidelines and IEC materials: Information, education and communication (IEC) materials for TB and leprosy will be developed and disseminated. School counsellors and life skills teachers will be trained on TB.

8.6. Sensitise other care providers on TB prevention, care and support: Quarterly training and consultative meetings will be organised for private health care providers, and regular sensitisation visits will be conducted to traditional healers in all regions.

Objective 9: Attain 100% coverage of annual active leprosy screening in regions reporting leprosy cases since 2010, and 100% of leprosy patients are treated with MDT.

Introduction

Namibia achieved the leprosy elimination target of less than one case per 10,000 population since 2004, but the detection and surveillance of the disease has been inconsistent over the past 15 years.

Strengths and opportunities

- National guidelines, recording and reporting tools, and IEC materials (posters and pamphlets) are available. Leprosy MDTs are routinely provided by WHO.
- Trainings were conducted for regional staff since 2013 which was associated with an up-surge in notified cases.
- Leprosy is a standing agenda item for the quarterly National TB and Leprosy Steering Committee meetings.
- The national programme has coordinated commemoration of World Leprosy Day since 2012.

Gaps and challenges

- The burden of leprosy remains unclear due to weak case detection and surveillance system.
- The distribution of MDT supplies is parallel to the CMS procurement and distribution system, resulting in maldistribution of MDTs and some patients being treated with single medicine formulations.
- Leprosy patient treatment cards and identity cards are unavailable in some facilities.
- Inadequate knowledge in the management of leprosy from diagnosis, monitoring of MDT, performance of disability grading and cohort analysis. This has manifested in the form of delayed diagnosis of leprosy and associated disabilities, and inconsistent application of disability assessment.
- Funding and technical capacity for leprosy care and prevention at national and sub-national levels is inadequate, and there is limited partner support. NGOs and CBOs supporting community engagement for TB are not involved in leprosy care and prevention.

Activities

9.1. Conduct active leprosy case finding: Annual active leprosy case finding initiatives will be conducted in selected regions based on notification trends.

9.2. Conduct capacity building initiatives for health workers on leprosy: Training courses on leprosy will be conducted for health workers on leprosy, which will be complemented by mentorship and supervision. External technical assistance will be engaged to support capacity building on leprosy.

9.3. Ensure disability assessment for all leprosy patients: Disability assessment for leprosy patients (and referral for rehabilitation services if necessary) will be emphasised and reported on as part of routine quarterly reports.

9.4. Streamline the distribution of MDTs within CMS supply chain system: The supply chain of leprosy MDTs will be integrated into the CMS supply chain system.

9.5. Coordinate leprosy community awareness initiatives: Community mobilisation and sensitisation sessions on leprosy will be conducted, with EIC materials being developed and disseminated. Community based organisations operating in areas where patients with leprosy are found will be trained and capacitated to support these patients.

Chapter 5: Work plan, indicator matrix and costing

Table 3: Work plan for TBL MTP-III

Main Activity #	Main Activities	Sub-Activity #	Sub-activities	Detailed Activity #	Detailed Activities	Process indicator	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1-Year 5
1.1	Advocate additional GRN funding for TB and leprosy prevention and care	1.1.1	Submit motivation for increased GRN funding for TB and leprosy care and prevention	1.1.1.1	Submit annual motivation for increased GRN funding for TB and leprosy care and prevention	Number of annual motivations for GRN MOHSS TB funding submitted	1	1	1	1	1	5
		1.1.2	Provide justification for increased GRN funding for TB in correctional settings and other high risk sectors	1.1.2.1	Submit annual motivation for increased funding for TB in correctional settings and other high risk settings	Number of annual motivations for GRN sectoral TB funding submitted	0	1	1	1	1	4
1.2	Mobilise alternative resources for community TB care and prevention	1.2.1	Engage private sector to co-finance community based TB care interventions	1.2.1.1	Conduct advocacy meetings with corporate sector	Number of TB advocacy meetings held with corporate sector	0	2	2	2	2	8
		1.2.2	Develop a sustainability strategy for CBTBC	1.2.2.1	Conduct consultative meetings on sustainability strategy for CBTBC	Number of consultative meetings on CBTBC sustainability strategy held	0	2	3	0	0	5
				1.2.2.2	Print and disseminate sustainability strategy for CBTBC	Sustainability strategy for CBTBC printed	No	No	Yes	Yes	Yes	Yes
1.3	Mobilise donor funding to bridge key human resources gaps	1.3.1	Prepare and submit proposals to relevant funding partners	1.3.1.1	Prepare and submit proposals to relevant funding partners	Number of funding requests submitted to partners	2	2	2	2	2	10
1.4	Sensitize and engage relevant stakeholders on TB and leprosy	1.4.1	Organise a biennial national stakeholders forum on TB and leprosy	1.4.1.1	Organise a biennial national stakeholders forum on TB and leprosy	Number of TB and leprosy stakeholders fora held	0	1	0	1	0	2
		1.4.2	Organise annual update meetings for senior leadership in MoHSS and line ministries	1.4.2.1	Organise annual update meetings for senior leadership in MoHSS and line ministries	Number of TB update meetings for GRN offices, ministries and agencies held	0	1	1	1	1	4
		1.4.3	Strengthen the coordination role of the National TB and Leprosy Steering Committee	1.4.3.1	Update membership of the National Tuberculosis and Leprosy Steering Committee (TBL NSC)	Updated terms of reference for the TBL NSC available	No	Yes	Yes	Yes	Yes	Yes
				1.4.3.2	Organise quarterly National Tuberculosis and Leprosy Steering Committee meetings	Number of TBL NSC meetings held	4	4	4	4	4	20
				1.4.3.3	Conduct quarterly childhood TB technical working group (TWG) meetings at national level	Number of childhood TB TWG meetings conducted	4	4	4	4	4	20

Work plan for TBL MTP-III

Main Activity #	Main Activities	Sub-Activity #	Sub-activities	Detailed Activity #	Detailed Activities	Process indicator	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1-Year 5
1.5	Conduct TB and leprosy capacity building initiatives for clinical and programme staff	1.5.1	Organise leadership and management training for TB and leprosy programme management staff at national, regional and district levels	1.5.1.1	Organise leadership and management training for TB and leprosy programme management staff at national, regional, and district level	Number of national level staff trained on leadership	0	20	20	20	0	60
		1.5.2	Conduct annual training for health facility managers on national TB and leprosy guidelines	1.5.2.1	Conduct annual training for health facility managers on national TB and leprosy guidelines	Number of facility managers trained on TB and leprosy guidelines	35	35	35	35	35	175
		1.5.3	Collaborate with training institutions to incorporate TB and leprosy in curriculum	1.5.3.1	Conduct annual meetings with tertiary institutions on TB and leprosy curriculum	Number of curriculum review meetings conducted	0	1	1	1	1	4
		1.5.4	Develop and implement standard operating procedures (SOPs) for TB programme mentorship	1.5.4.1	Conduct consultative meetings for development of SOPs for TB programme mentorship	Number of consultative meetings for programme mentorship SOPs held	0	3	0	1	0	4
		1.5.5	Conduct supportive supervision and mentorship	1.5.5.1	Conduct supervision and mentorship visits at all levels	Number of regions mentored on TB	0	15	15	15	15	60
		1.5.6	Facilitate participation in international training and conferences on childhood TB	1.5.6.1	Facilitate participation in international training for selected staff on childhood TB	Number of staff trained on childhood TB	0	3	0	3	0	6
				1.5.6.2	Facilitate participation at international conferences on childhood TB	Number of staff attending conferences on childhood TB	2	2	2	2	2	10
1.6	Formalise task-shifting for TB and leprosy prevention and care	1.6.1	Develop and implement tasking shifting plan for TB and leprosy prevention and care	1.6.1.1	Conduct consultative meetings on task shifting for TB and leprosy	Number of task shifting consultative meetings conducted	0	2	1	0	0	3
				1.6.1.2	Print and disseminate task shifting guidance for TB and leprosy	Task shifting guidance printed	No	Yes	Yes	Yes	Yes	Yes
1.7	Update national guidelines in line with WHO recommendations	1.7.1	Revise national guidelines in line with WHO recommendations	1.7.1.1	Conduct consultative meetings for TB guidelines development	Number of consultative meetings on national TB guidelines held	3	1	0	0	2	6
		1.7.2	Conduct trainings for health workers and other stakeholders on the revised guidelines	1.7.1.2	Print and disseminate revised national TB guidelines	Revised national TB guidelines available	No	Yes	Yes	Yes	Yes	Yes
				1.7.2.1	Conduct trainings for doctors and pharmacist on the national TB guidelines	Number of doctors and pharmacists trained on national TB guidelines	25	100	100	100	100	425
				1.7.2.2	Conduct trainings for nurses, pharmacist assistants and other health care staff on national TB guidelines	Number of nurses, pharmacist assistants and other staff trained on national TB guidelines	280	280	280	280	280	1,400
				1.7.2.3	Conduct trainings for community health workers on national TB guidelines	Number of community health workers trained on national TB guidelines	210	210	210	210	210	1,050

Work plan for TBL MTP-III

Main Activity #	Main Activities	Sub-Activity #	Sub-activities	Detailed Activity #	Detailed Activities	Process indicator	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1-Year 5
1.8	Recruit, train and retain staff to complement MoHSS staff establishment	1.8.1	Recruit complementary medical officers and nurses in high DR-TB burden sites	1.8.1.1	Recruit and retain doctors for high DR-TB sites	Number of medical officers recruited	5	13	13	13	13	57
				1.8.1.2	Recruit and retain nurses for high DR-TB sites	Number of nurses recruited	13	13	13	13	13	65
		1.8.2	Retain partner funded staff at national level	1.8.2.1	Retain 9 partner funded national level officers	Number of national level programme officers retained	9	9	9	9	9	45
1.9	Update strategic plan for TB and leprosy in line with latest international guidance	1.9.1	Develop 5th medium-term plan for TB and leprosy	1.9.1.1	Conduct consultative meetings for development of TBL MTP-IV	Number of consultative meetings for strategic plan development held	0	0	0	0	3	3
				1.9.1.2	Print and disseminate TBL MTP-IV	TBL MTP-IV available	No	No	No	No	Yes	Yes
2.1	Enhance laboratory sample and results delivery systems for health centres and clinics	2.1.1	Procure and install real-time results delivery systems at health at all health facilities	2.1.1.1	Procure and install sms printers and/or results terminals to reach all health facilities	Number of facilities provided with sms printer or results-delivery terminal	50	50	50	50	0	200
2.2	Introduce point of care diagnostic services for TB	2.2.1	Conduct a pilot for point of care testing for TB	2.2.1.1	Procure, validate and implement point of care TB diagnostic services for identified facilities	Point of care Xpert MTB RIF installed at identified facilities	No	Yes	Yes	Yes	Yes	Yes
				2.2.1.2	Develop standard operating procedures (SOPs) for conducting point of care testing for TB	SOPs for point of care TB testing available	No	Yes	Yes	Yes	Yes	Yes
				2.2.1.3	Train health care workers at selected sites on point of care testing for TB	Number of HCWs trained on point of care TB testing	0	30	30	30	30	120
2.3	Build capacity for clinical and laboratory staff on the national TB diagnostic algorithm	2.3.1	Develop SOP's and job aids for laboratory staff on the use of the national TB laboratory algorithm	2.3.1.1	Develop standard operating procedures (SOPs) for the laboratory TB diagnostic algorithm for clinical and laboratory staff	SOPs for TB laboratory diagnostic algorithm developed	No	Yes	Yes	Yes	Yes	Yes
		2.3.2	Train laboratory staff on the national TB laboratory algorithm	2.3.2.1	Conduct trainings on new diagnostic algorithm, specimen collection and results retrieval for clinical and laboratory staff	Number of clinical and laboratory staff trained on TB diagnostics	30	60	60	60	60	270
		2.3.3	Conduct mentorship visits to laboratories on TB diagnostics	2.3.3.1	Conduct mentorship visits to laboratories and health facilities on TB diagnostics	Number of mentorship visits conducted per region per year	2	2	2	2	2	10
		2.3.4	Provide additional laboratory space and equipment for Xpert MTB/RIF through renovations or container labs	2.3.4.1	Upgrade identified laboratories to provide space for Xpert MTB/RIF	Number of laboratories upgraded for Xpert MTB/RIF	2	3	3	0	0	8
				2.3.4.2	Procure and maintain additional Xpert MTB/RIF machines	Number of Xpert MTB/RIF machines procured	3	5	5	0	0	13

Work plan for TBL MTP-III

Main Activity #	Main Activities	Sub-Activity #	Sub-activities	Detailed Activity #	Detailed Activities	Process indicator	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1-Year 5
2.4	Upgrade the TB laboratory surveillance system in line with national and international reporting requirements	2.4.1	Implement an interim paper-based TB laboratory register pending introduction of an electronic system responsive to surveillance needs	2.4.1.1	Include TB laboratory reports (including drug resistance profile) in routine quarterly reports	Number of districts providing routine laboratory reports	10	35	35	35	35	150
		2.4.2	Upgrade laboratory information systems (LIS) to serve surveillance needs	2.4.2.1	Introduce a new laboratory information system/module for TB	Upgraded laboratory information system in place	No	Yes	Yes	Yes	Yes	Yes
		2.4.3	Develop and implement a unique identification system for presumptive and confirmed TB cases	2.4.3.1	Develop a unique identification system for presumptive and confirmed TB patients	Unique identification system implemented	No	Yes	Yes	Yes	Yes	Yes
				2.4.3.2	Conduct orientation sessions for laboratory and clinical staff on the unique identification system	Number of clinical and laboratory staff oriented on the unique identification system	0	60	60	60	60	240
		2.4.4	Conduct a sentinel drug resistance survey for isoniazid and other drugs amongst patients with rifampicin-susceptible TB	2.4.5.1	Develop protocol and conduct drug resistance survey for isoniazid and other drugs amongst patients with rifampicin-susceptible TB	Report for sentinel drug resistance surveillance available	No	No	No	Yes	Yes	Yes
2.5	Develop a regulatory framework for TB laboratory services for both public and private service providers	2.5.1	Develop guidelines on the provision on TB laboratory services (notification, safety and quality assurance)	2.5.1.1	Conduct consultative meetings for development of guidelines for TB laboratory services	Number of consultative meetings on guidelines for TB laboratory services conducted	0	3	2	0	0	5
				2.5.1.2	Develop, print and disseminate guidelines for TB laboratory services	Guidelines for TB laboratory services available	No	No	Yes	Yes	Yes	Yes
2.6	Implement national quality assurance programme for public and private TB laboratory services	2.6.1	Recruit, train and retain a TB quality assurance technologist/ scientist at NIP	2.6.1.1	Recruit, train and retain a TB quality assurance technologist/scientist at NIP	Quality assurance technologist recruited	No	No	Yes	Yes	Yes	Yes
		2.6.2	Roll out quality assurance programme to all laboratories providing TB services	2.6.2.1	Implement quality assurance programme to all laboratories providing TB services	Number of TB laboratories providing routine quality assurance reports	32	32	32	32	32	160
2.7	Explore ways to reduce cost of laboratory diagnostics	2.7.1	Conduct an assessment of cost/ pricing structure for TB tests	2.7.1.1	Engage consultancy to assess laboratory costs for TB	Assessment report for laboratory costs available	No	No	Yes	Yes	Yes	Yes
					Conduct consultative meetings with relevant stakeholders to address costs of TB tests	Number of consultative on TB lab costs meetings conducted	0	0	3	0	0	3

Work plan for TBL MTP-III

Main Activity #	Main Activities	Sub-Activity #	Sub-activities	Detailed Activity #	Detailed Activities	Process indicator	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1-Year 5
2.8	Conduct TB screening in child health care settings	2.8.1	Introduce SOPS for TB screening in children in general, mother and child care settings	2.8.1.1	Conduct consultative meetings to develop standard operating procedures (SOPs) for childhood TB	Number of consultative meetings on SOPs for childhood TB conducted	2	2	0	0	0	4
				2.8.1.2	Print and disseminate SOPs for childhood TB	SOPs for childhood TB printed	No	Yes	Yes	Yes	Yes	Yes
				2.8.1.3	Conduct trainings for health workers on childhood TB	Number of health workers trained on childhood TB	0	100	100	100	100	400
2.9	Conduct active contact investigation for all eligible TB patients	2.9.1	Introduce SOPs for contact investigation for facility and community care providers	2.9.1.1.	Conduct consultative meetings to develop standard operating procedures (SOPs) for contact investigation	Number of consultative meetings on SOPs for contact investigation conducted	0	1	2	0	0	3
				2.9.1.2	Print and disseminate SOPs for contact investigation	SOPs for contact investigation printed	No	No	Yes	Yes	Yes	Yes
				2.9.1.3.	Conduct trainings for facility and community care providers on contact investigation	Number of care providers trained on contact investigation	0	0	175	175	175	525
3.1	Maintain uninterrupted supply of quality assured anti-TB and leprosy medicines	3.1.1	Utilise GDF mechanism or procure directly from WHO prequalified manufacturers.	3.1.1.1	Conduct consultative meetings on procurement of anti-TB medicines	Number of consultative meetings on anti-TB medicine procurement conducted	2	2	2	2	2	10
		3.1.2	Perform quantification, forecasting and supply planning using morbidity data	3.1.2.1	Conduct annual quantification and forecasting consultative meetings	Annual quantification report available	Yes	Yes	Yes	Yes	Yes	0
				3.1.2.2	Conduct quarterly review of medicine and supplies	Number of quarterly medicines and supplies review reports available	5	5	5	5	5	25
		3.1.3	Procure and distribute child friendly anti-TB formulations	3.1.3.1	Conduct consultative meetings with stakeholders on new anti-TB formulations for children	Number of consultative meetings on children's anti-TB medicine formulations held	2	5	0	0	0	7
				3.1.3.2	Procure and distribute new anti-TB formulations for children	Child-friendly anti-TB medicine formulations available	No	Yes	Yes	Yes	Yes	Yes
3.2	Conduct capacity building in inventory management and pharmacovigilance for relevant staff	3.2.1	Conduct training and mentorship on inventory management and pharmacovigilance	3.2.1.1	Conduct annual training for selected staff on inventory management	Number of staff trained on inventory management	35	35	35	35	35	175
				3.2.1.2	Conduct training for selected staff on active drug safety monitoring for TB	Number of staff trained on pharmacovigilance	100	100	100	100	100	500
				3.2.1.3	Conduct annual supervision and mentorship visits all regions on inventory management	Number of pharmaceutical mentorship visits conducted per region per year	2	2	2	2	2	10

Work plan for TBL MTP-III

Main Activity #	Main Activities	Sub-Activity #	Sub-activities	Detailed Activity #	Detailed Activities	Process indicator	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1-Year 5
3.2	Conduct capacity building in inventory management and pharmacovigilance for relevant staff	3.2.2	Conduct active surveillance for adverse drug reactions to anti-TB medicines	3.2.2.1	Conduct active surveillance for adverse drug reactions to anti-TB medicines	Number of districts providing routine reports on anti-TB medicine side effects	35	35	35	35	35	175
				3.2.2.2	Develop standard operating procedures (SOPs) for audiometry and electrocardiography (ECG) for DR-TB patients	SOPs for audiometry and electrocardiography for DR-TB patients available	Yes	Yes	Yes	Yes	Yes	Yes
				3.2.2.3	Procure and maintain equipment to support aDSM, including audiometers and ECG machines	Equipment for drug safety monitoring available in all DR-TB treatment facilities	No	Yes	Yes	Yes	Yes	Yes
3.3	Review and update Pharmaceuticals Facility Standards and Norms	3.3.1	Assess storage space at all health facilities	3.3.1.1	Conduct an assessment of the storage facilities for anti-TB medicines at all levels	Assessment report on anti-TB medicine storage available	No	No	Yes	Yes	Yes	Yes
		3.3.2	Update pharmaceutical facility standards and norms	3.3.2.1	Conduct consultative meetings to review pharmaceutical facility standards and norms	Number of meetings on pharmaceutical standards and norms conducted	2	2	2	2	2	10
		3.3.3	Upgrade facilities in line with the revised pharmaceutical facility standards and norms	3.3.3.1	Renovate identified pharmaceutical facilities	Number of pharmaceutical facilities renovated	5	5	5	5	5	25
3.4	Develop and operationalise updated guidelines on the management of DR-TB	3.4.1	Develop, print and disseminate national guidelines for DR-TB	3.4.1.1	Conduct consultative meetings for DR-TB guidelines review	Number of consultative meetings on DR-TB guidelines conducted	2	0	0	0	2	4
		3.4.2	Develop, print and disseminate national guidelines for DR-TB	3.4.2.1	Print and disseminate guidelines for management of DR-TB	Revised guidelines for management of DR-TB available	Yes	Yes	Yes	Yes	Yes	Yes
		3.4.3	Develop, print and disseminate SOPs for ambulatory care of DR-TB patients	3.4.3.1	Conduct consultative meetings for standard operating procedures (SOPs) for ambulatory management of DR-TB	Number of consultative meetings on ambulatory DR-TB management conducted	1	1	0	0	2	4
				3.4.3.2	Print and disseminate SOPs for ambulatory care of DR-TB patients	SOPs for ambulatory management of DR-TB available	No	Yes	Yes	Yes	Yes	Yes
		3.4.5	Conduct trainings for care providers on the revised guidelines for diagnosis and management of DR-TB	3.4.5.1	Conduct trainings for medical officers and pharmacist on the national DR-TB guidelines	Number of medical officers and pharmacists trained on DR_TB guidelines	50	50	50	50	50	250
				3.4.5.2	Conduct trainings for nurses, pharmacist assistants and other health care staff on national DR-TB guidelines	Number of nurses, pharmacist assistants and other staff trained on DR-TB guidelines	30	120	120	120	120	510
				3.4.5.3	Conduct trainings for community health workers on national DR-TB guidelines	Number of community health workers trained on DR-TB guidelines	150	150	150	150	150	750

Work plan for TBL MTP-III

Main Activity #	Main Activities	Sub-Activity #	Sub-activities	Detailed Activity #	Detailed Activities	Process indicator	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1-Year 5
3.5	Develop and operationalise targeted strategies for TB service delivery for specific populations	3.5.1	Conduct a mapping exercise for key populations for TB and TB/HIV	3.5.1.1	Engage consultancy to conduct mapping exercise of key populations for TB and TB/HIV	Report on mapping of key populations for TB and TB/HIV available	No	No	Yes	Yes	Yes	Yes
		3.5.2	Develop and implement strategy for TB service delivery for nomadic and semi -nomadic populations	3.5.2.1	Conduct consultative meetings on strategy for TB service delivery for nomadic populations	Number of consultative meetings on TB services for nomadic populations conducted	0	3	0	2	0	5
				3.5.2.2	Implement strategies for TB service delivery for nomadic populations	Activities for nomadic populations specified in relevant regional annual work plans	No	No	Yes	Yes	Yes	Yes
3.5	Develop and operationalise targeted strategies for TB service delivery for specific populations	3.5.3	Conduct community TB awareness campaigns for informal settlements	3.5.3.1	Develop and disseminate information, education and communication (IEC) materials for informal settlements	IEC materials on TB for informal settlements available	No	Yes	Yes	Yes	Yes	Yes
				3.5.3.2	Conduct targeted TB screening in informal settlements	Number of screening exercises in informal settlements conducted	2	5	5	5	5	22
		3.5.4	Develop and implement strategy and SOPs for communicable diseases for trial awaiting inmates	3.5.4.1	Conduct consultative meetings on strategy for communicable diseases for trial awaiting inmates	Number of consultative meetings on TB services for trial awaiting inmates held	0	2	2	1	1	6
		3.5.5	Develop and implement package of health services related to TB in the mining sector	3.5.5.1	Conduct consultative meetings on strategy for TB services in the mining sector	Number of consultative meetings on TB in the mining sector held	0	2	2	1	1	6
				3.5.5.2	Conduct orientation and review meetings on health services package for mining and peri-mining communities	Number of review meetings on health services for mining communities conducted	0	2	2	2	2	8
		3.5.6	Develop and operationalise guidance for management of TB among cross-border patients	3.5.6.1	Conduct consultative meetings to develop guidance for management of TB among cross-border patients	Number of consultative meetings on TB among cross-border patients conducted	0	2	2	1	1	6
				3.5.6.2	Implement service package for TB among cross-border patients	TB service package for cross-border patients available	No	No	Yes	Yes	Yes	Yes
4.1	Develop and operationalise an implementation guide for TB/HIV activities	4.1.1	Develop job aids and terms of reference for coordinating committees at all levels	4.1.1.1	Conduct consultative meetings to develop job aids, SOPs, and TORs for TB/HIV and TBIC coordinating committees and staff at all levels	Number of consultative meetings on TB/HIV and TBIC SOPs help	0	3	0	0	3	6
				4.1.1.2	Print and disseminate job aids, SOPs and TORs for TB/HIV and TBIC coordinating committees and staff	TORs for TB/HIV and TBIC committees available	No	Yes	Yes	Yes	Yes	Yes

Work plan for TBL MTP-III

Main Activity #	Main Activities	Sub-Activity #	Sub-activities	Detailed Activity #	Detailed Activities	Process indicator	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1-Year 5
4.1	Develop and operationalise an implementation guide for TB/HIV activities	4.1.2	Provide orientation and mentorship to care providers on TB/HIV and bidirectional referral	4.1.2.1	Conduct training for health workers on the comprehensive clinical and programmatic management of TB/HIV	Number of health workers trained on TB/HIV	0	200	250	270	300	1020
				4.1.2.2	Conduct mentorship visits on clinical and programmatic management of TB/HIV, including bidirectional referral, TBIC, ICF and IPT	Number of regions mentored on TB/HIV	3	5	5	5	5	23
4.2	Strengthen district and regional TB/HIV quality improvement	4.2.1	Review and update quality improvement indicators for TB/HIV service delivery	4.2.1.1	Conduct annual TB/HIV performance review	Number of annual TB/HIV review meetings conducted	1	1	1	1	1	5
4.3.	Introduce screening for diabetes and smoking among TB patients	4.3.1	Develop and operationalise SOPs to screen for diabetes and smoking among confirmed and presumptive TB patients	4.3.1.1	Conduct consultative meetings on screening for diabetes and smoking among TB patients	Number of consultative meetings diabetes and smoking held	0	1	3	0	0	4
				4.3.1.2	Orient staff on screening for diabetes and smoking among TB patients	Number of staff oriented on screening for diabetes and smoking among TB patients	0	0	50	0	0	50
5.1	Operationalise implementation of TBIC guidelines in health facilities	5.1.1	Conduct capacity building for implementation of TBIC	5.1.1.1	Conduct regional workshops for development and review of facility specific TBIC SOPs; including maintenance of UVGIs and respirators	Number of regional workshops on TB infection control SOPs conducted	0	15	0	7	7	29
				5.1.1.2	Conduct training for health workers on TBIC	Number of health workers trained on TB infection control	100	150	100	150	100	600
		5.1.2	Develop and disseminate TBIC IEC materials	5.1.2.2	Conduct consultative meetings for development of TBIC IEC materials	Number of consultative meetings on TBIC IEC materials held	0	5	0	2	0	7
				5.1.2.3	Print and disseminate IEC materials for TBIC	IEC materials for TB infection control available	No	Yes	Yes	Yes	Yes	Yes
		5.1.3	Develop standardised TB screening guidance for health workers	5.1.3.1	Conduct consultative meetings to develop TB screening SOPs for health workers	Number of consultative on TB screening SOPs held	1	3	2	0	0	6
				5.1.3.2	Print and disseminate tools for TB screening for health workers	TB screening tools for health workers available	No	Yes	Yes	Yes	Yes	Yes
		5.1.4	Conduct targeted training on health worker screening	5.1.4.1	Conduct targeted training on health worker screening	Number of health workers trained on staff TB screening	0	25	25	25	25	100
5.2	Upgrade facilities to enhance airborne infection control	5.2.1	Conduct facility TBIC assessments	5.2.1.1	Conduct facility TBIC assessment	Number of facilities assessed for TB infection control	5	10	5	5	10	35
		5.2.2	Conduct structural modification for identified health facilities	5.2.2.1	Upgrade health facilities to enhance TB infection control	Number of facilities upgraded to enhance TB infection control	2	3	5	3	3	16

Work plan for TBL MTP-III

Main Activity #	Main Activities	Sub-Activity #	Sub-activities	Detailed Activity #	Detailed Activities	Process indicator	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1-Year 5
5.2	Upgrade facilities to enhance airborne infection control	5.2.3	Prepare and submit airborne infection control requirements for health facilities	5.2.3.1	Conduct consultative meetings to develop guidelines for airborne infection control for health facility and residential infrastructure	Number of consultative meetings on a infrastructure design held	0	3	1	0	0	4
				5.2.3.2	Print and submit minimum standards for TBIC in health facilities and residential buildings	Minimum building standards for airborne infection control available	No	No	No	No	Yes	Yes
5.3	Ensure appropriate maintenance of UVGIs	5.3.1	Conduct regular supervision and review of maintenance of UVGIs	5.3.1.1	Conduct regular supervision and review of maintenance of UVGIs	Number of support visits on TBIC conducted	0	5	6	8	8	27
5.4	Develop and implement a respirator fit testing programme for health workers	5.4.1	Conduct regular respirator fit testing for HCWs	5.4.1.1	Conduct regular respiratory fit testing for HCWs	Number of health facility staff fit tested	350	350	350	350	350	1750
5.5	Advocate for classification of TB as an occupational disease	5.5.1	Prepare and submit motivation for classification of TB as an occupational disease	5.5.1.1	Prepare a motivation to MoLSW for classification of TB as an occupational disease	Motivation to classify TB as an occupational disease submitted	No	No	Yes	Yes	Yes	Yes
6.1	Upgrade and strengthen the M&E system in line with international standards	6.1.1	Review and update recording and reporting tools	6.1.1.1	Conduct consultative meetings to update recording and reporting tools and SOPs	Number of consultative meetings on TB recording and reporting tools held	1	3	0	0	0	4
				6.1.1.2	Print and disseminate updated recording and reporting tools and SOPs	Updated recording and reporting tools and SOPs available	No	Yes	Yes	Yes	Yes	Yes
		6.1.2	Conduct capacity building activities for M&E at all levels	6.1.2.1	Organise trainings on M&E for national and regional staff	Number of national and regional staff trained on M&E	0	26	0	26	0	0
				6.1.2.2	Organise M&E trainings for district level staff	Number of district staff trained on M&E	0	35	35	35	35	0
				6.1.2.3	Organise M&E trainings for facility level staff	Number of health facility staff trained on M&E	0	140	140	140	140	0
		6.1.3	Support data quality improvement	6.1.3.1	Conduct annual on-side data verification in all regions	Number of regions with OSDV reports	0	14	14	14	14	0
				6.1.3.2	Conduct bi-annual data quality audits	Number of data quality audits conducted	1	2	2	2	2	0
		6.1.4	Develop and disseminate quarterly bulletins and annual reports	6.1.4.1	Organise quarterly data analysis and report writing workshops	Number of quarterly data analysis and report writing workshops conducted	4	4	4	4	4	0
				6.1.4.2	Print and disseminate quarterly bulletin on TB and leprosy	Number of quarterly bulletins published	4	4	4	4	4	0
				6.1.4.3	Organise annual data analysis and report writing workshops for district and regional coordinators	Number of annual report writing workshops conducted	2	2	2	2	2	0
				6.1.4.4	Print and disseminate annual report	Number of TB and leprosy annual reports published	1	1	1	1	1	5

Work plan for TBL MTP-III

Main Activity #	Main Activities	Sub-Activity #	Sub-activities	Detailed Activity #	Detailed Activities	Process indicator	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1-Year 5
6.1	Upgrade and strengthen the M&E system in line with international standards	6.1.5	Engage stakeholders on a comprehensive vital registration system which incorporates ICD10	6.1.5.1	Conduct consultative meetings with relevant stakeholders on upgrading the vital registration system	Number of consultative meetings on vital registration system held	0	1	1	1	0	3
6.2	Transition from paper to electronic recording and reporting	6.2.1	Provide tools for electronic recording and reporting	6.2.1.1	Procure and maintain hardware and software for electronic recording and reporting	Number of districts with tools for electronic recording and reporting	35	35	35	35	35	175
6.3	Conduct periodic programme reviews	6.3.1	Conduct inclusive quarterly TB, TB/HIV and leprosy programme review meetings	6.3.1.1	Conduct quarterly TB, TB/HIV and leprosy programme regional and zonal review meetings	Number of quarterly zonal review meetings conducted	76	76	76	76	76	380
		6.3.2	Organize comprehensive external programme reviews	6.3.2.1	Conduct a mid-term programme review	Mid-term programme review report available	No	No	Yes	Yes	Yes	Yes
				6.3.2.2	Conduct an end-term programme review	End-term programme review report available	No	No	No	No	Yes	Yes
6.4	Establish a national TB research network	6.4.1	Engage stakeholders to establish the TB research network	6.4.1.1	Organise consultative meetings to establish the TB research network	Number of consultative meetings on TB research network held	1	3	0	0	0	4
				6.4.1.2	Launch the TB research network	TB research network established	No	Yes	Yes	Yes	Yes	Yes
		6.4.2	Maintain the TB research network	6.4.2.1	Organise quarterly meetings for the TB Research Network	Number of quarterly meetings held	0	2	4	4	4	14
				6.4.2.2	Organise an annual TB research forum	Number of annual TB research for a held	0	1	1	1	1	4
6.5	Develop and implement a comprehensive research agenda for TB and leprosy	6.5.1	Provide national and international training on research methodology for identified staff at national, regional and district levels	6.5.1.1	Organise national training course on research methodology	Number of staff trained on research	20	0	20	0	20	60
				6.5.1.2	Participate in international training programmes on research	Number of staff trained on research	2	2	2	2	2	10
		6.5.2	Conduct consultative meeting with academic institutions for the development of a comprehensive research agenda	6.5.2.1	Conduct consultative meetings with academic institutions to develop a TB and leprosy research agenda	Number of consultative meetings on TB and leprosy research agenda conducted	2	2	2	2	2	10
		6.5.3	Conduct operational research on TB and leprosy at national and regional level	6.5.3.1	Conduct operational research on TB and leprosy at national and regional level	Number of research reports produced	0	1	2	2	1	6
		6.5.4	Conduct a TB Disease Prevalence Survey	6.5.4.1	Conduct a TB disease prevalence survey	Report for the TB disease prevalence survey available	No	Yes	Yes	Yes	Yes	Yes

Work plan for TBL MTP-III

Main Activity #	Main Activities	Sub-Activity #	Sub-activities	Detailed Activity #	Detailed Activities	Process indicator	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1-Year 5
7.1	Conduct community sensitisation on social insurance and social assistance	7.1.1	Develop and disseminate IEC materials on social protection and social assistance	7.1.1.1	Conduct consultative meetings for development of social protection IEC materials	Number of consultative meetings on social protection IEC held	0	2	0	0	1	3
				7.1.1.2	Print and disseminate social protection IEC materials	Social protection IEC materials available	No	Yes	Yes	Yes	Yes	Yes
		7.1.2	Engage local authorities and community leaders to disseminate information on social assistance and social protection	7.1.2.1	Organise stakeholder consultative and sensitisation meetings on social protection	Number of consultative meetings on social protection held	1	1	1	1	1	5
		7.1.3	Establish and maintain a Social Protection Technical Working Group	7.1.3.1	Organise quarterly meetings for the Social Protection Technical Working Group (TWG)	Number of Social Protection TWG meetings held	4	4	4	4	4	20
7.2	Conduct surveys and ongoing monitoring of catastrophic costs incurred by TB patients	7.2.1	Conduct survey to determine catastrophic costs incurred by TB patients.	7.2.1.1	Conduct survey to determine catastrophic costs incurred by TB patients.	Catastrophic costs survey report available	No	No	Yes	Yes	Yes	Yes
7.3	Coordinate rehabilitation services for TB patients	7.3.1	Develop and roll-out recording and reporting tools for rehabilitation for TB and leprosy	7.3.1.1	Incorporate rehabilitation in quarterly reports	Proportion of patients with EPTB or DRTB assessed for disability	50%	60%	75%	85%	100%	100%
		7.3.2	Organise training courses for rehabilitation staff for TB and leprosy patients	7.3.2.1	Organise training courses for rehabilitation staff for TB and leprosy patients	Number of staff trained on rehabilitation	30	30	30	30	30	150
7.4	Develop and implement a comprehensive and inclusive patient support system	7.4.1	Organise multi-sectoral consultative meetings to identify mechanisms for patient support	7.4.1.1	Organise consultative meetings on comprehensive patient support for TB and leprosy	Number of consultative meetings on TB and leprosy patient support held	0	3	3	0	0	6
		7.4.2	Update guidelines to include comprehensive patient support	7.4.2.1	Incorporate patient support in routine quarterly reports	Patient support included in routine quarterly reports	No	Yes	Yes	Yes	Yes	0
		7.4.3	Provide support to TB and leprosy patients	7.4.3.1	Provide financial support for income-generating projects for TB and leprosy patients	Number of income generating projects supported per year	2	2	2	2	2	10
				7.4.3.2	Provide living support (transport, nutrition, other) to patients	Number of TB and leprosy patients provided with economic support	1,600	1,600	1,600	1,600	1,600	8,000
				7.4.3.3	Support patients to obtain national identification documents	Referral system for patients without identity documents in place	No	Yes	Yes	Yes	Yes	Yes

Work plan for TBL MTP-III

Main Activity #	Main Activities	Sub-Activity #	Sub-activities	Detailed Activity #	Detailed Activities	Process indicator	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1-Year 5
8.1	Support and standardise the implementation of community-based TB care	8.1.1	Conduct mentorship and support visits to community health workers on TB/HIV	8.1.1.1	Conduct region to district mentorship and support visits to community health workers on TB/HIV	Number of districts with TB/HIV mentorship reports for community health workers (CHW)	0	35	35	35	35	140
		8.1.2	Develop and implement standardised supervision checklist for FPs	8.1.2.1	Conduct consultative meetings for supervision and mentorship checklist development	Number of consultative meetings on CHW supervision checklist held	0	3	0	0	0	3
				8.1.2.2	Print and disseminate supervision checklist for community health workers	TB/HIV supervision checklist for CHWs available	0	Yes	Yes	Yes	Yes	Yes
		8.1.3	Update community TB care guidelines	8.1.3.1	Conduct consultative meetings to review CBTBC guidelines	Number of consultative meetings on CBTBC guidelines held	0	0	0	5	0	5
				8.1.3.2	Print and disseminate updated CBTBC guidelines	Updated CBTBC guidelines available	No	No	No	Yes	Yes	Yes
8.2	Integrate TB and leprosy prevention and care into other health services	8.2.1	Engage NGOs, local and religious leaders and traditional healers to support TB and leprosy care and prevention	8.2.1.1	Conduct advocacy and sensitisation meetings with local leaders and traditional healers for TB and leprosy in all regions	Number of regional advocacy meetings with local leaders held	0	15	15	15	15	60
8.3	Conduct TB and leprosy awareness campaigns	8.3.1	Conduct periodic TB/HIV awareness mass media campaign	8.3.1.1	Conduct mass media campaign on TB	Annual mass media package for TB and leprosy developed	No	Yes	Yes	Yes	Yes	Yes
		8.3.2	Commemorate World TB Day, World Leprosy Day and TB Awareness Week	8.3.2.1	Commemorate World TB Day	Number of annual World TB Day Commemoration reports produced	1	1	1	1	1	5
				8.3.2.2	Commemorate TB Awareness Week	Number of TB Awareness Week commemoration reports produced	1	1	1	1	1	5
				8.3.2.3	Commemorate World Leprosy Day	Number of World Leprosy Day commemoration reports produced	1	1	1	1	1	5
8.4	Facilitate establishment of community health committees	8.4.1	Develop terms of reference for community health committees	8.4.1.1	Print and disseminate TORs for community health committees	Terms of reference for community health committees available	No	Yes	Yes	Yes	Yes	Yes
		8.4.2	Conduct community mobilisation and sensitisation on community health committees	8.4.2.1	Conduct quarterly CHC meetings in all districts	Number of community health committee meetings held	16	32	58	50	60	216

Work plan for TBL MTP-III

Main Activity #	Main Activities	Sub-Activity #	Sub-activities	Detailed Activity #	Detailed Activities	Process indicator	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1-Year 5
8.5	Develop and operationalise health education guidelines and IEC materials	8.5.1	Develop and disseminate IEC materials	8.5.1.1	Conduct consultative meetings for developing IEC materials	Number of consultative meetings for development of IEC materials held	0	3	3	0	0	6
				8.5.1.2	Print and disseminate IEC materials for TB and leprosy	IEC materials for TB available	No	Yes	Yes	Yes	Yes	Yes
		8.5.2	Train school counsellors and life skills teachers on TB	8.5.2.1	Train school counsellors and life skills teachers on TB	Number of school counsellors and life skills teachers trained on TB	100	100	100	100	100	500
8.6	Sensitise other care providers on TB prevention, care and support	8.6.1	Conduct training and consultative workshops with private health care providers	8.6.1.1	Conduct quarterly training and consultative workshops with private health care providers	Number of training and consultative meetings with private care providers	2	4	4	4	4	18
		8.6.2	Conduct regular sensitisation visits to traditional healers	8.6.1.1	Conduct bi-annual sensitisation visits to traditional healers in all regions	Number of regions with engagement reports for traditional healers	0	2	2	2	2	8
9.1	Conduct active leprosy case finding	9.1.1	Conduct annual active search for leprosy cases, including baseline disability assessment	9.1.1.1	Conduct leprosy case finding campaigns in selected regions	Number of leprosy case finding campaigns conducted	0	1	1	1	1	4
9.2	Conduct capacity building initiatives for health workers on leprosy	9.2.1	Organise training courses for health workers on leprosy	9.2.1.1	Organise training courses for health workers on leprosy	Number of health workers trained on leprosy	25	50	50	50	50	225
		9.2.2	Organise mentorship and supervision of leprosy programme implementation	9.2.2.1	Conduct mentorship visits on leprosy	Number of leprosy mentorship visits conducted	2	2	2	2	2	10
		9.2.3	Engage external technical assistance for capacity building on leprosy	9.2.3.1	Submit requests for ongoing and periodic technical assistance on leprosy to relevant agencies	Technical assistance requests for leprosy submitted	No	Yes	Yes	Yes	Yes	Yes
9.3	Ensure disability assessment for all leprosy patients	9.3.1	Facilitate referral to rehabilitation services of all leprosy patients with grade 2 disabilities	9.3.1.1	Include disability grading in routine quarterly reports	Proportion of leprosy cases with disability grading	75%	100%	100%	100%	100%	100%
9.4	Streamline the distribution of MDTs within CMS supply chain system	9.4.1	Establish and maintain linkage between WHO and CMS for MDT supply	9.4.1.1	Incorporate leprosy medicines in regular NTLP-Pharmaceutical Services meetings	Proportion of leprosy patients treated with MDTs	100%	100%	100%	100%	100%	100%
9.5	Coordinate leprosy community awareness initiatives	9.5.1	Conduct community mobilisation and sensitisation sessions on leprosy	9.5.1.1	Conduct community mobilisation and sensitisation sessions on leprosy	Number of regions conducting leprosy sensitisation meetings	5	5	8	10	10	38
		9.5.2	Develop and disseminate updated IEC material on leprosy	9.5.2.1	Conduct consultative meetings for development of leprosy IEC materials	Number of consultative meetings for leprosy IEC material development held	0	3	0	0	0	3
				9.5.2.2	Develop and disseminate IEC materials for leprosy	IEC materials for leprosy available	No	Yes	Yes	Yes	Yes	Yes
		9.5.3	Conduct training for community-based organisations on leprosy	9.5.3.1	Conduct training for community-based organisations (CBOs) on leprosy	Number of CBO staff trained on leprosy	0	100	100	100	100	400

Table 4: Indicator matrix for TBL MTP III

Indicator level	Indicator number	Indicator number	Baseline	Target 2017	Target 2018	Target 2019	Target 2020	Target 2021	Data source	Frequency of data collection
Impact	TB I1	TB incidence rate per 100,000 population	489 (2015)	430	404	378	353	321	WHO TB report	Annual
	TB I2	TB mortality rate per 100,000 population	68 (2015)	61	55	50	44	39	WHO TB report	Annual
	TB I3	Prevalence of RR-TB and/or MDR-TB among new TB patients: Proportion of new TB cases with RR-TB and/or MDR-TB	5% (2015)	5%	5%	5%	4%	4%	WHO TB report	Annual
	TB I4	TB/HIV mortality rate per 100,000 population	36 (2015)	36	33	30	27	23	WHO TB report	Annual
	TB I5	Proportion of TB patients facing catastrophic costs due to TB	N/A	0%	0%	0%	0%	0%	Survey Report(s)	Med-term & end-term
Outcome	TB O1	Case notification rate of all forms (new and relapse cases) of TB per 100,000 population	394	366	351	340	318	289	NTLP Annual Report	Annual
	TB O2	Treatment success rate (new and relapse cases): Proportion of new and relapse TB patients successfully treated (cured plus treatment completed) among all TB cases diagnosed during a specified period.	83% (2015)	90%	90%	90%	90%	90%	NTLP Quarterly/ Annual reports	Quarterly/ Annual
	TB O3	RR/MDR-TB case detection rate: Proportion of notified cases of bacteriologically confirmed RR-TB and/or MDR-TB as a proportion of all estimated rifampicin-resistant TB and/or MDR-TB cases	370 (100%)	85%	87%	90%	90%	90%	NTLP Annual Report	Annual
	TB O4	Treatment success rate for RR TB and/or MDR-TB: Percentage of cases with RR and/or MDR-TB successfully treated	60 (2014 cohort)	64%	68%	72%	75%	77%	NTLP Annual Report	Annual
	TB O5	TB treatment coverage: Percentage of new and relapse cases that were notified and treated among the estimated number of incident TB cases in the same year	80% (2015)	83%	85%	88%	88%	88%	NTLP Annual Report	Annual
	TB O6	Proportion of TB patients that experience catastrophic (as per national guidelines) cost	TBD	Zero	Zero	Zero	Zero	Zero	Survey report	Annual
	TB 07	Leprosy notification rate/1,000,000	10	9	8	8	6	4	NTLP Annual Report	Annual

Indicator matrix for TBL MTP III

Indicator level	Indicator number	Indicator number	Baseline	Target 2017	Target 2018	Target 2019	Target 2020	Target 2021	Data source	Frequency of data collection
Coverage	TB C101	Number of funding proposal submitted	2	2	2	2	2	2	NTLP Quarterly/ Annual reports	Quarterly/ Annual
Coverage	TB C102	Annual motivation for government funding for TB and leprosy submitted	1	1	1	1	1	1	NTLP Quarterly/ Annual reports	Quarterly/ Annual
Coverage	TB C103	Sustainability strategy for community-based TB care developed	No	No	No	No	Yes	No	Activity reports	Once off
Coverage	TB C104	Number of staff trained on leadership	N/A	25	25	0	25	0	Activity reports	
Coverage	TB C105	Task shifting guidance for TB and leprosy developed	N/A	N/A	N/A	Yes	N/A	N/A	Activity reports	
Coverage	TB C106	Number of National Steering Committee meetings conducted	N/A	4	4	4	4	4	Activity reports	
Coverage	TB C201	Number of notified new and relapse cases of TB (i.e. bacteriologically confirmed + clinically diagnosed)	9,154	8,602	8,422	8,316	7,920	7,326	NTLP Quarterly/ Annual reports	Quarterly/ Annual
Coverage	TB C202	Number of notified cases of bacteriologically confirmed new TB cases	4,757	4,473	4,379	4,324	4,118	3,810	NTLP Quarterly /Annual reports	Quarterly/ Annual
Coverage	TB C203	Percentage of bacteriologically confirmed TB patients with drug susceptibility testing result for at least rifampicin.	N/A	75%	100	100	100%	100%	NTLP Annual Report	Annual
Coverage	TB C204	Percentage of drug susceptibility testing laboratories showing adequate performance on external quality assurance	1 (100%)	100%	100%	100%	100%	100%	NTLP Annual Report	Annual
Coverage	TB C205	Percentage of confirmed MDR-TB/RR cases with DST results for any fluoroquinolone and any second-line injectable drug	TBD	75%	100%	100%	100%	100%	NTLP Quarterly/ Annual reports	Quarterly/ Annual
Coverage	TB C206	Percentage of TB diagnostic sites enrolled in National EQA system (for applicable TB lab test)	32 (100%)	100%	100%	100%	100%	100%		Annual
Coverage	TB C207	Percentage of laboratories showing adequate performance in EQA for smear microscopy	TBD	100%	100%	100%	100%	100%	NTLP Annual Report	Annual
Coverage	TB C208	Percentage of GeneXpert sites that demonstrated proficiency by EQA panel testing	25 (100%)	100%	100%	100%	100%	100%	NIP Annual Report	Annual
Coverage	TB C209	Proportion of TB cases notified by the private facilities/ laboratories	N/A	2%	4%	6%	8%	10%	NTLP Quarterly/ Annual reports	Quarterly/ Annual

Indicator matrix for TBL MTP III

Indicator level	Indicator number	Indicator name	Baseline	Target 2017	Target 2018	Target 2019	Target 2020	Target 2021	Data source	Frequency of data collection
Coverage	TB C301	Proportion of districts reporting patient level stock-out of any first-line anti-TB medicine during the preceding reporting period	N/A	0%	0%	0%	0%	0%	NTLP Quarterly/ Annual reports	Quarterly
Coverage	TB C302	Proportion of districts reporting patient level stock-out of any second-line anti-TB medicine during the preceding reporting period	N/A	0%	0%	0%	0%	0%	NTLP Quarterly/ Annual reports	Quarterly
Coverage	TB C303	Number of children aged under the age of 5 years in contact with TB patients who began isoniazid preventive therapy	795 (26%)	856	1,091	1,302	1,488	1,721	NTLP Quarterly/ Annual reports	Quarterly/ Annual
Coverage	TB C304	Number of TB patients (all forms) notified among children (0-14 years)	842 (9%)	822	903	974	1,034	1,055	NTLP Quarterly/ Annual reports	Quarterly/ Annual
Coverage	TB C305	Number of TB patients with rifampicin-resistant TB (RR-TB) and/or MDR-TB notified	370 (2016)	396	397	406	386	357	NTLP Quarterly/ Annual reports	Quarterly/ Annual
Coverage	TB C306	Number of patients with RR-TB and/or MDR-TB that began second-line treatment	352 (95%)	392	393	402	382	354	NTLP Quarterly/ Annual reports	Quarterly/ Annual
Coverage	TB C307	Proportion of patients with RR-TB and/or MDR-TB who were lost to follow-up at six months after date of starting treatment	5% (2015)	5%	4%	3%	2%	2%	NTLP Quarterly/ Annual reports	Quarterly/ Annual
Coverage	TB C308	Number of patients with XDR-TB enrolled on treatment	9 (2016)	12	12	12	12	11	NTLP Quarterly/ Annual reports	Quarterly/ Annual
Coverage	TB C401	Percentage of registered new and relapse TB patients with documented HIV status	98%	98%	99%	100%	100%	100%	NTLP Quarterly/ Annual reports	Quarterly/ Annual
Coverage	TB C402	Percentage of HIV-positive new and relapse TB patients on ARV therapy during TB treatment	94%	95%	96%	97%	98%	100%	NTLP Quarterly/ Annual reports	Quarterly/ Annual
Coverage	TB C403	Percentage of TB patients tested for diabetes	N/A	0%	15%	50%	60%	75%	NTLP Quarterly/ Annual reports	Quarterly/ Annual
Coverage	TB C501	Proportion of inmates screened for TB (on entry to correctional facilities and police holding cells)	TBD	40%	60%	80%	100%	100%	NTLP Quarterly/ Annual reports	Quarterly/ Annual
Coverage	TB C502	Number of mine-workers, ex-mine workers and their families screened for TB	TBD						NTLP Quarterly/ Annual reports	Quarterly/Annual
Coverage	TB C503	Proportion of health care workers screened for TB	N/A	50%	65%	75%	85%	100%	NTLP Quarterly/ Annual reports	Quarterly/ Annual
Coverage	TB C504	Treatment success rate all forms of TB among foreign nationals	N/A	90%	90%	90%	90%	90%	NTLP Quarterly/ Annual reports	Quarterly/ Annual

Indicator matrix for TBL MTP III

Indicator level	Indicator number	Indicator name	Baseline	Target 2017	Target 2018	Target 2019	Target 2020	Target 2021	Data source	Frequency of data collection
Coverage	TB C601	Percentage of districts submitting quarterly TB and leprosy reports on or before the due date	34 (100%)	100%	100%	100%	100%	100%	NTLP Quarterly/ Annual reports	Quarterly/ Annual
Coverage	TB C602	Number of quarterly regional review meetings conducted	56	56	56	56	56	56	NTLP Quarterly/ Annual reports	Quarterly/ Annual
Coverage	TB C603	Number of quarterly zonal review meetings conducted	20	20	20	20	20	20	Activity reports	
Coverage	TB C604	National network for TB research established	No	No	Yes	No	No	No	Activity reports	
Coverage	TB C605	Number of operational research studies completed	N/A	4	4	4	4	4	Activity reports	
Coverage	TB C606	Number of staff trained on operation research	N/A	25	25	0	0	25	Activity reports	
Coverage	TB C701	Proportion of patients with EPTB and DR-TB assessed for functional or physical disability	N/A	25%	50%	60%	70%	75%	NTLP Quarterly/ Annual reports	Quarterly/ Annual
Coverage	TB C702	Proportion of DR-TB patients with clinically significant hearing loss at the end of treatment	11 (3%)	3%	2%	2%	1%	0%	eTB manager/ TIPC	Monthly/ Quarterly/ Annual
Coverage	TB C703	Percentage of TB patients with documented baseline assessment of socio-economic status	TBD	25%	50%	60%	70%	75%	NTLP Quarterly/ Annual reports	Quarterly/ Annual
Coverage	TB C801	Proportion of TB patients supported by community-based TB care providers	61%	65%	70%	75%	80%	80%	NTLP Quarterly/ Annual reports	Quarterly/ Annual
Coverage	TB C802	Number contacts of TB patients screened for TB	16,624	17,892	17,517	17,297	16,474	15,238	NTLP Quarterly/ Annual reports	Quarterly/ Annual
Coverage	TB C803	Proportion of TB patients lost to follow-up before or during treatment	6%	5%	5%	5%	4%	4%	NTLP Quarterly/ Annual reports	Quarterly/ Annual
Coverage	TB C804	Proportion of TB treatment interrupters or loss to follow up traced and put back on treatment	80% (2015)	100%	100%	100%	100%	100%	NTLP Quarterly/ Annual reports	Quarterly/ Annual
Coverage	TB C901	Number of leprosy patients notified	23	20	20	20	15	10	NTLP Quarterly/ Annual reports	Quarterly/ Annual
Coverage	TB C902	Proportion of leprosy patients with grade 2 disability	8 (35%)	30%	25%	20%	10%	0%	NTLP Quarterly/ Annual reports	Quarterly/ Annual
Coverage	TB C903	Proportion of patients placed on MDT completing treatment	44%	64%	84%	94%	96%	98%	NTLP Quarterly/ Annual reports	Quarterly/ Annual
Coverage	TB C904	Percentage of leprosy patients with documented baseline assessment of socio-economic status	TBD	50%	100%	100%	100%	100%	NTLP Quarterly/ Annual reports	Quarterly/ Annual
Coverage	TB C906	Proportion of leprosy patients with known HIV status	TBD	100%	100%	100%	100%	100%	NTLP Quarterly/ Annual reports	Quarterly/ Annual
Coverage	TB C907	Number of health workers trained on national leprosy guidelines	N/A	100	100	50	50	50	Activity reports	Quarterly

Table 5: Summary costing of the TBL MTP-III by objective

	Objective (s)	Year 1 (NAD)	Year 2 (NAD)	Year 3 (NAD	Year 4 (NAD)	Year 5 (NAD)	Total (NAD)	Total (USD)
1.	Secure at least 90% of the required funding for TBL MTP-III and maintain focussed positions for TB and leprosy at national, regional and district levels.	121,530,761	141,112,511	147,705,940	156,308,953	167,117,876	733,776,040	56,444,311
2.	Test 100% of presumptive TB patients with rapid molecular tests, and achieve universal drug susceptibility testing by 2019.	32,333,712	44,908,338	46,677,860	44,179,423	40,677,682	208,777,015	16,059,770
3.	Increase treatment success rate for drug-susceptible from 83% (2015 cohort) to 90%, and for drug-resistant from 60% (2014 cohort) to 77%, by 2021.	112,644,998	122,818,453	125,975,405	128,983,444	124,128,686	614,550,986	47,273,153
4.	Increase coverage of HIV testing among TB patients to 100%, coverage of ART among TB/HIV patients to 100%, and coverage of diabetes screening among TB patients to 75%.	317,000	2,335,445	2,738,213	2,597,010	3,109,165	11,096,834	853,603
5.	Increase coverage of TB screening for health facility staff to 90% and establish infrastructure standards for airborne infection control by 2021.	2,090,800	7,611,913	4,728,671	5,271,020	5,091,759	24,794,163	1,907,243
6.	Transition to online case-based electronic recording and reporting system and establish a TB research network by 2019.	64,357,071	16,033,573	20,994,985	17,171,785	24,961,646	143,519,061	11,039,928
7.	Establish the catastrophic costs due to TB and increase coverage of socio-economic assessment of TB and leprosy patients to 80% by 2020.	5,507,000	6,784,159	12,334,038	6,558,925	7,007,631	38,191,753	2,937,827
8.	Maintain 100% health facility coverage of community-based TB and leprosy care in all districts	3,730,400	8,398,963	6,183,676	10,037,585	6,519,747	34,870,371	2,682,336
9.	Attain 100% coverage of annual active leprosy screening in regions reporting leprosy cases since 2010, and 100% coverage of MDT treatment for all leprosy patients.	286,000	2,192,875	1,598,883	1,734,715	2,331,164	8,143,636	626,434
Total		**352,196,230**	**368,937,671**	**372,842,860**	**380,945,356**	**1,817,719,859**	**139,824,605**	**342,797,743**

Table 6: Summary costing of TBL MTP-III by main activity

Main activity #	Main Activity	Cost Year 1	Cost Year 2	Cost Year 3	Cost Year 4	Cost Year 5	Cost Year 1-Year 5 Total (NAD)	Cost Year 1-Year 5 (USD)
1.1	Advocate additional GRN funding for TB and leprosy prevention and care	9,750	26,500	28,090	29,775	31,562	125,677	9,667
1.2	Mobilise alternative resources for community TB care and prevention	-	386,370	814,891	51,214	54,287	1,306,761	100,520
1.3	Mobilise donor funding to bridge key human resources gaps	348,000	368,880	391,013	414,474	439,342	1,961,708	150,901
1.4	Sensitize and engage relevant stakeholders on TB and leprosy	141,000	546,960	260,113	614,564	292,263	1,854,901	142,685
1.5	Conduct TB and leprosy capacity building initiatives for clinical and programme staff	300,250	1,621,005	1,050,847	1,492,641	826,607	5,291,349	407,027
1.6	Formalise task-shifting for TB and leprosy prevention and care	-	544,310	155,057	-	-	699,367	53,797
1.7	Update national guidelines in line with WHO recommendations	3,049,000	4,055,560	3,429,227	3,634,981	4,292,422	18,461,190	1,420,092
1.8	Recruit, train and retain staff to complement MoHSS staff establishment	16,055,000	25,837,500	27,387,750	29,031,015	30,772,876	129,084,141	9,929,549
1.9	Update strategic plan for TB and leprosy in line with latest international guidance	-	-	-	-	2,105,812	2,105,812	161,986
	Costs of human resources	101,627,761	107,725,426	114,188,952	121,040,289	128,302,706	572,885,134	44,068,087
2.1	Enhance laboratory sample and results delivery systems for health centres and clinics	210,000	222,600	235,956	250,113	-	918,669	70,667
2.2	Introduce point of care diagnostic services for TB	-	1,602,710	1,420,782	1,506,028	196,946	4,726,467	363,574
2.3	Build capacity for clinical and laboratory staff on the national TB diagnostic algorithm	3,218,500	5,455,820	5,436,539	1,266,646	1,342,644	16,720,148	1,286,165
2.4	Upgrade the TB laboratory surveillance system in line with national and international reporting requirements	-	4,758,340	-	2,832,236	-	7,590,576	583,890
2.5	Develop a regulatory framework for TB laboratory services for both public and private service providers	-	480,180	1,893,828	-	-	2,374,008	182,616
2.6	Implement national quality assurance programme for public and private TB laboratory services	-	-	1,022,476	1,083,825	1,148,854	3,255,155	250,397
2.7	Explore ways to reduce cost of laboratory diagnostics	-	-	373,979	-	-	373,979	28,768
2.8	Conduct TB screening in child health care settings	378,000	1,466,510	782,587	829,543	879,315	4,335,955	333,535
2.9	Conduct active contact investigation for all eligible TB patients	-	200,340	2,141,441	1,451,700	1,538,802	5,332,282	410,176
	Laboratory tests and supplies	28,527,212	30,721,838	33,370,272	34,959,333	35,571,121	163,149,776	12,549,983
3.1	Maintain uninterrupted supply of quality assured anti-TB and leprosy medicines	316,750	335,755	355,900	377,254	399,890	1,785,549	137,350
3.2	Conduct capacity building in inventory management and pharmacovigilance for relevant staff	1,191,750	1,089,945	818,262	867,357	919,399	4,886,713	375,901
3.3	Review and update Pharmaceuticals Facility Standards and Norms	2,690,800	2,852,248	3,588,893	3,204,786	3,397,073	15,733,800	1,210,292

Summary costing of TBL MTP-III by main activity

Main activity #	Main Activity	Cost Year 1	Cost Year 2	Cost Year 3	Cost Year 4	Cost Year 5	Cost Year 1-Year 5 Total (NAD)	Cost Year 1-Year 5 (USD)
3.4	Develop and operationalise updated guidelines on the management of DR-TB	1,778,000	2,039,440	2,085,402	2,210,526	2,796,601	10,909,968	839,228
3.5	Develop and operationalise targeted strategies for TB service delivery for specific populations	352,800	6,411,749	3,863,499	5,833,382	2,181,876	18,643,306	1,434,100
	Medicines and hospitalisation costs	106,314,898	110,089,316	115,263,450	116,490,138	114,433,848	562,591,650	43,276,281
4.1	Develop and operationalise an implementation guide for TB/HIV activities	85,500	1,946,425	1,831,468	2,321,290	2,816,902	9,001,585	692,430
4.2	Strengthen district and regional TB/HIV quality improvement	231,500	245,390	260,113	275,720	292,263	1,304,987	100,384
4.3.	Introduce screening for diabetes and smoking among TB patients	-	143,630	646,632	-	-	790,262	60,789
5.1	Operationalise implementation of TBIC guidelines in health facilities	556,500	4,158,645	862,925	2,703,309	1,775,358	10,056,737	773,595
5.2	Upgrade facilities to enhance airborne infection control	1,171,000	2,954,220	3,355,070	1,990,188	2,704,226	12,174,703	936,516
5.3	Ensure appropriate maintenance of UVGIs	-	80,560	102,472	144,828	153,517	481,377	37,029
5.4	Develop and implement a respirator fit testing programme for health workers	363,300	385,098	408,204	432,696	458,658	2,047,956	157,535
5.5	Advocate for classification of TB as an occupational disease	-	33,390	-	-	-	33,390	2,568
6.1	Upgrade and strengthen the M&E system in line with international standards	1,646,000	5,764,028	5,353,911	5,854,751	5,992,930	24,611,620	1,893,202
6.2	Transition from paper to electronic recording and reporting	-	927,500	196,630	208,428	220,933	1,553,491	119,499
6.3	Conduct periodic programme reviews	7,410,000	7,854,600	13,129,266	8,825,429	17,199,670	54,418,965	4,186,074
6.4	Establish a national TB research network	102,000	447,320	114,045	120,888	128,141	912,395	70,184
6.5	Develop and implement a comprehensive research agenda for TB and leprosy	55,199,071	1,040,125	2,201,132	2,162,290	1,419,971	62,022,589	4,770,968
7.1	Conduct community sensitisation on social insurance and social assistance	84,500	765,214	94,944	100,641	161,850	1,207,149	92,858
7.2	Conduct surveys and ongoing monitoring of catastrophic costs incurred by TB patients	-	-	5,859,012	-	-	5,859,012	450,693
7.3	Coordinate rehabilitation services for TB patients	172,500	182,850	193,821	205,450	217,777	972,399	74,800
7.4	Develop and implement a comprehensive and inclusive patient support system	5,250,000	5,836,095	6,186,261	6,252,834	6,628,004	30,153,194	2,319,476

Summary costing of TBL MTP-III by main activity

Main activity #	Main Activity	Cost Year 1	Cost Year 2	Cost Year 3	Cost Year 4	Cost Year 5	Cost Year 1-Year 5 Total (NAD)	Cost Year 1-Year 5 (USD
8.1	Support and standardise the implementation of community-based TB care	-	853,300	448,316	1,779,378	503,728	3,584,723	275,748
8.2	Integrate TB and leprosy prevention and care into other health services	-	536,625	568,823	602,952	639,129	2,347,528	180,579
8.3	Conduct TB and leprosy TB awareness campaigns	2,996,000	3,175,760	3,366,306	3,568,284	3,782,381	16,888,731	1,299,133
8.4	Facilitate establishment of community health committees	154,400	333,688	635,621	581,811	738,549	2,444,069	188,005
8.5	Develop and operationalise health education guidelines and IEC materials	580,000	3,395,710	1,054,499	3,388,441	732,237	9,150,886	703,914
8.6	Sensitise traditional healers on TB prevention, care and support	-	103,880	110,113	116,720	123,723	454,435	34,957
9.1	Conduct active leprosy case finding	-	637,590	675,845	716,396	759,380	2,789,211	214,555
9.2	Conduct capacity building initiatives for health workers on leprosy	202,250	368,350	390,451	413,878	438,711	1,813,640	139,511
9.3	Ensure disability assessment for all leprosy patients	-	-	-	-	-	-	-
9.4	Streamline the distribution of MDTs within CMS supply chain system	-	-	-	-	-	-	-
9.5	Coordinate leprosy community awareness initiatives	83,750	1,186,935	532,586	604,441	1,133,073	3,540,785	272,368
	Total	**342,797,743**	**351,995,890**	**366,796,230**	**371,391,160**	**379,406,555**	**1,817,719,859**	**139,824,605**

Annexes

Annex 1: Roles and responsibilities of the different levels of the National TB and Leprosy Programme

1. National level

Overall responsibility

Planning, resource mobilisation, supervision, monitoring and evaluation of TB and leprosy care and prevention at all levels.

Functions and tasks

- Advising the MoHSS leadership and regional management teams on all matters pertaining to TB and leprosy care and prevention.
- Formulation of national strategic plans for TB and leprosy care and prevention.
- Publication of annual reports on TB and leprosy, focussing on annual and long-term NTLP targets.
- Technical supervision of TB and leprosy staff at regional level through the surveillance system, review meetings, and supervisory visits.
- Monitoring adherence by clinicians to technical guidelines for TB and leprosy diagnosis and treatment.
- Supporting the Division: Pharmaceutical Services in monitoring the procurement and rational distribution of anti-TB and anti-leprosy medicine supplies in all health facilities.
- Participating in training of staff on TB and leprosy care and prevention at all levels of the health system
- Maintaining active contact, coordination and cooperation with other partners and departments within the ministry, as well as institutions or sectors relevant to TB and leprosy care and prevention outside the MoHSS.
- Initiating and coordinating operational research on TB and leprosy.
- Advising and assisting Namibia Institute of Pathology (NIP) on all aspects related to the functioning of a well-accessible quality assured laboratory network for laboratory diagnosis and monitoring of TB.
- Planning, coordination and implementation of a community engagement strategy on TB and leprosy, in collaboration with relevant stakeholders.
- Developing and disseminating effective patient education materials on TB and leprosy.
- Participating in resource mobilisation initiatives and preparing an annual budget for national level activities.

2. Regional level

Overall responsibility

Planning, implementation and monitoring and evaluation of TB and leprosy care and prevention in the region. The C/SHPO responsible for TB and leprosy care and prevention is functionally the Regional TB and Leprosy Coordinator (RTLC).

Functions and tasks

- Advising the district coordinating committees (DCCs) on all aspects of TB and leprosy care and prevention.
- Advising the DTLCs and DCCs on implementation of the strategic plan for TB and leprosy.
- Conducting regular (at least quarterly) supportive supervisory visits to districts.
- Collecting, analysing and presenting data for the region to the RMT on a quarterly basis. Once verified by the Regional Director.

- Organising quarterly review meetings for performance monitoring and continuing education on TB and leprosy care and prevention.
- Organising and participating in training of staff on TB and leprosy care and prevention.
- Developing a budgeted annual work plan based on the national strategic plan.
- Monitoring the rational distribution of anti-TB and anti-leprosy medicines in each district.
- Initiating and coordinating the implementation of operational research on TB and leprosy in the region.
- Initiating and coordinating advocacy, communication and social mobilisation activities within the region.

3. District level

Overall responsibility

Planning, implementation, and monitoring and evaluation of TB and leprosy care and prevention in the district. The nurse responsible for TB and leprosy care and prevention in the district is functionally referred to as the District TB and Leprosy Coordinator (DTLC).

Functions and tasks

- Advising the District Coordinating Committee (DCC) on all matters related to TB and leprosy care and prevention.
- Advising general health staff involved in TB and leprosy care in peripheral health units on all aspects of TB and leprosy care and prevention in line with NTLP technical guidelines and strategic plan.
- Monitoring the implementation and performance of TB treatment clinics and community-based TB care providers through monthly visits to each unit.
- Formulation of budgeted annual work plans.
- Monitoring the rational distribution of anti-TB and anti-leprosy medicines in all clinics and community treatment facilities.
- Timely collecting, aggregating, analysing and submission TB and leprosy data from each clinic, to the DCC on a quarterly basis. Once signed off by the Senior Medical Officer, the data should be forwarded to the RTLC
- Organising and participating in training of staff on TB and leprosy care and prevention to address identified needs.
- Initiating and coordinating health education activities to the community, through various fora such as agricultural shows, public meetings, visits to schools, etc.

4. Health facility level

The health facility caters for the day-to-day execution of TB and leprosy care and prevention activities. At least one (preferably two) member(s) of staff per health unit should be properly trained and have proven competence in TB and leprosy patient management.

Professional education and rank should not be major selection criteria for becoming a dedicated TB nurse. Instead, interest, attitude, motivation and communication skills are important attributes. Frequent rotation of nurses in TB clinics must be avoided as this disrupts continuity of care, resulting in poor case management and record keeping, as well as poor treatment outcomes.
Overall responsibility

The main responsibility of the health facility is implementation of diagnosis and treatment of TB,

maintaining up-to-date records, as well as coordination and supervision of community-based TB care providers in line with NTLP technical guidelines.

Functions and tasks

- Diagnosis of TB and leprosy according to national guidelines.
- Maintaining all records for people being investigated for TB and leprosy, as well as TB and leprosy patients. This also includes results of contact tracing.
- Providing patient education and treatment support, ensuring that each patient understands all aspects of treatment.
- Providing health education to the public on the signs and symptoms of TB and leprosy.
- Issuing 2- or 4-weekly supplies of anti-TB medicines to treatment supporters, and ensuring that the patients are receiving their treatment under supervision.
- Maintaining adequate stocks of anti-TB medicines at all times
- Recording patient attendance and medicine collection on the appropriate forms.
- Identifying patients who need urgent referral according to national guidelines.
- Tracing patients who interrupt treatment in close collaboration with community health workers.
- Training and supervising community health workers serving the catchment area of the clinic.

5. Community Health Workers (CHWs)

This applies to all supportive staff providing education and support for communities and patients on TB and leprosy within the community. . All CHWs need to be knowledgeable on signs and symptoms of TB and assist in TB care and prevention through identification and referral of people with signs and symptoms of TB, education on TB disease of the community and screening contacts of TB patients. CHWs can play an important role as treatment supporters.

Programme Manager

The NTLP Programme Manager (or equivalent) provides overall leadership in the execution of TB and leprosy care and prevention. Specifically, on M&E, the manager's responsibilities include:

- Supervision of the overall implementation of the TB and leprosy monitoring and evaluation activities, including staff and data collection mechanisms.
- Ensure cohesion and adherence to the monitoring and evaluation system, including reporting by all TB and leprosy implementing partners.
- Review reports and share with relevant partners in government, development partners, and implementing partners.
- Source relevant technical support for implementing and troubleshooting on TB and leprosy monitoring and evaluation.
- Conducts advocacy for M&E among all TB and leprosy stakeholders.

Monitoring and Evaluation Officer

The M&E Officer is responsibility include:

- Overall coordination of M&E interventions, including those supported with funding from the different funding agencies.
- Ensure integration and linkage of TB and leprosy M&E system to other MoHSS M&E systems.
- Conduct regular review of M&E intervention and ensure efficient implementation of planned M&E activities.
- Ensure high standard of data collection, timeliness and quality, and perform frequent data review and analysis.
- Provide tools to support management and use of generated data to guide programmatic decision making.
- Provide relevant data to NTLP management and program officers, for program planning and evaluation.
- Produces routine quarterly and annual reports on TB and leprosy.

Data clerk

The NTLP Data Clerk reports for M&E officer and their roles include:

- Receive routine data from all regions in the country.
- Follow up on all regions to ensure timely submission of data.
- Perform initial data review and communicate with regions to address any inconsistency.
- Submit routine data to the M&E officer for further verification and collation.
- Maintain updated databases of all programme data.
- Monitor the development of a sustainable national M&E system.

Annex 3: NTLP M&E Reports and Products Use and Dissemination

Type of Report	Content of the Report	Mechanism of dissemination
Annual TB Report	Reports on progress on implementation of TB and Leprosy. Annual data summaries	Publication and distribution of hard copies MoHSS website (http://www.mhss.gov.na/national-directorates/Special-Programs/51/) Email distribution
Quarterly Bulletin	Quarterly progress reports and quarterly case finding and cohort reports	MoHSS website (http://www.mhss.gov.na/national-directorates/Special-Programs/51/) Email distribution
Survey Reports	Study reports and related briefs	Local/international publication, local and international conferences and uploads to MoHSS website (http://www.mhss.gov.na/national-directorates/Special-Programs/51/) Email distribution
Operation Research Reports	Operation reports and related dissemination briefs	Local/international publication, local and international conferences and uploads to MoHSS website (http://www.mhss.gov.na/national-directorates/Special-Programs/51/) Email distribution
WHO Global TB Report	Estimated TB prevalence, incidence and mortality	WHO website (http://www.who.int/publications/en/)
Data of TB financing	Publication and distribution	
National Health Account	Data on Health Care Expenditure, Out-of-Pocket spending	Publication and distribution of hard copies

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