

National Tuberculosis & Leprosy Programme

Ministry of Health, Government of Lesotho

**Tuberculosis Monitoring and Evaluation Plan
(2018-2022)**

FOREWORD

ACRONYMS

CBO	Community Based Organizations
CCM	Country Coordinating Mechanism
CHAL	Christian Health Association of Lesotho
DHIS	District Health Information System
DQA	Data Quality Assurance
DR-TB	Drug-resistant Tuberculosis
DST	Drug-susceptibility testing
DTCO	District Tuberculosis Coordinator
EGPAF	Elizabeth Glazer Foundation
FBO	Faith Based Organizations
GFATM	Global Fund to Fight AIDS, Tuberculosis and Malaria
HIU	Health Information Unit
HIV	Human immunodeficiency virus
HMIS	Health Management Information System
ICAP	International Centre for AIDS Treatment and Care Programme
IPT	Isoniazid preventive therapy
KAP	Key-affected Populations
LFA	Local Funding Agent (LFA)
LTBI	Latent Tuberculosis Infection
M&E	Monitoring and Evaluation
MDR-TB	Multidrug-resistant Tuberculosis
MOH	Ministry of Health
NGO	Non- Government Organizations
NSP	National Strategic Plan
NTP	National Tuberculosis and Leprosy Programme
OpenMRS	Open Medical Record System
OR	Operational Research
OSDV	Onsite Data Verification
PEPFAR	US President's Emergency Plan for AIDS Relief
PIH	Partners in Health
PLHIV	People living with HIV
PMTCT	Prevention of mother-to-child transmission
PPM	Public-private mix
R&R	Recording and reporting
RDQA	Routine Data Quality Audit
RR-TB	Rifampicin-resistant Tuberculosis
SR	Sub-recipient
TB	Tuberculosis
TPT	TB preventive therapy
UN	United Nations
URC	University Research Co,LLC
WHO	World Health Organization
Xpert MTB/RIF	Xpert MTB/RIF - Rapid TB and MDR-TB diagnostic test

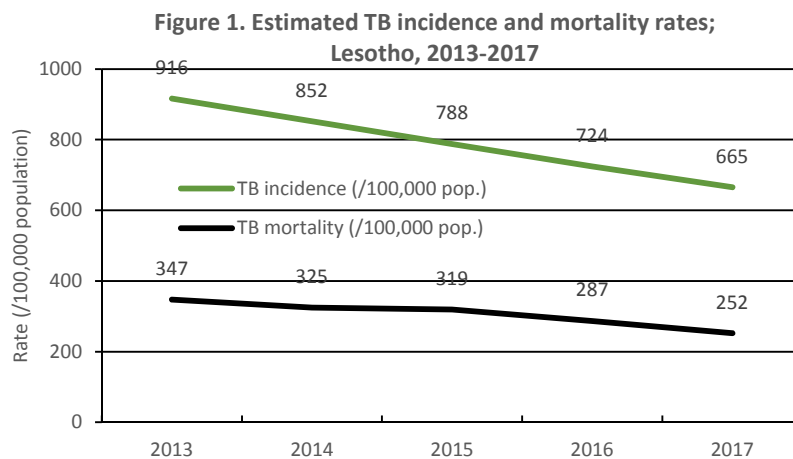
CONTENT PAGE

1	INTRODUCTION	5
2	NATIONAL STRATEGIC PLAN 2018-2022 –GOALS AND OBJECTIVES	8
3	MONITORING AND EVALUATION SYSTEM	9
	Purpose and scope of National TB M&E system	9
	The NTLP and its M&E Leadership Role	9
	NTLP Monitoring and Evaluation structures	10
4	CONCEPTUAL FRAMEWORK - NTLP M&E SYSTEM	13
5	DEVELOPMENT OF NTLP M&E FRAMEWORK	15
	Indicators	15
	Selection of indicators	15
	Impact indicators	15
	Outcome indicators	16
	Table 3: NTLP Monitoring and Evaluation Indicator Framework – NSP period 2018-2022	17
	Target setting aligning with UN country TB targets	22
6	DATA COLLECTION, ANALYSIS and REPORTING	24
	Routine programme monitoring	25
	Monitoring of Operational Management Issues	25
	Data reporting system	26
	eRegister – Patient Level Electronic System	28
	Integration with DHIS2 and eRegister	28
7	DATA QUALITY ASSURANCE and SUPERVISION	29
8	EVALUATION, SURVEYS and SPECIAL STUDIES	31
	Programme review and evaluation	31
	TB surveillance system	31
	Other special studies	31
9	MONITORING and EVALUATION COORDINATION	32
	M&E structures under Global Fund Implementing Units: Sub-recipients	32
	M&E Partner Unit/ Organizations	33
10	CAPACITY BUILDING	34
11	INFORMATION PRODUCTS, DISSEMINATION and USE	36
	Information products	36
	Dissemination matrix	38
12	MONITORING & EVALUATION WORK-PLAN and BUDGET	40
	Annex 1 Indicator definitions and measurement	41
	Annex 2: Standards and benchmarks for TB surveillance and vital registration systems: The Checklist	48
	Annex 3: Monitoring and Evaluation Work plan activities and budget	59

1 INTRODUCTION

The population of Lesotho in 2017 is estimated at 2.2 million people with 68% of them living in rural area; more than 90% of the people are Basotho, Bantu-speaking people, and of Christian religion (half Protestants and half Roman Catholics)¹. Lesotho has the highest incidence for TB in the world and very few countries such as South Africa, Philippines, Mozambique and DPR Korea have TB incidence over 500/100000.

The World Health Organization (WHO) includes Lesotho among the high-priority countries list in the world for both tuberculosis (TB) and HIV-related TB (TB/HIV). For 2017, it estimated a TB incidence of 665 (430-949) new cases and a TB mortality of 252 (169-351) deaths (including HIV-positive patients) per 100 000 population; both incidence and mortality being the highest rates in the world². While, TB incidence and mortality decreased steadily during the past years (figure 1), respectively of 26% (6.5% annually) and 20% (5% annually), declines were not enough to meet the goals indicated by the National Tuberculosis and Leprosy Programme (NTLP) for 2013-2018.



According to the latest Lesotho Population-Based HIV Impact Assessment survey conducted in 2016-2017, 25.6% of the adult population (15-59 years) is living with HIV (30.4% of females and 20.8% of males), corresponding to 306,000 people living with HIV. Moreover, 2.1% of the children (0-14 years) is living with HIV (2.6% of girls and 1.5% of boys), corresponding to 13,000 children living with HIV. The annual incidence of HIV among adults is 1.5% or 13,000 new people living with HIV annually. The estimated HIV prevalence among TB incident cases is 73% (64-80%), proportion that highlights how important is the overlapping of the two epidemics and the impact that HIV has on TB in Lesotho.

Based on the national drug resistance survey conducted in 2014, the multidrug resistant and rifampicin resistant (MDR/RR) TB is estimated at 4.8% (3.7-5.9%) in the newly-diagnosed and 14% (9.2-18%) in the previously-treated TB patients.

Health services in the country are provided through a network of 290 health facilities: 21 general hospitals, 4 primary hospitals, 261 health centres/clinics and 4 filter clinics. Many of these facilities are owned by churches affiliated with Christian Health Association of Lesotho (CHAL), few by Lesotho Re Cross and private providers.

¹ Lesotho Bureau of Statistics (<http://www.bos.gov.ls/>)

² Global TB Report 2018

Structure of the National Tuberculosis and Leprosy Programme

NTP is headed by a Manager working under the Director of the Disease Control Directorate, who reports to the Director of Primary Health Care Department, who reports to the Director General of Health Services. The NTP Manager leads a team composed by: TB/HIV Medical Officer (international), Strategic Information & Evaluation Advisor (SI&E, with the funding support from the Elizabeth Glazer Foundation [EGPAF]), Monitoring and Evaluation (M&E) officers (2), field M&E officers (2), Childhood TB and training officer, Community TB officer, Leprosy Nurse working in the Leprosy Hospital, MDR-TB Focal Point (under recruitment) and TB Technical Officer (under recruitment). All positions are supported with World Bank funds, except 1 M&E officer supported under the Global Fund project. The NTP can also count on three focal persons in the Directorate of Laboratory Services, Directorate of Supply Chain and Directorate of Planning & Statistics (figure 2). At district level, one healthcare worker is assigned as District TB Coordinator with their main focus on TB and other duties as assigned, but without receiving any financial compensation for his/her additional responsibilities. TB officer has been assigned TB responsibilities at hospital level. At community level, various workers including the VHWs, nongovernmental organization (NGO) workers and traditional healers in their varying capacities deliver TB care in close collaboration with the District Health Management Team (DHMT) and the District TB Coordinator.

The TB laboratory network consists in the National TB Reference Laboratory (NTRL) located in Maseru and 22 other laboratories at district and sub-district level: ten government laboratories in the district hospitals; eight laboratories of CHAL; three laboratories for miners and ex-miners in the district offices of the Employment Bureau of Africa (TEBA) of Leribe, Mafeteng and Maseru; and one laboratory at the military hospital. The NTRL performs direct microscopy (either ZN and fluorescence), rapid diagnosis through Xpert MTB/RIF assay and line probe assay (LPA), culture and drug susceptibility testing for isoniazid and rifampicin in solid media and species identification. The peripheral laboratories perform direct microscopy of sputum and rapid diagnosis through Xpert MTB/RIF assay. The NTRL acts as a referral laboratory for TB culture, species identification and drug susceptibility testing for entire country, with diagnostics samples sent by the peripheral laboratories through various means, including the motorbikes of Riders for Health and private courier services. Beside the provision of these core technical activities, NTRL ensures support and maintenance of the laboratory network, through routine quality assurance of direct microscopy and Xpert MTB/RIF investigations.

The NTP partners for TB care in the country include: Baylor College of Medicine Children's Foundation (BCMCF), Christian Health Association of Lesotho (CHAL), Elizabeth Glazer Foundation (EGPAF), Foundation for Innovative New Diagnostics (FIND), Global Fund, JHPIEGO (affiliate of Johns Hopkins University), International Centre for AIDS Treatment and Care Programme (ICAP)/Columbia University, Partners in Health (PIH), Riders for Health International, University Research Co,LLC (URC), World Bank, and World Health Organization (WHO) among others.

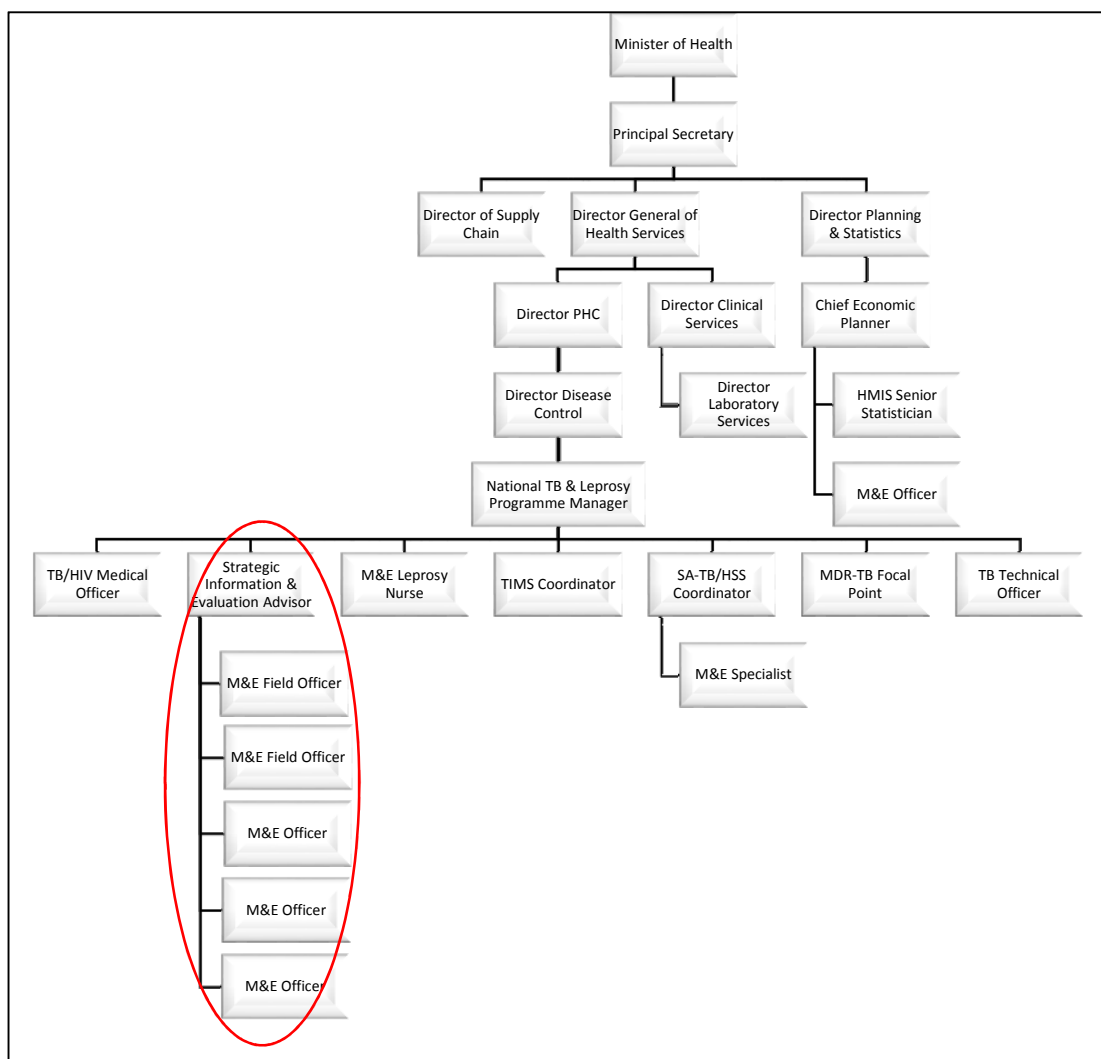
The National or Central Unit provides overall leadership, supervision and direction to the programme. To achieve the mission, goals and objectives set in the National Strategic Plan 2018-2022, the national level structure of the NTP proposes to strengthen the following programmatic and standard normative functions during the period 2018-2022:

- To coordinate all activities relating to formulation of technical, operational and financial policies at country level and dissemination of these policies to the divisional and sub-divisional levels as appropriate for compliance on all issues pertaining to TB care

- To formulate training plans and materials for all categories of staff for use at the divisional, sub-divisional and peripheral level on a periodic basis. The Training material development is updated on a regular basis and the central level will monitor the quality of trainings
- To promote the effective implementation of activities across all divisions through dissemination of TB guidelines and ensure compliance with the protocols
- To monitor and evaluate the TB care activities in the country including initiatives such as optimizing surveillance, and operations research for informing practice
- To coordinate activities for national consensus building for TB care amongst academia, non-governmental organisations, private sector and the civil society while promoting universal access to diagnosis and treatment for TB
- To ensure planning and coordination of periodic external reviews of the NTLP with technical agencies
- To coordinate the procurement and supply of anti-TB drugs, consultant services, goods and materials for promoting TB care services in the country

The monitoring and evaluation unit of the NTLP (encircled in red, figure 2) comprises of sanctioned positions of strategic information and evaluation advisor, 2 M&E field officers and 3 M&E officers. These positions are all filled, barring 1 M&E officer (2 M&E officers engaged with support from the SATBHSS world bank project).

Figure 2: Organogram of National Tuberculosis and Leprosy Programme



2 NATIONAL STRATEGIC PLAN 2018-2022 –GOALS AND OBJECTIVES

The National Tuberculosis Strategic Plan of Lesotho 2018-2022 translates the political commitment of the government taken in November 2017 in Moscow with the Declaration to End TB and in September 2018 in New York with the Declaration on the Fight Against TB (A/RES/73/3) of the United Nations General Assembly (UNGA). Accepting the challenge and responsibility of participating in the global efforts, the plan adopts the following two goals to be achieved by 2022:

GOALS

- To reduce the overall mortality of TB by 75%
 - To reduce the overall incidence of TB by 50%
-
-

Consistently, the plan states the following six objectives, inspired by the global 90-90-90 targets to end TB and HIV and guided by the gap analysis conducted by the recent Joint Review of HIV, TB and Hepatitis Programmes:

OBJECTIVES

1. To find 90% of all incident TB cases and place all of them on appropriate treatment.
 2. To treat successfully 90% of all drug-susceptible TB patients, irrespectively of their HIV status.
 3. To find 90% of the incident drug-resistant TB cases, place all of them on appropriate treatment and successfully treat 75% of them, irrespectively of their HIV status.
 4. To find 90% of the incident TB cases in vulnerable populations, place all of them on appropriate treatment and successfully treat 90% of them.
 5. To increase the workload capacity of the TB laboratory services to more than 67 000 Xpert MTB/RIF tests per year.
 6. To enhance stewardship in the National TB Programme and maximize resources for the achievement of the strategic goals.
-
-

Each objective will be reached through the implementation of a set of strategic interventions consistent with the international recommendations for TB prevention and care and those provided by the Joint Review of HIV, TB and Hepatitis Programmes of October 2017.

3 MONITORING AND EVALUATION SYSTEM

Purpose and scope of National TB M&E system

The overall purpose of the National TB M&E system is to assist the NTLP and partners to achieve the goal and objectives articulated in the National Tuberculosis Strategic Plan 2018-2022.

Goal

The overall goal of the M&E plan is to measure the performance of the TB programme against the set goals and targets by providing a robust M&E framework for timely collection, collation and reporting of quality data. The M&E plan will provide a comprehensive insight on data collection systems, data analysis, use and dissemination of data as well as a guide to link strategic objectives to the goals.

Specific Objectives

- To systematically monitor and measure programme effectiveness
- To gather lessons from programme implementation
- To identify problem areas and effect change through effective routine programme management at all levels
- To assess progress towards achieving the END TB and sustainable development goals
- To measure the impact of funding towards the achievement of programmatic goals

The scope will involve:

- collecting, processing and providing reliable and timely information on process, output and outcome indicators on the performance and quality of the programme;
- ensuring continuous feedback to implementing staff;
- providing data for reporting to MOH, local and international partners and donors;
- providing a conducive environment to critically reflect on programme performance and quality so as to understand the reasons for successes or failures and using this information to improve responsiveness, effectiveness and efficiency of programme implementation;
- conducting relevant research to inform effective TB programming;
- evaluating the effectiveness and impact of tuberculosis prevention and care strategies

The NTLP and its M&E Leadership Role

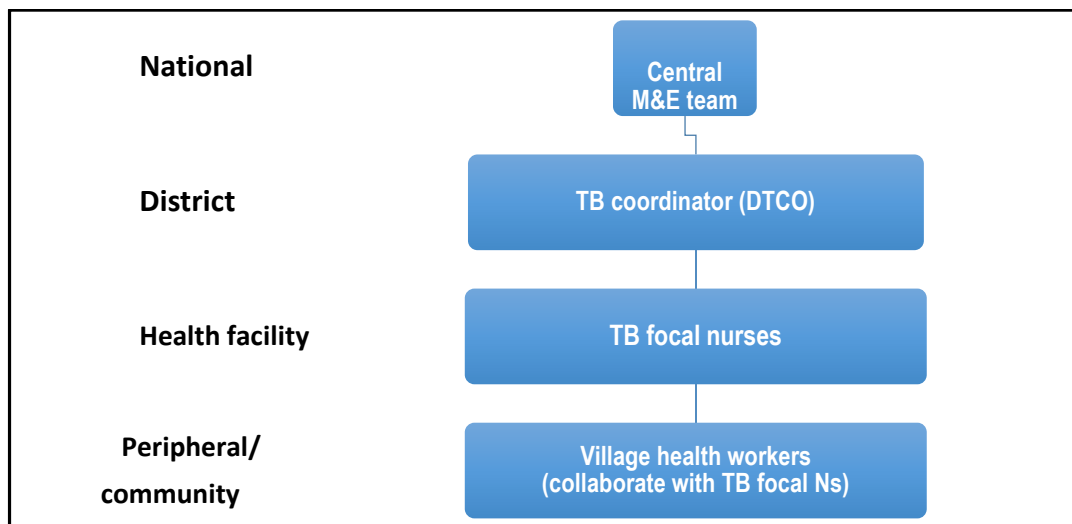
The National Tuberculosis Programme in Lesotho is responsible for technical and operational norms/procedures, planning, monitoring and evaluation, supervision, ensuring drug supply and human resources development through training, quality assurance, conducting data analysis and surveillance for tuberculosis care. As such, this entity is in charge of:

- M&E coordination and management
- Development of M&E Plan (including development of indicators and work plan)
- Development of general M&E training materials and guidelines
- Information dissemination and communication of relevant surveillance and M&E data
- Undertaking implementation research, program evaluation and sector reviews
- Enhancing staff skills in data analysis, generate, use, publish and dissemination of M&E reports
- Strengthening and liaising with the Health Information Unit (to regularly capture health information from both public and non-public sector) and to avoid the existence of parallel systems, particularly with DHIS2 and evolving eRegister interoperability
- Conducting mid-term and final review of the implementation of the NSP

Programme managers are ultimately responsible for monitoring and evaluating their interventions and activities. This involves planning and meeting timelines, targets and outputs for the programme and for each project within the programme, taking into account the scope of work, designated budget allocation and timeline. One of the key functions of the NTLP is to monitor and evaluate the TB programme, in coordination with the Health Information Unit of the Lesotho Ministry of Health.

NTLP Monitoring and Evaluation structures

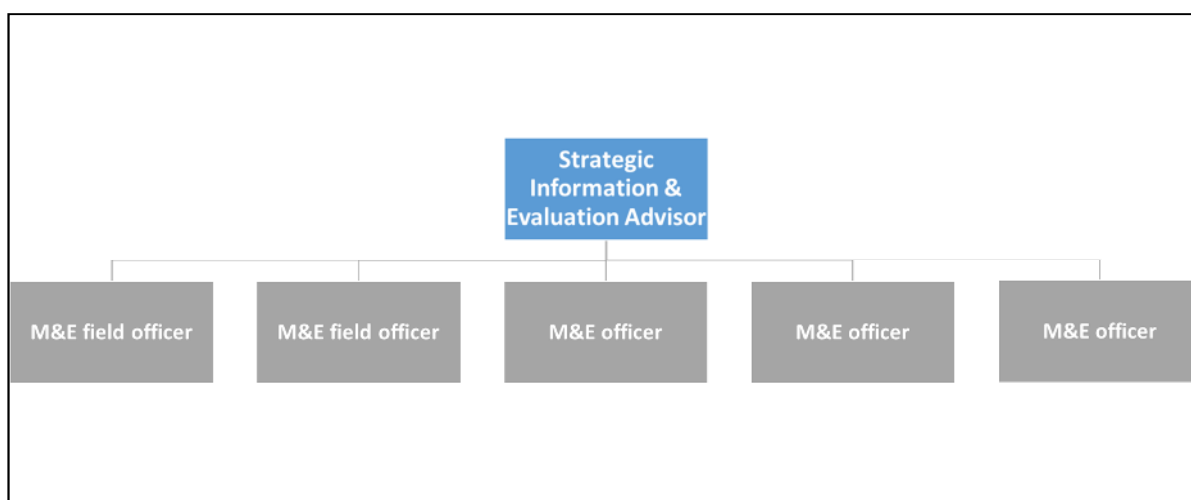
The NTLP has a functional Monitoring and Evaluation Team to strengthen M&E frameworks, deliver guidance on routine data collection, analysis and use of M&E data and provide M&E advice to district TB coordinators. The organisational structure of the NTLP has the following levels: national or central, district, health facility and peripheral or community levels. The National level staffs include the NTLP manager with the central M&E team supporting monitoring and evaluation components of the TB programme.



The central M&E unit at the national level as illustrated in figure 3 below is comprised of 1 Strategic Information and Evaluation Advisor (supported by EGPAF/PEPFAR), 2 M&E field officers and 3 M&E officers.

All the 10 districts have district TB coordinators (DTCO) responsible for the TB programme in each district. The DTCO supervises health facilities in the implementation of TB/HIV activities. The DTCO verifies TB quarterly reports and provides mentorship on filling of registers. They also provide onsite training and capacity building on M & E at facility level. Monitoring and evaluation for TB at district and facility level is performed by nurses and nursing assistants. At the lowest geographical level in the context is the health facility, where the programme is integrated in general primary health services. At health facility level, NTP central M&E team supports nurses whose responsibilities are not only TB management. In some health centre level there are assigned TB focal nurses however it is not standard for all facilities. The support also goes to the health facility data clerks whose compile TB reports and data entry into the DHIS2. In addition there are screening clerks/lay counsellor who conduct TB screening and record in the screening and Detection register. The TB nurses have outreach activities in a defined area and responsibilities of referral, contact tracing, treatment supervision, tracing initial loss to follow-up/patients missing doses and health education under NTLP. Community Health Workers/ Village Health Workers are also good resources for the TB programme in terms of referral, treatment supervision, tracing patients missing doses and health education activities, as outlined in the OPR plan.

Fig 3: Central or National TB Monitoring and Evaluation Team



The key responsibilities of the Strategic Information and Evaluation advisor is as follows:

- Routinely direct technical assistance to MOH in strengthening monitoring of TB and HIV programmes
- Participating in operational researches related to TB and HIV undertaken by the department and/or implementing partners
- Conduct bi-annual and quarterly programme data reviews
- Organise and participate in supervision, RDQA and data verification exercises for TB and HIV
- Perform TB/HIV data harmonisation activities (comparing MOH and PEPFAR reported data)
- Support strengthening of MOH HMIS
- Support development of M&E related policy documents, tools and SOPs

The key responsibilities of the M&E officer is as follows:

- Lead development of M&E plan of NTLP and harmonise the work plans for each projects that are supporting the programme as well as overseeing the review of the implementation of the programme and be the focal person for coordination between NTLP programme level M&E and projects level M&E
- Be responsible for sourcing up-to-date data for TB and TB/HIV data directly from all implementing organisations as per M&E plan.
- Develop quarterly, semi-annual and annual reports for NTLP
- Support technical work such as reviewing M&E methods, carrying out training needs, designing M&E tools and advising M&E technical assistance.
- Ensuring mentoring and training of NTLP team to foster capacity building on M&E knowledge.
- Participate in workshops, seminars, Strategic Information committees meetings to identify gaps and weaknesses in M&E and plan appropriate actions for improvement
- Analyse routine reporting data and conduct periodic dissemination meetings to present results of the implementation of programme activities
- Meet regularly with NTLP staff and other stakeholders as appropriate to identify issues and to report programme accomplishments and challenges

- Ensure quality control of routine M&E outputs and participate in the design, development of the protocols, data collection tools, data verification techniques, and other technical evaluation and analytical tasks conducted under evaluations in the NTLP
- Participate in supportive supervision, Data Quality Audits (DQA) and Routine Data Quality Assessments (RDQAs)
- Serve as the evaluation team member of selected evaluations conducted under NTLP
- Oversee and participate in evaluations and assessments of NTLP. Review and provide technical advice related to different frameworks and indicators in the NTLP M&E Plan
- Accomplish other tasks related to Monitoring and Evaluation as per the need of programme as assigned by NTLP manager

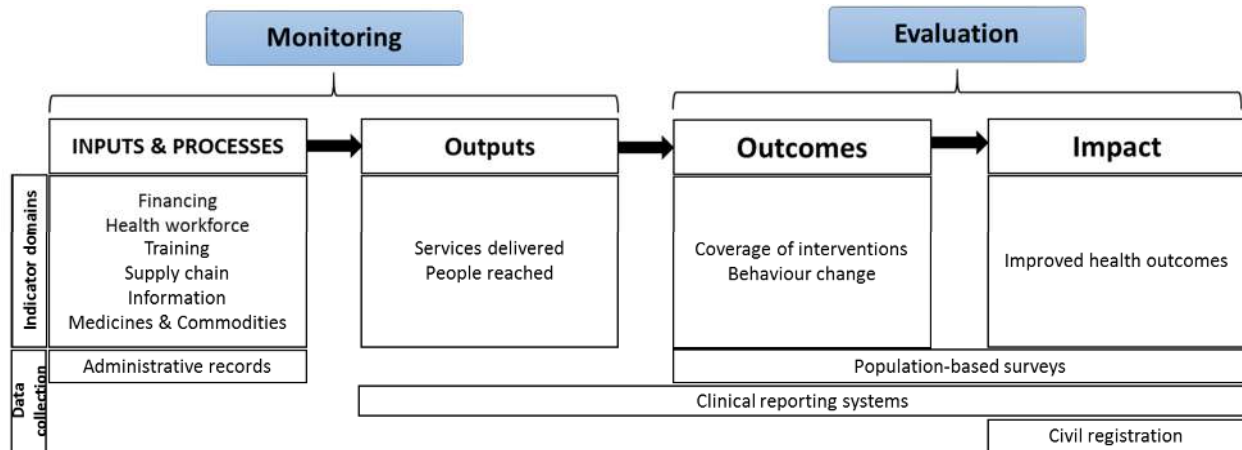
The key responsibilities of the field M&E officer is as follows:

- Support the implementation of M&E plan by ensuring that the implementing partners (Districts) are adhering to the plan
- To supervise data collection through implementing partners and ensure that quality of data is adhered to and ensure availability of accurate and up-to-date data for TB care and TB/HIV on regular basis
- Conduct regular supportive supervisions to the districts and facilities to provide technical support in filling different data collection tools
- Provide technical support to DHMTs during supportive supervisions to the facilities
- Support the districts during the quarterly reviews and provide technical support in data analysis and report writing at the district level.
- Provide technical support on M&E and evidence-based recommendations on action items after quarterly reviews at the district level
- Ensure that implementation of district plans are aligned to NTLP monitoring and evaluation system
- Participate actively in programme planning process of the programme data quality activities at the district level
- Participate in workshops, seminars, to identify gaps and weaknesses in M&E and plan appropriate actions for improvement together with M&E Officer
- Participate regularly in NTLP meetings and other stakeholders meetings as appropriate to identify issues and to report program accomplishments and challenges
- Partake in the development of quarterly, semi-annual and annual reports for NTLP
- Ensuring mentoring and training of district TB coordinators and other teams to foster capacity building on M&E knowledge.
- Support and participate in supportive supervision, Data Quality Audits (DQA) and Routine Data Quality Assessments (RDQAs) at the district level
- Conduct M&E assessment to the private and Non-governmental organisations working under NTLP to assist them to develop M&E plans, tools, and reports.
- Accomplish other tasks related to monitoring and evaluation as per the need of programme as assigned by NTLP manager

4 CONCEPTUAL FRAMEWORK - NTLP M&E SYSTEM

As stated above, the organizational structure of the NTLP has the following levels: national or central, district, facility and community levels. All the staff included in the structure collaborates in carrying out the NTLP's M&E function by collecting, storing, processing, analyzing and transmitting information from the peripheral to the national level. In addition this structure provides a feedback mechanism of the above functions. To exercise its role as the leader of the M&E functions to the national TB response, the NTLP bases its actions on the logical framework illustrated in Figure 4, with key component in the results chain.

Figure 4: Monitoring and Evaluation Logical Framework



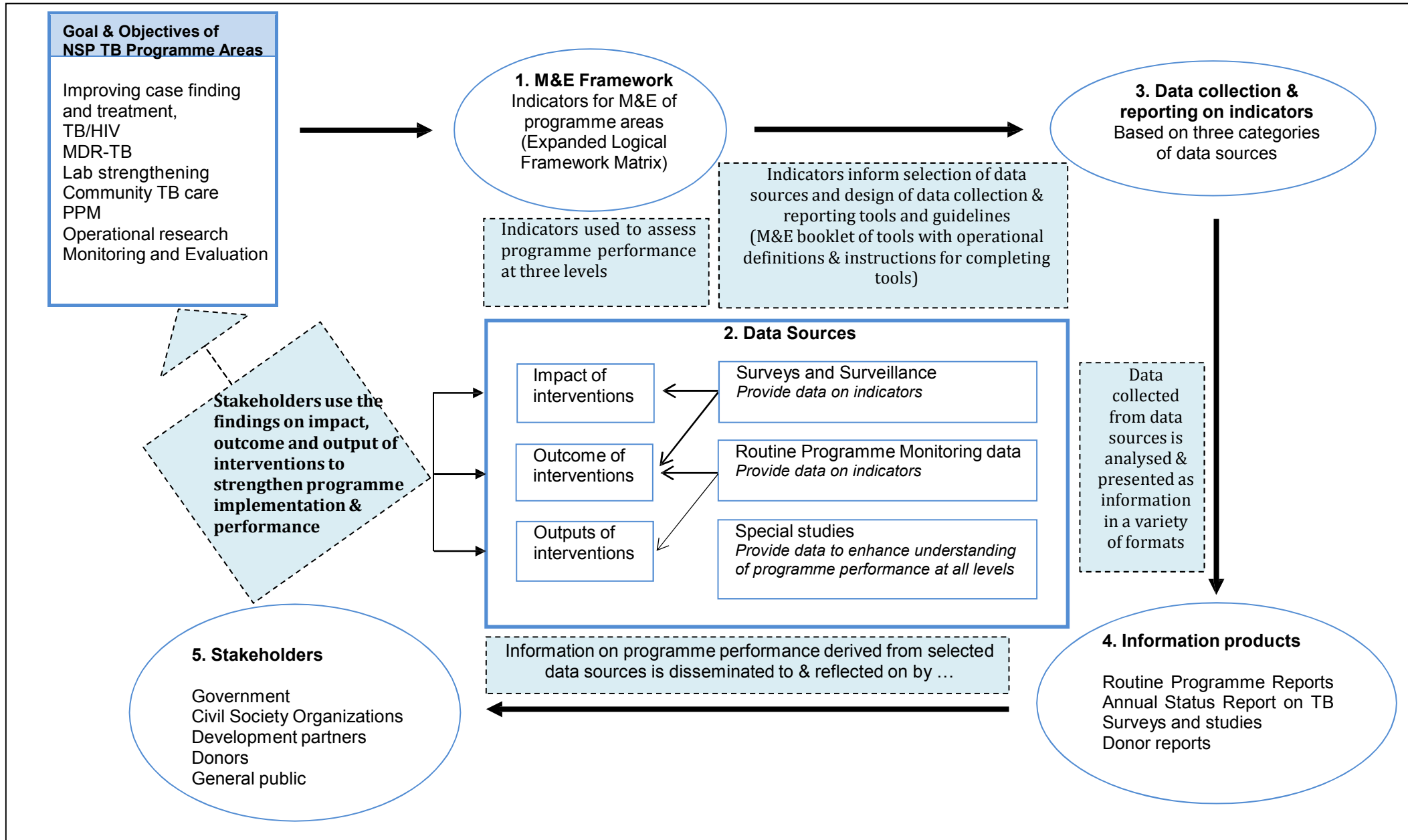
Firstly, the NTLP needs to ensure that all necessary resources (i.e. human, tools and financial) are in place to carry out the strategic action lines put forward in the NSP. This will be done through routine monitoring of administrative records. Secondly, the NTLP supervises the delivery of services (TB, TBHIV collaborative activities, DR-TB etc.), that is, the actual implementation of activities. Thirdly, the NTLP will monitor the outputs obtained via the implementation of activities. All of these actions will take place on a routine basis. In the mid-term of the NSP, the NTLP will evaluate the specific results of its interventions with the aid of specific evaluation methodology, specific studies and surveillance. In the long term, the NTLP will assess whether the changes in TB-related health outcomes are due to the interventions' implemented.

In figure 5 below, the conceptual framework for the TB M&E system is displayed. The diagram shows that continuous cycle of assessing programme performance, sharing the findings with stakeholders and using these findings to strengthen programme implementation and performance.

The indicators used to assess performance are based on the programme areas in the NSP and are elaborated on in section 5 and table 3. The selection of data sources and design of data collection/reporting tools based on the selected indicators are described in more detail in section 6. Sections 7 and 8 describe data quality and evaluation mechanisms in order to generate information products. These information products and the stakeholders who would receive and reflect on them are described in section 10. While section 9 outlines coordination approaches, section 10 highlights the M&E capacity building requirements for the programme. Section 11 provides timelines for specific M&E plan actions and the financial resources that would be needed.

The M&E system based on this plan will cover TB programme activities at national, district, facility and community levels. This Plan will also guide the monitoring and evaluation of aspects of the management of operational issues related to finance, fixed assets and human resources.

Figure 5: Conceptual Framework for National TB M&E System



5 DEVELOPMENT OF NTLP M&E FRAMEWORK

This section presents the NTLP monitoring and evaluation framework for implementation during the NSP period 2018-2022. Its objective is to provide a perspective on the M&E function and the indicators that will be measured to assess the implementation of the TB strategy by the stakeholders involved in the national TB response. All targets and process indicators are indicative and set according to the new definition 2013 revision (WHO/HTM/TB/2013.2).

Indicators

The indicators have been aligned to the programme areas identified in the Global Fund M&E framework. The indicators defined in the table is considered necessary to monitor and evaluate the effects and impact of interventions implemented as part of the NTLP. All indicators included in this framework are linked to specific descriptions and details on the procedures for their construction. Such contextual and methodological information includes but is not limited to:

- data collection method for the indicator (e.g. health information system, programme monitoring, sentinel surveillance, population-based surveys or facility-based surveys, mortality registration or community registers)
- frequency of data collection (e.g. monthly, quarterly, annually);

Selection of indicators

The selection of the set of indicators was guided by the following criteria (table 1). In the section M&E plan below, the indicators are arranged in a hierarchical format with impact, outcome and output indicators according to programme areas and main objectives linked to the specific objectives in the National Strategic Plan.

Table 1: Criteria for selection of indicator set

- Covers all programme interventions in the NSP 2018-2022
- Relevant and important in addressing the information needs of the programme including the need for information on operational management issues
- Addresses national and international reporting obligations such as the END-TB strategy, WHO Global TB report and the Global Fund
- Aligned to international standards
- Feasibility of data collection

Impact indicators

The overall goal of the NSP is to reduce transmission, morbidity and mortality of TB in Lesotho. The impact and outcome indicators identified cover all programme areas. Impact measured by mortality and incidence are estimated by WHO based on modelling maybe subject to fluctuations (table 2). The case finding efforts reflected by the notification rate is expected to continue to increase with active screening implementation. The change of definition should not influence the trend. NTLP may need to conduct a mid-term review of the M&E indicators during the mid-term review of the NSP strategies/implementation.

Table 2: Impact indicators: data source, responsible institution, frequency and data collection period

Indicator	Data Source	Frequency of data collection	Period covered by data collection	Responsible Agency
TB incidence rate	WHO data - modelling	Yearly	N/A	WHO
TB mortality rate	WHO data -modelling	Yearly	N/A	WHO
TB/HIV mortality rate	WHO data -modelling	Yearly	N/A	WHO

Outcome indicators

The following outcome indicators have been identified to measure the coverage or effectiveness of services for interventions to be implemented during the NSP 2018-2022.

- 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 (all form of TB - bacteriologically confirmed plus clinically diagnosed)
- Case Notification rate of all forms of TB** - bacteriologically confirmed plus clinically diagnosed, new and relapse cases (disaggregated by age <15, 15+, sex and HIV status) per 100,000 population
- Case Notification rate of bacteriologically confirmed**, new and relapse cases (disaggregated by age <15, 15+, sex and HIV status) per 100,000 population
- Notification of RR-TB and/or MDR-TB cases** – Percentage of notified cases of bacteriologically confirmed, drug resistant RR-TB and/or MDR-TB as a proportion of all estimated RR-TB and/or MDR-TB cases
- Treatment success rate, all forms:** Percentage of all new TB cases (i.e. bacteriologically confirmed plus clinically diagnosed) successfully treated (cured plus treatment completed) per 100,000 population
- Treatment success rate, bacteriologically confirmed:** Percentage of bacteriologically confirmed new and relapse TB cases successfully treated (cured plus treatment completed) per 100,000 population
- Treatment success rate of RR-TB and/or MDR-TB:** Percentage of cases with RR and/or MDR-TB successfully treated (cured plus treatment completed) per 100,000 population

The National TB M&E framework described in table 3 below summarises the alignment and links between programme intervention areas, the indicators, data sources with set baselines, and projected targets for the NSP period 2018-2022. This framework has been carefully developed to align with the NSP that outlines 2 goals, 6 specific objectives and programme interventions. The programme interventions include improving case finding and treating TB patients, laboratory strengthening, TB/HIV, MDR-TB, TB in children, M&E, PPM and community TB care, operations research and procurement and supply chain management. The M&E framework illustrate the core indicators (impact, outcomes and outputs) that will be used by NTLP to track implementation progress, and assess the overall outcomes, impact of the programme.

Table 3: NTLP Monitoring and Evaluation Indicator Framework – NSP period 2018-2022

	Indicators	Baseline 2017	Data Source	Level	Frequency	2018	2019	2020	2021	2022
Impact Indicators										
TB care Impact	TB Incidence rate per 100,000 population	665	WHO estimates	National	Annually	600	535	475	420	370
	TB Mortality rate (HIV+TB only) per 100,000 population	206	WHO estimates	National	Annually	185	162	140	120	100
Outcome Indicators										
TB care Outcomes	1.1 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 (all form of TB - bacteriologically confirmed plus clinically diagnosed)	46%	R&R TB system, yearly report	National	Annually	53%	58%	65%	73%	≥90%
	1.2 Case Notification rate of all forms of TB - bacteriologically confirmed plus clinically diagnosed, new and relapse cases (disaggregated by age <15, 15+, sex and HIV status) per 100,000 population	355	R&R TB system, yearly report	National/District	Annually	339	351	426	438	406
	1.3 Case Notification rate - bacteriologically confirmed, new and relapse cases (disaggregated by age <15, 15+, sex, HIV status) per 100,000 population	183	R&R TB system, yearly report	National/District	Annually	193	200	243	250	231
	1.4 Notification of RR-TB and/or MDR-TB cases – Percentage of notified cases of bacteriologically confirmed, drug resistant RR-TB and/or MDR-TB as a proportion of all estimated RR-TB and/or MDR-TB cases	22%	R&R TB system, yearly report	National	Annually	44%	56%	67%	78%	≥90%
	1.5 Treatment success rate- all forms: Percentage of all new TB cases (i.e. bacteriologically confirmed plus clinically diagnosed) successfully treated (cured plus treatment completed) per 100,000 population	74%	R&R TB system, yearly report	National/District	Annually/Quarterly	78%	82%	86%	89%	≥90%
	1.6 Treatment success rate- bacteriologically confirmed: Percentage of bacteriologically confirmed new and relapse TB cases successfully treated (cured plus treatment completed) per 100,000 population	76%	R&R TB system, yearly report	National/District	Annually/Quarterly	80%	84%	88%	≥90%	≥90%
	1.7 Treatment success rate of RR-TB and/or MDR-TB: Percentage of cases with RR and/or MDR-TB successfully treated	64%	R&R TB system, yearly report	National/District	Annually/Quarterly	65%	68%	70%	74%	≥90%

	Indicators	Baseline 2017	Data Source	Level	Frequency	2018	2019	2020	2021	2022	
Coverage and Output Indicators											
TB CARE & PREVENTION	Number of notified cases of all forms of TB – bacteriologically confirmed plus clinically diagnosed, new and relapse (UN agreed targets)	7117	R&R TB system, Yearly report	National/District	Annually/Quarterly	6900	7200	8800	9100	8500	
	Number of notified cases of bacteriologically confirmed TB, new and relapse	3670	R&R TB system, Yearly report	National/District	Annually/Quarterly	3933	4104	5016	5187	4845	
	Key affected populations/high risk groups										
	Number of TB cases (all forms) notified among prisoners	44	R&R TB system, Yearly report	National/District	Annually/Quarterly	60	70	75	80	75	
	Number of TB cases (all forms) notified among key populations/ high risk groups (other than prisoners) – miners, ex-miners, household members of miners and ex-miners, HCW, factory workers, or other relevant KAP groups)	1962	R&R TB system, Yearly report	National/District	Annually/Quarterly	2250	2500	3000	3200	3000	
	Improving diagnosis										
	Percentage of new and relapse TB patients tested using a WHO-recommended rapid diagnostic (WRD) at the time of diagnosis	86%	R&R TB system, Yearly report	National/District	Annually/Quarterly	≥90%	≥90%	≥90%	≥90%	≥90%	
	Percentage of laboratories showing adequate overall performance in external quality assurance for smear microscopy among the total number of laboratories that undertake smear microscopy during the reporting period	NA	R&R TB system, Yearly report	National/District	Annually/Quarterly	100%	100%	100%	100%	100%	
	TB care and prevention in children										
	Number of TB cases (all forms) notified among children (UN agreed targets)	240	R&R TB system, Yearly report	National/District	Annually/Quarterly	400	600	900	1200	1300	
	Percentage of childhood TB cases among all notified TB cases	3.5%	R&R TB system, Yearly report	National/District	Annually/Quarterly	6%	8%	10%	13%	15%	
	Percentage of pediatric (<15) contacts of bacteriologically confirmed cases among which active TB has been excluded who commenced IPT	70%	Contacts Register	National/District	Annually/Quarterly	80%	85%	90%	95%	100%	

	Indicators	Baseline 2017	Data Source	Level	Frequency	2018	2019	2020	2021	2022
	Percentage of pediatric (<15) contacts of bacteriologically confirmed cases among which active TB has been excluded, commenced and completed IPT	24%	Contacts Register	National/District	Annually/Quarterly	90%	90%	95%	95%	95%
	PPM & Community TB care									
	Percentage of Notified TB cases (all forms) referred/diagnosed or contributed by Non-NTLP providers – private provider, pharmacists, informal providers etc	2.5%	R&R TB system, Yearly report	National/District	Annually/Quarterly	3%	5%	8%	10%	10%
	Percentage of Notified TB cases (all forms) referred by Non-NTLP providers – community referrals	2%	R&R TB system, Yearly report	National/District	Annually/Quarterly	3%	4%	5%	5%	5%
	Treatment success rate- all forms among cases managed by private sector: Percentage of all new TB cases (i.e. bacteriologically confirmed plus clinically diagnosed) successfully treated (cured plus treatment completed) in the private sector	NA	R&R TB system, Yearly report	National/District	Annually/Quarterly	80%	82%	86%	90%	90%
	Latent TB infection coverage									
	Number of people living with HIV newly enrolled in HIV care and the number of children aged <5 years who are household contacts of cases started on LTBI treatment (UN agreed targets)	3216	R&R TB system, Yearly report	National/District	Annually/Quarterly	18300	24000	27900	29200	26100
MDR-TB	Drug-susceptibility testing (DST) coverage for TB patients Percentage of patients with bacteriologically confirmed pulmonary TB with a DST result for at least rifampicin, divided by the total number of notified cases of bacteriologically confirmed pulmonary TB. DST coverage includes results from molecular (e.g. Xpert MTB/RIF) as well as conventional phenotypic DST results.	86%	R&R TB system, Yearly report	National/District	Annually/Quarterly	88%	88%	90%	95%	100%
	Number of bacteriologically confirmed RR-TB and/or MDR-TB cases notified (UN agreed targets)	158	R&R TB system, Yearly report	National/District	Annually/Quarterly	144	182	414	905	1100
	Number of RR-TB and/or MDR-TB cases (presumptive or confirmed) registered and started on a prescribed MDR-TB treatment regimen during the period of assessment	150	R&R TB system, Yearly report	National/District	Annually/Quarterly	144	182	414	905	1100

	Indicators	Baseline 2017	Data Source	Level	Frequency	2018	2019	2020	2021	2022
	Percentage of confirmed RR-TB and/or MDR-TB cases registered and started on prescribed MDR-TB treatment who were lost to follow-up by the end of month 6 of their treatment	NA	R&R TB system, Yearly report	National/District	Annually/Quarterly	≤5%	≤5%	≤5%	≤5%	≤5%
	Percentage of confirmed MDR-TB cases tested for susceptibility to any fluoroquinolone and any second-line injectable drug	NA	R&R TB system, Yearly report	National/District	Annually/Quarterly	100%	100%	100%	100%	100%
TBHIV	Percentage of registered new and relapse TB patients with documented HIV status	91%	R&R TB system, Yearly report	National/District	Annually/Quarterly	95%	97%	99%	100%	100%
	Percentage of people living with HIV in care (including PMTCT) who are screened for TB in HIV care or treatment settings	77%	R&R TB system, Yearly report	National/District	Annually/Quarterly	80%	90%	100%	100%	100%
	Percentage of HIV-positive new and relapse TB patients on ART during TB treatment	92%	R&R TB system, Yearly report	National/District	Annually/Quarterly	92%	95%	100%	100%	100%
	Percentage of people living with HIV newly enrolled in HIV care started on TB preventive therapy	25%	R&R TB system, Yearly report	National/District	Annually/Quarterly	35%	45%	70%	85%	≥90%
	Percentage of PLHIV newly enrolled in HIV care, commenced and completed TB preventive therapy (TPT)	NA	R&R TB system, Yearly report	National/District	Annually/Quarterly	50%	60%	70%	80%	≥90%
	Treatment success rate among TB-HIV patients (all forms)	75%	R&R TB system, Yearly report	National/District	Annually/Quarterly	78%	82%	85%	≥90%	≥90%
PROGRAMME MANAGEMENT	Infection control									
	Infection control in hospitals and health facilities Percentage of health facilities' that fully comply with the National IC standards and NTLN guidelines	NA	R&R TB system, Yearly report	National/District	Annually/Quarterly	75%	90%	100%	100%	100%
	Monitoring and Evaluation									
	E-Register (electronic register): implementation of patient/case based registration system - Percentage of TB cases in the e-R compared to the number of TB cases in the TB registers at the end of the evaluated period – completeness and timely reporting on E-Register	0%	R&R TB system, Yearly report	National/District	Annually/Quarterly	20%	50%	75%	100%	100%

	Indicators	Baseline 2017	Data Source	Level	Frequency	2018	2019	2020	2021	2022
	Percentage of HMIS or other routine reporting units submitting timely reports according to national guidelines	79%	R&R TB system, Yearly report	National/District	Annually/Quarterly	90%	95%	100%	100%	100%
Operations research										
	Number of operations/implementation studies completed and/or published studies focusing on Operations research areas identified as priority by the NTLP	NA	Administrative/research records	National	Annually	1	2	3	3	4
	Number of policies and/or practice changes implemented as a result of completed and/or published studies	NA	Administrative/policy records	National	Annually	1	2	3	3	4
Procurement and supply chain management										
	Percentage of reporting units (districts or facility units) reporting no stock-out of first-line anti-TB drugs on the last day of the quarter	NA	Administrative Records	National/District	Annually/Quarterly	100%	100%	100%	100%	100%
	Percentage of reporting units (districts or facility units) reporting no stock-out of GeneXpert cartridges on the last day of the quarter	NA	Administrative Records	National/District	Annually/Quarterly	100%	100%	100%	100%	100%

Target setting aligning with UN country TB targets

The following tables (4-7) provide the TB targets for case notification all forms, childhood TB, MDR-TB and preventive targets for district level in alignment with the UN agreed targets set for Lesotho. The preventive target setting is largely based on IPT initiated for PLHIV and contacts (children) for Lesotho. There is a need for detailed information on PLHIV initiative on IPT at district level, to make projections for preventive targets (table 7). However these projections are subject to change, following results from the National Prevalence Survey which will provide a more accurate estimate of incidence and guide relevant target setting at national and sub-national level.

District	2018	2019	2020	2021	2022
Berea	992	1018	1244	1286	1201
Butha-Buthe	423	434	530	548	512
Leribe	856	878	1073	1110	1037
Mafeteng	754	773	945	978	913
Maseru	2246	2304	2816	2912	2720
Mohale's Hoek	582	597	730	755	705
Mokhotlong	192	197	241	249	233
Qacha's Nek	283	290	355	367	343
Quthing	310	318	389	402	375
Thaba-Tseka	381	391	478	494	461
National	7019*	7200	8800	9100	8500

**All forms cases notified in 2018 was 7019 vs UN agreed target of 6900; Target projections for 2019-2020 based on notification trends at district level to meet the annual UN agreed target for national level*

District	2018	2019	2020	2021	2022
Berea	31	78	116	155	168
Butha-Buthe	14	35	53	70	76
Leribe	24	60	90	120	130
Mafeteng	29	73	109	145	157
Maseru	73	183	274	365	395
Mohale's Hoek	34	85	128	170	184
Mokhotlong	6	15	23	30	33
Qacha's Nek	16	40	60	80	87
Quthing	6	15	23	30	33
Thaba-Tseka	7	18	26	35	38
National	240*	600	900	1200	1300

**Childhood TB cases notified in 2018 was 240 vs UN agreed target of 400; Target projections for 2019-2020 based on notification trends at district level to meet the annual UN agreed target for national level*

District	2018	2019	2020	2021	2022
Berea	94	76	172	376	458
Butha-Buthe	8	6	15	32	39
Leribe	35	28	64	140	170
Mafeteng	16	13	29	64	78
Maseru	40	32	73	160	195
Mohale's Hoek	16	13	29	64	78
Mokhotlong	8	6	15	32	39
Qacha's Nek	5	4	9	20	24
Quthing	1	1	2	4	5
Thaba-Tseka	3	2	5	12	15
National	226*	182	414	905	1100

**RR-TB and MDR-TB cases notified in 2018 was 226 vs UN agreed target of 144; Target projections for 2019-2020 based on notification trends at district level to meet the annual UN agreed target for national level*

District	2018		2019		2020		2021		2022	
	Children	PLHI V	Children	PLHI V	Children	PLHI V	Children	PLHI V	Children	PLHI V
Berea	169	N/A								
Butha-Buthe	68	N/A								
Leribe	134	N/A								
Mafeteng	52	N/A								
Maseru	151	N/A								
Mohale's Hoek	85	N/A								
Mokhotlong	26	N/A								
Qacha's Nek	14	N/A								
Quthing	25	N/A								
Thaba-Tseka	56	N/A								
National	780	N/A								
	18300		24000		27900		29200		26100	

**NTLP collates information on children initiated on preventive treatment.*

Missing data for Table 7 – Preventive therapy targets

There is a need to collate district wise information on PLHIV newly diagnosed and newly enrolled, with information on those initiated on IPT.

2018 data indicates 2436 PLHIV initiated on IPT. Anecdotally, 25% of PLHIV are initiated on IPT in 2018.

District-wise target setting can only be compiled if PLHIV newly diagnosed and newly enrolled along with children initiated on IPT is available. Baseline data not available to propose district disaggregated targets. Country preventive therapy targets are proposed.

6 DATA COLLECTION, ANALYSIS and REPORTING

The data for the indicators in the M&E Plan will be drawn from routine programme activity monitoring, surveys, and other special studies. These data sources would also provide information that would enhance understanding of programme performance and guide strengthening of programme implementation.

A number of existing data collection and reporting tools were reviewed as part of the development of M&E plan. Field mission findings revealed that R&R tools were revised in 2015 to align with the latest WHO definitions. The revised forms in use capture data relevant for the indicators in the M&E framework. The data collection tools are summarised in table 8 and key data sources are summarized in table 9 below.

Table 8: Data collection tools

	M&E format	Data requirement	Level	Responsible	Frequency of entry
1	Screening, detection and follow-up register	Records of clients screened for TB, patients presenting with chronic cough and follow-up patients awaiting smear results	Health facility	Health service provider	Daily
2	Sample request form	Sample examination results	Health facility Laboratory	Health Care worker and laboratory personnel	Daily
5	TB patient record/treatment card	Patients' treatment records and progress	Health facility	Health Care worker	Daily
6	Appointment Book	Patient appointments	Health facility	Health service provider	Daily
7	TB referral Form (Across the border)	Patient's up to date treatment status	Health facility	Health service provider	Based on need.
8	TB Treatment Register	Records of all TB cases	Health facility	Health service provider	Daily
10	Quarterly Report on TB Case detection (contact tracing and screening)	Report on TB screening and contact tracing in a quarter by category.	District/National	District TB Coordinator M & E officer	Quarterly /Annually
11	Quarterly Report on TB Case registration/finding form	Report on TB cases detected and registered in a quarter by category.	District/National	District TB Coordinator M & E officer	Quarterly /Annually
12	Quarterly Report on Drug-Resistant TB Case registration	Report on DR-TB cases detected and registered in a quarter by category.	District/National	District TB Coordinator M & E officer	Quarterly /Annually
13	Quarterly TB Treatment outcomes Report form.	Report on treatment outcome of TB cases started on treatment 12 months earlier.	District/National	District TB Coordinator, M & E officer	Quarterly /Annual

The revised TB recording and reporting system follows WHO 2013 recommendations for the assessment of case detection and treatment outcomes of bacteriologically positive pulmonary TB cases (cohort analysis of new and re-treatment cases). All TB cases are registered according to the standardized forms, case classifications and treatment outcome assessments. The data are reported through DHIS2 to the NTLP central coordination unit. TB registers are kept at all district hospitals and health facility centers. The hospitals and health Centers also maintain the TB detection, screening and follow-up registers, INH prophylaxis register for under five (integrated with the TB register). Table 9 summarises the key data sources for TB care.

Table 9: Summary of key data sources

Data Source	Responsible Lead Institution	Frequency of data collection
Routine Programme Monitoring		
1. Service delivery registers e.g. TB register, TB detection and screening register, TB INH prophylaxis under five	NTLP	Monthly, Quarterly
2. Programme monitoring report (central)	NTLP	Quarterly
3. Programme monitoring report (sub-recipients)	PIH, Other partners	Monthly, Quarterly
4. Human resources for TB monitoring	NTLP, MoH	Quarterly
5. Financial monitoring report	NTLP, MoH	Quarterly
Surveillance and Surveys		
6. WHO data on TB prevalence, incidence, mortality	WHO	Yearly
7. Annual TB report	NTLP	Yearly
8. KAP survey report	NTLP	Periodically (3-4 years)
9. Data quality and Service Quality Assessment report	NTLP	Quarterly
Other special studies		
10. TB operational research and special studies survey report	NTLP, other partners	Periodically
11. Programme evaluation report	NTLP, WHO	Periodically

Routine programme monitoring

Service delivery registers

The NTLP and its staff are responsible for monitoring health facility and community based DOTS services (case detection, treatment outcomes, availability of quality drugs, MDR-TB TB/HIV collaborative activities). The NTLP has developed service delivery registers for routine recording on TB services. These primary data collection tools will need to be modified to capture any new indicators, where necessary.

Programme activity monitoring reports (central, district, sub-recipient-civil society)

These reports will be used to capture output indicators that are not directly derived from the provision of clinical services. This will be relevant for PIH as a sub-recipient for managing DR-TB activities. The data/information derived from these tools will be reported upon monthly and quarterly. Typical activities should also include training and implementation of sub-recipient activities.

Monitoring of Operational Management Issues

Human Resources for TB Monitoring Report

The NTLP in consultation with the Ministry of Health and Medical Services, will determine the number of positions required at all levels – central, district, sub-district (health facility) and laboratory for effective implementation of TB care. This report will be used to track whether or not these positions are filled on a regular basis.

Financial Monitoring Report

The MoH, NTLP and partners will conduct budget analysis on the implementation of TB interventions. The analysis will examine planned versus actual expenditure and the proportional expenditures between different programme intervention areas. These analyses are important for advocacy purposes, promotion of cost-effective approaches and will also help in prioritization of interventions that will have been regarded as more effective through other data sources.

Data reporting system

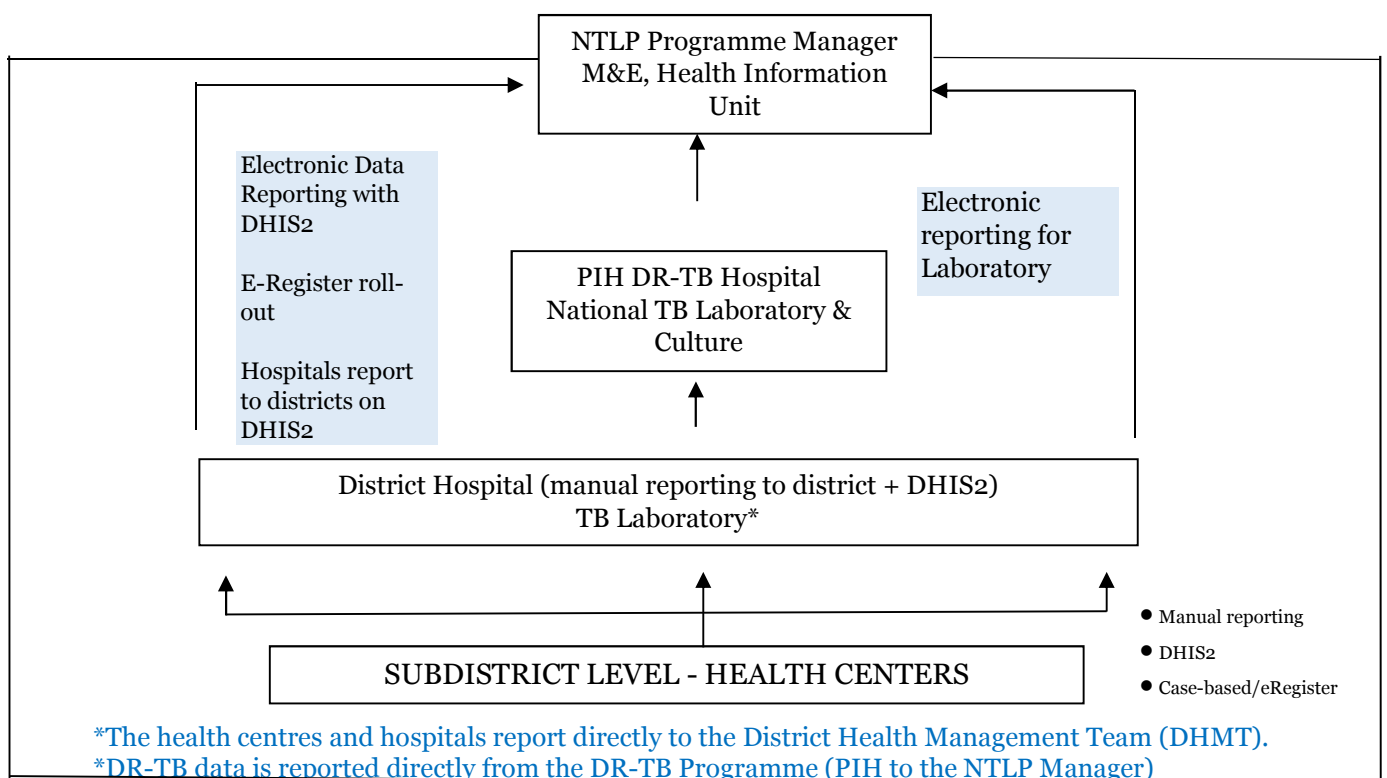
All ten districts and health facilities functional within those 10 districts register TB cases. The registering officer through TB focal nurse/data clerks at each of the TB centers will input data every week in DHIS2 and at the end of each month. The district hospital will print out their report for the internal monitoring of their program and follow-up of cases.

The NTLP M&E Officer and the M&E team will utilize DHIS2 data from all TB centers and generate district and national report periodically (quarterly and annually) for further analysis of the programme.

Each district hospital and health centre is provided with a TB register. Entries are made in the TB register as soon as notification is received from the respective TB centre. The district TB team provides quarterly monitoring visits and the National team on a quarterly to six monthly basis.

Electronic reporting system through use of DHIS2 has been initiated during 2016-2017 to strengthen the analysis and reporting of TB patients. The data reporting flow is illustrated in figure 6 below.

Figure 6: Data flow and reporting system



The data reporting framework is described in table 10 below:

Table 10: Data reporting framework

Level	Reporting Responsibilities	Frequency and description	Date of reporting	Reports	Responsible Personnel
National/ Central	<ul style="list-style-type: none"> Collates reports from district and calculate national level indicators Distributes reports to all stakeholders and international affiliates Facilitates auditing of reports and cleaning of data from districts 	<ul style="list-style-type: none"> Quarterly : Produces quarterly progress reports and report on specific quarterly indicators Semi-annually : Produces semi-annual reports on specific indicators Annually : Produces annual TB report which is inclusive of all activities undertaken by the NTLP and districts in a particular year 	<ul style="list-style-type: none"> 31st January 30th April 31st July 31st October 	<ul style="list-style-type: none"> Quarterly Progress reports (QPR) NTLP Annual Reports Global and regional reports Sharing reports with other local stakeholders 	<ul style="list-style-type: none"> M & E Coordinator M & E officers Surveillance officers
District	<ul style="list-style-type: none"> Collates reports from different facilities within the district Provides mentorship and supervision to ensure reports are of required quality Reports to the National level 	<ul style="list-style-type: none"> Quarterly : Quarterly Progress Reports on activities undertaken (Contact tracing/screening) Quarterly Case Registration/Finding report Treatment outcomes report Report on presumptive TB cases Annually : A detailed report on activities undertaken throughout the year 	<ul style="list-style-type: none"> 10th January 10th April 10th July 10th October 	<ul style="list-style-type: none"> Quarterly Activity Report Quarterly Case finding report Quarterly Treatment outcomes reports Screening/contact tracing report Surveillance of DR-TB report 	<ul style="list-style-type: none"> TB Coordinator
Health Facility	<ul style="list-style-type: none"> Maintains patient level data (TB registers) Reports to the TB Coordinator Supervises reporting by Community Health Workers/DOTS Supporters 	<ul style="list-style-type: none"> Monthly : CHW reports, Case finding reports, treatment outcomes reports, contact tracing reports, screening reports 	<ul style="list-style-type: none"> 7nd January 7st April 7st July 7st October 	<ul style="list-style-type: none"> Case registration/finding report Treatment Outcomes report CHW performance appraisal reports Screening reports Surveillance of DR-TB report 	<ul style="list-style-type: none"> Health Centre Nurse-In-Charge TB Officer

eRegister – Patient Level Electronic System

Despite tremendous improvement in the completeness and the timeliness of TB care and treatment data reported through DHIS2, there is a significant discrepancy between program data and population survey data. While DHIS2 has streamlined the reporting system and tremendously improved completeness and timeliness of reports, the under-reporting emanating from multiple errors related to paper based documentation and manual data processing remained a challenge including: 1) inconsistent completion of multiple paper based tools (TB screening, Treatment cards, TB registers); 2) manual processing of data with redundant information (tallying, aggregation, summations and entry in to DHIS2); 3) inconsistent indicator definitions at sites; 4) use of various data sources and compilation method to report on same indicator 5) erratic referral management systems to track transfers-outs emanating from lack of unique client identification. To address these inherent challenges, MOH decided to adopt, develop and rollout simple open source client level electronic system for TB and HIV services.

Since April 2018, the MOH started a phased rollout of client-level electronic register (eRegister) on advanced open source Bahmni platform. This platform was selected for its capability to address MOH long term goal of establishing Electronic Medical Record (EMR) automate end-to end clinical processes for all Primary Health Care (PHC) services: from registration, consultations, laboratory, radiology, pharmacy and billing and flexibility to start small and expand scope as resources and capacity grow.

As an initial steps, MOH customized the platform as eRegister for HIV and tuberculosis programmes. The main goal of the eRegister HIV and TB eRegister is to digitalize longitudinal capturing of patient-level data including unique identification of patients enabling generation of high quality data for routine and operational reports. The pilot initially started across 6 sites was found to be successful as an advanced monitoring and evaluation tool addressing the challenges mentioned above by automating data management reporting through linkages established with the national DHIS2. The country has rolled-out implementation of eRegister across 45 sites in 2019 and aims to scale up the eRegister system in a phased approach to cover 178 public facilities providing TB and HIV care across 10 districts of Lesotho.

Integration with DHIS2 and eRegister

The Health Information Unit at the Ministry of Health is currently managing the roll-out of E-Register and the DHIS2, which collects all data from health facilities. The DHIS2 is use to aggregate data collection, validation, analysis, management and presentation, with its platform being web-based allowing analysis from live data. DHIS2 is being used to monitor disease surveillance, map disease outbreaks and improve health data access for health facilities and government organizations.

TB is one among the notifiable diseases and requires integration of TB related data into the National Health Information Systems. The health facilities reports directly on DHIS2 for submission to the Health Information Unit. The National TB M&E unit will also report the same TB data on Indicators in the M & E Framework. Robust electronic reporting to the national DHIS2 Data warehouse through the OpenMRS-DHIS2 interoperability link is being established currently across the 45 sites. It is important to ensure harmonization between TB R&R as reflecting in the National DHIS2 and eRegister to strengthen the flow of TB M&E information to the national policy makers.

7 DATA QUALITY ASSURANCE and SUPERVISION

The NTLP implemented a data quality assurance approach that examined the inconsistencies in reporting of case finding and treatment outcomes during the NSP 2013-2017. A formal system of data quality assurance in alignment with the set criteria for data quality assurance (DQA) is now proposed for implementation during NSP 2018-2022 and described in table 11.

The monitoring and evaluation unit within the NTLP/MOH will support the NTLP in the overall DQA activities. The following are quality assurance provisions:

- i. Prior to data collection and reporting: The design of data collection and reporting tools are critical determinants of data quality. To ensure that data that is collected and reported is precise, reliable and valid, the following will be done:
 - Periodically revise/develop data collection and reporting tools to ensure they align with further WHO normative guidance during NSP 2018-2022 (if any) and will capture data relevant to the indicators in this M&E Plan. Attention will be paid to variables in the tools so that data that is collected and reported can be disaggregated by age, sex, geographic area, HIV status and so on. As part of the development of this M&E plan, all data collection and reporting tools were reviewed and field mission findings revealed that R&R tools were revised in 2015 to align with the latest WHO definitions.
 - Train relevant staff in data collection, reporting and management responsibilities.
- ii. Post data reporting: Data quality audit using Global Fund Data Quality Assurance frameworks. This will be done to check that data received from implementing sites (primary data) and district offices (first level aggregation points) are accurately recorded and aggregated as documented in reports submitted to the NTLP. The National TB Programme will adopt the GF-RDQA methodology for DQA. The RDQA is implemented every 3 months by the NTLP M&E team. The audits would also highlight factors that promote or hinder accurate reporting so that appropriate action can be taken.
- iii. Routine supervision visits will be conducted at all levels of the system to support the accuracy and completeness of data reporting. Table 12 provides the scheduling for supervision across all levels.
 - From the NTLP Central Level (one medical officer, one M&E officer, one laboratory technician and one pharmacist) conducts supervisory visits covering **all 10 districts** in the country every year. The findings will be reported and disseminated to address the gaps.
 - Supervision by District TB Coordinator to cover all sub-district health facilities within the district and community level will be conducted routinely.
 - Supervision by sub-district level TB focal nurses in each health facility to cover all zones within the health facility reach every month
 - Sub-districts identified as TB hotspots on the basis of the available epidemiologic evidence are to be visited more frequently than those with lower TB burden.

Table 11. Implementation of Data Quality Assurance

Accuracy (validity)	<ul style="list-style-type: none"> All information of a TB case is recorded by the treating physician in a medical chart during and immediately after a patient's visit. The information of each case during a one week period will be entered by the data clerk/TB focal nurse (in each health facility) every Monday. Every facility will update the TB data on DHIS2 and generate their own report, which will be reviewed by a team, consisting of the clinician, the TB officer and the data clerk/TB focal nurse. Accuracy of the data entered will be validated in meetings. Periodical supervision by the TB Coordinator/Officer will also ensure accuracy of data. The National TB Program uses the GF-Routine Data Quality Assurance tool to verify data validity (quarterly basis)
Reliability	<ul style="list-style-type: none"> There are standard procedures for reporting and recording that will be followed by every individual who is responsible to register data. Also, data will be entered consistently every week.
Completeness	<ul style="list-style-type: none"> All relevant data needed for the TB program is included in the TB Patient registry. The TB Coordinator has to make sure that the patient information is complete.
Timeliness	<ul style="list-style-type: none"> With weekly data entry, timeliness will be ensured at each hospital. The DHIS2 can be automatically accessed by the NTLP manager, M&E team and the HIU of the Ministry of Health, who can merge data from each institution, and generate reports, so that late reporting can be avoided. Health centers that do follow-up treatment, have to report the treatment outcome quarterly (10 days after the end of each quarter).
Integrity	<ul style="list-style-type: none"> The data entered manually on the DHIS2, can only be changed or added by the assigned data clerk. Other staff with access to that information can only review and generate reports, but are not authorized to change or add data.

Table 12: Scheduling of supervisory visits

Level of staff	Category of supervisor	Frequency of visits	Coverage- Facilities to be visited	Patient visits	Supervisory form*
National or Central level	NTLP Manager Senior Strategic M&E advisor, M&E officers, Field M&E officers	Once every quarter	District hospitals, Laboratory, Drug store/Pharmacy unit, TB-HIV hub, At-least 1 sub-district health facility during the visit	2-3 patients during each visit	Use central supervisory checklist and GF-DQA formats
District level	TB coordinator	Ongoing supervision	Cover all sub-district health facilities in a quarter	2-3 patients during every field visit	Use district level supervisory form and GF-DQA formats
Sub-district /health facility level	TB focal nurse at facility level	Once every month	Cover all zones within the health facility in a quarter	Visit all TB patients in a quarter	Facility level supervisory checklist
Community level	Community Health Worker	Daily supervision for domiciliary treated patients	TB patients	-	-

*Supervisory protocol with the supervision forms are proposed for development by NTLP

8 EVALUATION, SURVEYS and SPECIAL STUDIES

Programme review and evaluation

The last programme external review (joint TB and HIV) was conducted in 2017 led by a team of International Consultants. A National Strategic Plan for 2018-2022 has been finalised in January 2019. The National TB M&E Plan will attempt to fulfil the M&E related recommendations from the reviews, and align with the NSP in monitoring progress being achieved in providing TB and TBHIV care services in Lesotho. Guidance from the reviews will facilitate current GF grant implementation, and any future proposals to be submitted to the Global fund.

An end term evaluation will be conducted in the first half of 2022 to assess progress made with implementation of the National Strategic Plan. The findings of the evaluation will be used to guide the revision and updating of the strategic plan as necessary that would provide direction for TB prevention and care efforts beyond 2022. A mixed methods approach would be adopted such that both quantitative and qualitative data would be collected and analysed. The data that has already been collected as outlined in this M&E Plan would form the main source of information for the evaluation. It is anticipated that additional data would be collected during mid-term evaluations. The end-term evaluation will examine all programme areas with evaluation criteria designed around relevance, effectiveness, efficiency and sustainability. Specific evaluation questions would be developed to provide information on the evaluation criteria.

TB surveillance system

An assessment of TB surveillance using Standards and benchmarks for TB surveillance and vital registration systems checklist was also conducted during the field mission. This assessment was aimed at understanding the national surveillance system's ability to accurately measure TB cases and deaths, while also identifying gaps in the surveillance systems to improve the TB surveillance during 2018-2022. The results of the surveillance are highlighted with in the respective sections of part A: characteristics of the TB surveillance system; part B (sec 1): checklist for TB surveillance and vital registration systems and, part B (sec 2): supplementary checklist for TB surveillance. It must also be highlighted that Vital Registration systems are not yet established and therefore the assessment focussed on surveillance systems.

Results including key actions required to address surveillance gaps have informed the M&E work plan and estimated budgets accordingly. Refer to Annex 2 for the results from the TB surveillance checklist.

Other special studies

TB Operational Research and Special Studies

TB operational research and special studies will be undertaken to inform the implementation and scaling up of programme strategies. Both quantitative and qualitative operational research will be conducted addressing identified priorities under the operations research agenda for TB care. The NTLP will lead the process of identifying and developing a national TB research agenda and strategy. This agenda will be reviewed every two years or earlier in response to emerging concerns. The Ministry of Health also has a research agenda in which programme specific research agendas are documented though the document is subject to review.

9 MONITORING and EVALUATION COORDINATION

Overall, in the context of Lesotho, the central M&E team are trained, equipped, and supported to provide M&E technical guidance to districts and health facilities for the purpose of facilitating continuous organizational learning and improvement toward desired health and health system outcomes. The coordinating functions of the ME team will consider the following to:

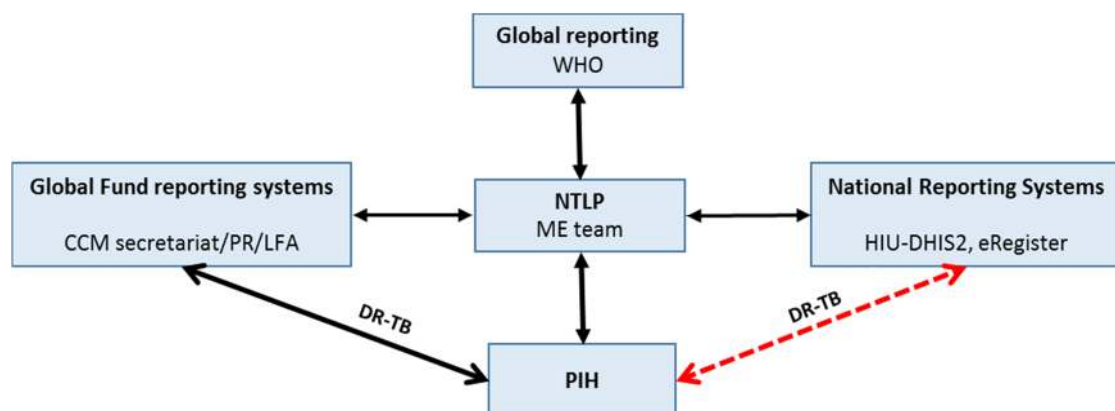
- i. Establish, maintain, and update M&E standards and frameworks;
- ii. Provide guidance on routine collection, analysis, and use of M&E data
- iii. Recruit, train, equip and support an M&E Resource Network
- iv. Provide advisory guidance and support to managers
- v. Develop and maintain a repository of M&E resources and tools
- vi. Ensure ongoing M&E capacity-building for key Ministry staff
- vii. Consult and advise internal and external partners on M&E
- viii. Routinely inform and advise Ministry leadership on M&E

In addressing the above M&E related coordinating responsibilities, the support from partner agencies (EGPAF/WHO/PIH/ICAP etc) along with the health information unit remains vital to ensure successful implementation of the NSP 2018-2022.

M&E structures under Global Fund Implementing Units: Sub-recipients

There is one (1) sub-recipient (PIH) under the Global Fund project management during the ongoing implementation period. M&E focal persons at SRs-PIH are identified to ensure data and information flow and feedback looking at strengthening established recording & reporting systems. The following diagram (Figure 7) illustrates the flow of information (and feedback) with regards to M&E. The linkage between PIH and national reporting on DHIS2 for DR-TB is non-existent currently (in red broken arrow). The reporting system for PIH to GF and NTLP varies and need for consistency is critical to ensure efficiency in recording and reporting of DR-TB in the country.

Figure 7: Sub-recipient M&E structures



Coordination and harmonization with National M&E Efforts and Structures

Since the M&E framework from both the NTLP and the HIU should be consistent in order to liaise, the indicators, data sources and frequency of reporting will be harmonized. The NTLP M&E Framework will be aligned to the HIU platforms as required.

M&E Partner Unit/ Organizations

1. **CCM (Country Coordinating Mechanism):** The CCM provides the oversight to the PR (MOF) and NTLP on behalf of the people of Lesotho and also reports directly to the Global Fund.
2. **Local Funding Agent (LFA):** The LFA commissioned by the Global Fund is PWC. The LFA reviews/verifies reports submitted to the Global Fund by the GMU.
3. **World Health Organisation and EGPAF/PEPFAR:** WHO and EGPAF/PEPFAR remain technical partners in M&E to the NTLP. The development and review of technical documents with the necessary support is on-going.

10 CAPACITY BUILDING

As part of development of this M&E plan, the consultant lead an M&E field mission in Lesotho to review the national M&E system. The M&E team at central level and health workers at district and facility level were also interviewed as part of the mission to identify the M&E strengths and weaknesses. The strengths and weaknesses were synthesized and integrated into a list of strengths and weakness for the entire system.

Strengths of M&E system

- NTLP has adequate technical expertise in setting up data management systems, including collecting, analysing data and periodically assessing data quality.
- Monitoring and evaluation role clearly defined among staff responsible
- Skills, capacities and commitment of the staff designated for M&E
- Experience in implementing and monitoring global funded project based interventions for TB care
- All partners are established organisations in the country and have existing M&E systems for their ongoing projects
- All partners will work in close coordination with NTLP and use the programme data for outcome analysis
- Reasonable communication facilities with internet and computers allowing DHIS2 functioning
- The Management Unit links with other data reporting systems (HIU) in the country

Opportunities for improving the NTLP M&E system

- OSDV and RDQA processes need to be formally introduced by the staff at central level; district level staff need to align and conduct data quality assessments maintaining central level standards for reviewing data quality
- Quality control mechanisms to be set up for when data from paper-based forms are entered into a computer (e.g., to address double entry, post-data entry verification).
- Challenges around inconsistencies in DR-TB reporting with dual reporting formats from SR (PIH) to NTLP and GF to be addressed on high priority.
- DHIS2 allows inbuilt processes for electronic data management from district and facility level, however mechanisms for convergence with eRegister need to be developed once full-out of eRegister is achieved
- The Management Unit has not identified training requirements (a training plan) that data-management staff must take in the reporting process. Health workers at facility level and project staff of SR (PIH) need training on data management
- Recording and reporting timelines need to be documented and guidelines to address missing/ incomplete/ delayed reports need to be incorporated

Action Steps. The outcome of the assessment process was a set of preliminary action steps to address weaknesses in the M&E system. These preliminary action steps are synthesized into an integrated set of M&E strengthening measures, and are presented to NTLP and HIU managers for their review and action below.

1. **Introduce and strengthening data quality:** Develop systematic processes to ‘follow-up’ with sub-reporting entities on data quality issues (data quality audit mechanisms). Develop protocols or guidelines for data quality to ensure data quality is also assured at district and facility levels.

2. **Standardizing and strengthening data management:** Development of data management protocol that will enable project to meet NTLP and GF reporting requirements (i.e., establishing reporting responsibilities and timelines across all levels). Development of SOPs and written back-up procedure related to data management to address late, incomplete or inaccurate reporting. Clear mechanisms need to be set-up to reduce errors in converting manual to electronic entries.
3. **Training plan and training related quality frameworks:** Development of a specific M&E training plan; implementation and reporting of M&E training to address NSP objectives. Ensure all M&E staff are sufficiently trained in data management, analysis and electronic R&R.
4. **Strengthen harmonization efforts with DHIS2 and eRegister:** To strengthen the flow of TB M&E information and ensure strategic use of M&E data for policy and management decision-making for overall programme planning and implementation.
5. **Improve the decision-making at district levels:** Good quality data generated from programme M&E will support management decision-making in program planning and implementation. Decision-making at district and facility level using M&E data available from both DHIS2 and eRegister needs to be strengthened. District level staff need to adapt to changing priorities so as to reprogramme based on quarterly analysis.
6. **Data dissemination plans:** need to be developed and implemented (e.g., data visualization including summary reports, newsletters, graphs and maps).
7. **Supervisory protocol:** need to be developed for supervision from central level, district level and facility level supervision.

11 INFORMATION PRODUCTS, DISSEMINATION and USE

This National TB M&E Plan emphasizes the need and importance of using results generated by the M&E system for decision making to strengthen the effectiveness of the implementation of programme interventions. In this section, strategies that have been identified to achieve this aim include: articulating the needs of potential users of TB data; selecting appropriate and user friendly formats to present the data to each group of potential users; and drawing up a dissemination schedule to distribute TB data linked to times when decisions are likely to be made.

The NTLP M&E unit will be primarily responsible for the dissemination of data to the National TB programme. The NTLP will organize biannual review meetings to discuss data on the national TB programme with service providers and key stakeholders supporting programme implementation. In addition, written reports will be prepared as explained in more detail below. The potential users of TB data is described below in Table 13.

Table 13 : Potential users of TB data

<p>Government Ministries and Departments</p> <ul style="list-style-type: none">○ Ministry of Health○ National Tuberculosis Programme○ National HIV/AIDS Control Programme○ Health Information Unit○ District Health Teams○ Health facility/Service Delivery Points generating data on TB indicators○ Other Ministries and Departments <p>International and National Civil Society Organizations (CSOs)</p> <ul style="list-style-type: none">○ Non- Government Organizations (NGOs)○ Community Based Organizations (CBOs)○ Faith Based Organizations (FBOs)○ Private sectors practitioners <p>Development Partners</p> <ul style="list-style-type: none">○ WHO○ Global Fund○ World Bank○ UNAIDS○ EGPAF/PEPFAR○ PIH○ Other UN Organizations○ Other Development Partners <p>Academia</p> <ul style="list-style-type: none">○ Research institutions○ Training institutions <p>Media</p> <ul style="list-style-type: none">○ Media associations <p>General public</p>

Information products

The information products in Table 14 below will be generated for dissemination to stakeholders. The information, as far as feasible, contain information/data analysed by age, gender, socio-economic parameters and geographical location to improve the monitoring of inequities in access to interventions.

Table 14: Information products

Type of Information product
Routine Programme Reports
Quarterly report
Data Quality Audit reports
Financial report
Annual TB Status Reports
Annual Progress report on TB
Special reports
Survey and study reports
Thematic reports / fact sheets and bulletins
Reports to External Partners
Quarterly and Annual WHO Global Report
Biannual GFATM PUDR
Annual GFATM Report

Routine programme reports

The NTLP will produce a Quarterly Report (QR) to report on routine data on the implementation of programme interventions articulated in the NSP. The purpose of the QR is to inform stakeholders about the type of TB services delivered and how well the NTLP had performed during the previous quarter in the delivery of these services. The data in the QR will assist TB stakeholders to identify gaps and make adjustments to improve the programme. Clinical and non-clinical programme monitoring data will be used for this report.

Every QR will contain data for core outcome and output indicators in the TB M&E framework. The operational planning of NSP will monitor the actual achievements for each indicator will be compared with the target set for the quarter in a tabular format. In the data tables, the indicator values for the quarter being reported on, as well as the annual indicator values for the previous year and for the year-to-date will be presented. The NTLP will provide a commentary to explain observed patterns and trends. The QR will be produced every quarter two months after the end of the quarter being reported.

A financial report shall be produced comparing planned and actual expenditure and relating these to the completion or otherwise of activities planned for the quarter. This analysis would enhance understanding of programme performance.

Annual TB Status reports

The NTLP will annually produce a national status report on progress made with the implementation of the NSP. The status report will provide a wide-ranging summary of progress made with the prevention and care of TB in Lesotho. The report will extract data from the data sources. The Annual TB Status Report will contain information on trends during the year on the impact, outcome, and relevant output indicators contained in the National TB M&E framework. An analysis will be provided of the scope of the interventions, challenges and emerging contextual issues, opportunities and strategic considerations to enhance the effectiveness of the preventing and controlling TB. The status report will identify programmatic milestones to be achieved during the following year. The report will be attractive and present information using a variety of approaches and formats that will appeal to the potential readers.

Survey and study reports

The findings of the operational studies, once they are analysed, will be made widely available to the general public using non-technical language. This will also include reporting of the prevalence survey planned for the first phase of NSP 2018-2022.

Thematic reports

The National Programme will aim to undertake periodic systematic reviews of selected thematic areas. The purpose is to emphasize challenges faced by the programme based on emerging issues derived from monitoring data. The format of the reports will vary and adopt several lay outs and attractive designs that will appeal to the general public such as fact sheets, flyers and bulletins.

Reports to external partners

The format and content of these reports will be guided by the nature of the request and based on prescribed format of the requesting donor or development partner. Currently the NTLP reports to the Global Fund, World Bank and WHO. The NTLP will extract data/information from the QR and adapt these to meet its reporting obligations to these bodies and to respond to other ad hoc requests.

Dissemination matrix

The dissemination matrix for sharing information on TB care with diverse stakeholders' activities in Lesotho is described in table 15 below.

Table 15: Dissemination matrix linking stakeholders to specific reports

Stakeholders	Type of report	Purpose	Format of dissemination	Frequency
Ministry of Health	<ul style="list-style-type: none"> • Routine programme reports • Annual TB status reports • Special reports 	<ul style="list-style-type: none"> • Guide TB policy development • Planning and priority setting • Monitor implementation of NSP • Determine coverage of TB interventions • Assessment of programme performance • Review and select alternative programme strategies and interventions • Improve targeting of interventions on specific population groups to maximize effectiveness and equity • Identify resource gaps 	Electronic and hard copy	Quarterly and annual
Service providers in public and private sectors at all levels	<ul style="list-style-type: none"> • Routine programme reports • Annual TB status reports • Special reports 	<ul style="list-style-type: none"> • Assessment of programme performance • Review and select alternative programme strategies and interventions • Improve targeting of interventions on specific population groups to maximize effectiveness and equity 	Electronic and hard copy	Quarterly and annual
Health Information Unit	<ul style="list-style-type: none"> • Annual TB status reports • Special reports 	<ul style="list-style-type: none"> • Analysis of trends in disease burden 	Electronic	Annual
Other Government Ministries and Departments	<ul style="list-style-type: none"> • Annual TB status reports • Special reports 	<ul style="list-style-type: none"> • Information sharing • Awareness of type of TB services provided at health facilities and in communities 	Electronic	Annual
WHO, Global fund, World Bank, EGPAF/PEPFAR, PIH, Other UN agencies	<ul style="list-style-type: none"> • Routine programme reports • Annual TB status reports • Special reports • WHO Global Report 	<ul style="list-style-type: none"> • Determine coverage of TB interventions • Assessment of programme performance • Identifying technical support, human and institutional capacity needs for effective TB programming • Resource mobilization 	Electronic	Quarterly and annual
Academia	<ul style="list-style-type: none"> • Annual TB status report • Special reports 	<ul style="list-style-type: none"> • Analysis of trends in disease burden • Identification of training needs • Assessment of programme performance 	Electronic	Annual
Media	<ul style="list-style-type: none"> • Annual progress report on TB • Fact sheets 	<ul style="list-style-type: none"> • Dissemination of key programme achievements and outstanding challenges in non-technical language 	Electronic	Annual
General public	<ul style="list-style-type: none"> • Annual progress report on TB • Fact sheets 	<ul style="list-style-type: none"> • Information sharing • Awareness of type of TB services provided at health facilities and in communities • Assist in making personal behavioral decisions about TB 	Distribution of hard copies in public libraries, health facilities	Annually

12 MONITORING & EVALUATION WORK-PLAN and BUDGET

NTLP have proposed the following M&E activities for NSP 2018-2022. M&E budget proposed to support implementation of M&E activities during the period is : **US\$ 682,943** (funded US\$ 265,922; unfunded – US\$ 417, 021)

Table 16: M&E Work-plan activities

	Activity Description	Expected outcomes/remarks
1	NTLP review meetings - National level biannual meeting of 10 districts to review TB care activities	At least 2 meetings held per annum. Stakeholders perspectives on challenges and achievements sourced and operational action plans drawn
2	Capacity building of 2 senior M&E staff working at the central level to attend WHO regional M&E surveillance/M&E workshops or trainings - covering data analysis & use, recording and reporting, data management and M&E topics	2 M&E officers trained in TB surveillance/data analysis/use/reporting and recording
3	Develop M&E supervisory protocol to be used at central, district and facility level, Data Quality protocol, data management protocol, data use and visualization plan	Protocol developed, printed and disseminated to districts
4	Conduct district level M&E meetings - biannual review of progress in TB care services	2 meetings held in each district every year
5	Operations/implementation research - conducting OR addressing program research priorities	At least five operational studies completed and their results incorporated in a program improvement initiative
6	Printing of R&R tools, annual reports	220 TB registers, 220 presumptive reports and reporting books printed
7	Develop data visualization and reports to promote data use at district and facility level	Data visualizations printed and improved data use at all levels
8	Roll-out of E-register (case based management system) across the country	All patient TB data captured in the e-register in real-time
9	Communication and data costs-Central M&E team	Improved communication, reporting
10	Engage and remunerate 83 data clerks	GF supported activity- Timely reporting and completeness of recording tools
11	Engage M&E officer to support grant implementation	GF supported activity-strengthening analysis, review and transparency
12	Procure Data for 102 Tablets used for DHIS2	GF supported activity-strengthening analysis, review and transparency
13	Support Post Graduate Diploma in Monitoring & Evaluation	Capacity of staff improved and improved M&E system
14	Conduct Quarterly Facility Routine Data Quality Assessment each year)	Improved data quality for the TB programme
15	Intensive mentoring on DHIS2	GF supported activity- Improved reporting (timeliness and completeness)
16	Training of 13 HMIS Officers on Data Analysis	GF supported activity - Capacity of district HMIS officers improved and data use at district and sub-district levels improved
17	TB Prevalence Survey	GF, SATHSS, MOH supported activity
18	TB inventory assessments	

Other M&E activities that are integrated in to the NSP annual operational plans may include:

- NTLP conducts meeting jointly with HIU to create linkages between vital registration system and TB surveillance system.
- NTLP organizes meetings with MCH/paediatric department to strengthen recording and reporting systems for childhood TB

Annex 1 Indicator definitions and measurement

The vision of the End TB Strategy is “a world free of TB”; also expressed as “zero deaths, disease and suffering due to TB”. The NTLP Monitoring & Evaluation Plan (2018-2022) is in alignment with the TB National Strategic Plan for the same period. This document reflects the End TB Global Strategy and considers the indicators in discussion for adoption during NSP period 2018-2022.

End TB Strategy Top 10 priority indicators³

	Indicator	Recommended target level	Main rationale for inclusion in top-ten
1	TB treatment coverage <i>Number of new and relapse cases that were notified and treated, divided by the estimated number of incident TB cases in the same year, expressed as a percentage.</i>	≥90%	High-quality TB care is essential to prevent suffering and death from TB and to cut transmission. High coverage of appropriate treatment is a fundamental requirement for achieving the milestones and targets of the End TB Strategy. In combination, these 2 indicators will be used as tracer indicators for monitoring progress towards universal health coverage (UHC) within the Sustainable Development Goals (SDGs).
2	TB treatment success rate <i>Percentage of notified TB patients who were successfully treated. The target is for drug-susceptible and drug-resistant TB combined, although outcomes should also be reported separately.</i>	≥90%	
3	Percentage of TB-affected households that experience catastrophic costs due to TB** <i>Number of people treated for TB (and their households) who incur catastrophic costs (direct and indirect combined), divided by the total number of people treated for TB.</i>	0%	One of the End TB Strategy’s three high-level indicators; a key marker of financial risk protection (one of the two key elements of UHC) and social protection for TB-affected households.
4	Percentage of new and relapse TB patients tested using WHO-recommended rapid tests at the time of diagnosis <i>Number of new and relapse TB patients diagnosed with WHO-recommended rapid tests, divided by the total number of new and relapse TB patients.</i>	≥90%	Accurate diagnosis is a fundamental component of TB care. Rapid molecular diagnostic tests help to ensure early detection and prompt treatment.
5	LTBI treatment coverage <i>Number of people living with HIV newly enrolled in HIV care and the number of children who are contacts of cases started on LTBI treatment, divided by the number eligible for treatment, expressed as a percentage (separately for each of the two groups).</i>	≥90%	LTBI is the main treatment intervention available to prevent development of active TB disease in those already infected with <i>M. tuberculosis</i> .
6	Contact investigation coverage <i>Number of contacts of people with bacteriologically-confirmed TB cases who were evaluated for TB divided by the number eligible, expressed as a percentage.</i>	≥90%	Contact tracing is a key component of TB prevention, especially in children.
7	DST coverage for TB patients <i>Number of TB patients with DST results for at least rifampicin divided by the total number of notified (new and retreatment) in the same year, expressed as a percentage. DST coverage includes results from molecular (e.g. Xpert</i>	100%	Testing for drug susceptibility for WHO recommended drugs is essential to provide the right treatment for every person diagnosed with TB.

³ End-TB strategy top-10 priority indicators (not ranked)

	<i>MTB/RIF) as well as conventional phenotypic DST results.</i>		
8	Treatment coverage, new TB drugs <i>Number of TB patients treated with regimens that include new (endorsed after 2010) TB drugs, divided by the number of notified patients eligible for treatment with new TB drugs , expressed as a percentage.</i>	≥90%	<i>The definition of which patients are eligible patients for treatment with new drugs may differ among countries.</i>
9	Documentation of HIV status among TB patients <i>Number of new and relapse TB patients with documented HIV status divided by the number of new and relapse TB patients notified in the same year, expressed as a percentage.</i>	100%	Documentation of HIV status is essential to provide the best care for HIV-positive TB patients, including ART.
10	Case fatality ratio (CFR) <i>Number of TB deaths (from a national VR system) divided by estimated number of incident cases in the same years, expressed as a percentage.</i>	≤5%	This is a key indicator for monitoring progress towards 2020 and 2025 milestones. A CFR of 6% is required to achieve the 2025 global milestone for reductions in TB deaths and cases.

The list of following core indicators proposed below are in alignment with the M&E framework (ref Table 3).

Indicator	TB Incidence Rate (per 100,000 population)
Unique Identifier	TB.IMP.1
Link to M&E Plan	Indicator Number 1
Background	Overall, this indicator will be assessed end of Year 5.
Rationale/Purpose	Estimates of incidence provided by WHO every year. The estimated incidence of TB in the country is reported in the WHO annual global and regional TB reports. However a prevalence survey is planned in Lesotho during 2018-2019/20. TB Incidence will be reassessed when the results from the national prevalence survey become available. To measure the impact of the interventions implemented by the National TB programme
Main Implementer	National TB Programme
Numerator	Number of people diagnosed as having TB in one year
Denominator	The value of this indicator is to be expanded by a factor of 100,000 population.
Baseline (Source and value)	665/100,000 (2017)
Target (including time period)	By specific population: 2018-600; 2019-535; 2020-475; 2021-420 and 2022-370
Data Source/Collecting Agent	WHO yearly data estimates
Measurement Tool	WHO yearly data estimates
Method of measurement	Source: WHO Report, Global TB Report
Frequency of Reporting	Annually
Sources & Process of Verification	Source: WHO Report

Indicator	TB Mortality Rate (per 100,000 population)
Unique Identifier	TB. IMP.2
Link to M&E Plan	Indicator Number 2
Background	The goal is to halve mortality rate in 2017 compared to 100/100,000. TB Mortality will be measured using the Vital Registration System. Unclear linkages between VR and TB R&R in Lesotho.
Rationale/Purpose	To measure the impact of the interventions implemented by the NTLP
Main Implementer	National TB Programme
Numerator	Number of deaths due to TB (all forms) per year per 100,000 population
Denominator	The population size during a specific year
Disaggregation	By specific population; socio-demographic characteristics (gender, age group, socioeconomic, if available)
Baseline (Source and value)	206/100,000 (2017)
Target (including time period)	2018-185; 2019-185; 2019-162; 2020-140, 2021-120 and 2022-100
Cumulative	Value: 3 (2-4) x100,000 population
Data Source/Collecting Agent	Vital Registration System forms and tables
Measurement Tool	Review of Vital Registration System forms and tables
Method of measurement	Source: VR system, NTLP data and WHO estimates
Frequency of Reporting	Annually
Sources & Process of Verification	Vital Registration System forms and tables

Indicator	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 (all form of TB - bacteriologically confirmed plus clinically diagnosed)
Unique Identifier	TB.OC.1
Link to M&E Plan	Indicator Number 1.1
Background	End-TB priority indicator. High-quality TB care is essential to prevent suffering and death from TB and to cut transmission. High coverage of appropriate treatment is a fundamental requirement for achieving the milestones and targets of the NSP 2018-2022.
Rationale/Purpose	To measure the success of the case finding programme
Main Implementer	National TB Programme
Numerator	Number of TB cases (all forms) registered and notified
Denominator	Estimated number of incident TB cases in the same year
Disaggregation	None
Baseline (Source and value)	Value: 46% (2017)
Target (including time period)	2018 – 53%; 2019 – 58%; 2020 – 65%; 2021 – 73%; 2022 – ≥90%;
Collecting Agent	Not cumulative
Measurement Tool	NTLP recording and reporting systems and WHO yearly data estimates
Method of measurement	TB Register - data entered in DHIS2 and WHO yearly data estimates

Frequency of Reporting	Annually
Sources & Process of Verification	Source of data – TB Register and WHO reports

Indicator	Notification rate of all forms of TB cases: Number of TB cases (all forms) registered and notified per year per 100,000 population.
Unique Identifier	TB.OC.2
Link to M&E Plan	Indicator Number 1.2
Background	As a result of the expansion of DOTS, improving diagnosis with GeneXpert and active case finding across 10 districts of Lesotho - the value of this indicator is expected to increase and then gradually decrease as more cases are diagnosed and treated successfully.
Rationale/Purpose	To measure the success of the case finding programme
Main Implementer	National TB Programme
Numerator	Number of TB cases (all forms) registered and notified
Denominator	Population of Lesotho at a specific point in time
Disaggregation	None
Baseline (Source and value)	Value: 335/100,000 (2017)
Target (including time period)	2018 – 339/100,000; 2019 – 351/100,000; 2020 – 426/100,000; 2021 – 438/100,000; 2022 – 406/100,000;
Collecting Agent	Not cumulative
Measurement Tool	NTLP recording and reporting systems
Method of measurement	TB Register - data entered in DHIS2
Frequency of Reporting	Annually
Sources & Process of Verification	The NTLP analyses information from TB centers on quarterly basis. Source of data – TB Register

Indicator	Notification rate of bacteriologically confirmed: new and relapse cases (disaggregated by age <15, 15+ and sex) per 100,000 population
Unique Identifier	TB. OC. 3
Link to M&E Plan	Indicator Number 1.3
Background	B+ cases are entered into the TB register at the district hospitals and health facilities. The M&E team analyse collated data on DHIS2. This M&E framework uses DHIS2, and when full roll-out is achieved, eRegister.
Rationale/Purpose	Direct measure of the program capacity to identify infectious cases.
Main Implementer	National TB Programme
Numerator	Number of B+ TB cases notified in the past year (x 100,000)
Denominator	Population of Lesotho at a specific point in time
Disaggregation	None
Baseline (Source and value)	Value: 183/100,000 (2017)
Target (including time period)	2018 – 193/100,000; 2019 – 200/100,000; 2020 – 243/100,000; 2021 – 250/100,000; 2022 – 231/100,000;
Cumulative	Not cumulative
Collecting Agent	NTLP
Measurement Tool	NTLP recording and reporting systems

Method of measurement	TB Register - data entered in DHIS2
Frequency of Reporting	Annually
Sources & Process of Verification	The NTLP analyses information from TB centers on quarterly basis. Source of data – TB Register

Indicator	Treatment success rate, all forms TB cases: Percentage of all forms TB cases (bacteriologically confirmed and clinically diagnosed) successfully treated (cured plus treatment completed) (disaggregated by age <15, 15+ and sex) per 100,000 population
Unique Identifier	TB.OC.5
Link to M&E Plan	Indicator Number 1.5
Background	The Treatment success rate should reflect the impact of TB care implementation in the country. Based on treatment outcomes, their status is updated in the TB register as follows: Cu for cured Co for Completed D: Died LTF: Lost to follow-up FS: if the patient has failed treatment but is not MDR or RR-TB FR: If the patient fails treatment and is resistant to either rifampicin or both rifampicin and isoniazid
Rationale/Purpose	Evaluation of successful treatment outcomes of all forms TB cases to determine the quality and effectiveness of TB care implementation at all levels. This data is entered into the TB patient's register. Currently, the NTLP analyses this information on a quarterly basis.
Main Implementer	National TB Programme
Numerator	Total number of all forms (B+ and clinically diagnosed) TB patients successfully treated during a one-year period (this includes those "cured" plus "treatment completed")
Denominator	Total number of all forms (B+ and clinically diagnosed) TB patients registered for treatment during the same one-year period
Disaggregation	None
Baseline (Source and value)	Value: 74% Source: National TB Program Recording & Reporting System, Annual report, NTLP, 2017
Target (including time period)	2018 – 78%; 2019 – 82%; 2020 –86%; 2021 – 89%; 2022 – ≥90%;
Cumulative	No
Collecting Agent	NTLP
Measurement Tool	TB Register, Laboratory Register & Patient Charts
Method of measurement	Using cohort of same period in the last year and follow- through patient records through TB register verified against Patient records & laboratory register if necessary
Frequency of Reporting	Quarterly
Sources & Process of Verification	Using cohort of same period in the last year and follow- through patient records through TB register verified against Patient records & laboratory register
Indicator	Treatment success rate, bacteriologically confirmed TB cases: Percentage of bacteriologically confirmed new and relapse TB cases

	successfully treated (cured plus treatment completed) (disaggregated by age <15, 15+ and sex) per 100,000 population
Unique Identifier	TB.OC.6
Link to M&E Plan	Indicator Number 5
Background	The Treatment success rate should reflect the impact of TB care implementation in the country. Based on treatment outcomes, their status is updated in the TB register as follows: Cu for cured Co for Completed D: Died LTF: Lost to follow-up FS: if the patient has failed treatment but is not MDR or RR-TB FR: If the patient fails treatment and is resistant to either rifampicin or both rifampicin and isoniazid
Rationale/Purpose	Evaluation of successful treatment outcomes of new B+ pulmonary TB cases to determine the quality and effectiveness of TB care implementation at all levels. This data is entered into the TB patient's register. Currently, the NTLP analyses this information on a quarterly basis.
Main Implementer	National TB Programme
Numerator	Total number of bacteriologically confirmed TB patients successfully treated during a one-year period (this includes those "cured" plus "treatment completed")
Denominator	Total number of bacteriologically confirmed TB patients registered for treatment during the same one-year period
Disaggregation	None
Baseline (Source and value)	Value: 76% Source: National TB Program Recording & Reporting System, Annual report, NTLP, 2017
Target (including time period)	2018 – 80%; 2019 – 84%; 2020 – 88%; 2021 – ≥90%; 2022 – ≥90%;
Cumulative	No
Collecting Agent	NTLP
Measurement Tool	TB Register, Laboratory Register & Patient Charts
Method of measurement	Using cohort of same period in the last year and follow- through patient records through TB register verified against Patient records & laboratory register if necessary
Frequency of Reporting	Quarterly
Sources & Process of Verification	Using cohort of same period in the last year and follow- through patient records through TB register verified against Patient records & laboratory register

Indicator	Treatment success rate, RR-TB and MDR-TB TB cases successfully treated (cured plus treatment completed) (disaggregated by age <15, 15+ and sex) per 100,000 population
Unique Identifier	TB.OC.7
Link to M&E Plan	Indicator Number 1.7
Background	The Treatment success rate should reflect the impact of TB care implementation in the country. Based on treatment outcomes, their status is updated in the TB register as follows: Cu for cured Co for Completed D: Died LTF: Lost to follow-up FS: if the patient has failed treatment due to lack of conversion, ADR etc NE- not evaluated
Rationale/Purpose	Evaluation of successful treatment outcomes of RR-TB and MDR-TB TB cases to determine the quality and effectiveness of DR-TB care implementation. This data is entered into the DR-TB patient's register. Currently, the NTLP analyses this information on a quarterly basis.
Main Implementer	PIH and National TB Programme
Numerator	Total number of RR-TB and MDR-TB patients successfully treated during prescribed timelines (this includes those "cured" plus "treatment completed")
Denominator	Total number of RR-TB and MDR-TB patients registered for treatment during the same period
Disaggregation	None
Baseline (Source and value)	Value: 64% Source: National TB Program Recording & Reporting System, Annual report, NTLP, 2017
Target (including time period)	2018 – 65%; 2019 – 68%; 2020 – 70%; 2021 – 74%; 2022 – ≥90%;
Cumulative	No
Collecting Agent	NTLP
Measurement Tool	DR-TB Register, Laboratory Register & Patient Charts
Method of measurement	Using cohort of same period in the last year and follow- through patient records through DR-TB register verified against Patient records & laboratory register if necessary
Frequency of Reporting	Quarterly
Sources & Process of Verification	Using cohort of same period in the last year and follow- through patient records through DR-TB register verified against Patient records & laboratory register

Annex 2: Standards and benchmarks for TB surveillance and vital registration systems: The Checklist

PART A: CHARACTERISTICS OF THE TB SURVEILLANCE SYSTEM

Before completing the checklist, it is important to characterize the national TB surveillance system. Please provide answers to the following questions.

COUNTRY NAME: Lesotho

DATE OF ASSESSMENT: 28 Jan – 8 Feb 2019

QUESTIONS	OUTCOMES (Best practises are in bold)	KEY ACTION(S) REQUIRED TO ADDRESS THE GAPS	ESTIMATED BUDGET REQUIREMENTS TO ADDRESS KEY ACTION(S)
A1. How are data recorded for individual TB cases at the service delivery level, e.g. in TB diagnostic units, health centres, clinics? <i>(Tick all that apply)</i>	<input checked="" type="checkbox"/> Data are recorded electronically on a national internet based system (10/10 districts recorded through TB DHIS2 since 2015) E-register is piloted for TB and HIV across 45 sites in the country– patient case based management systems) <input type="checkbox"/> Data are recorded electronically on a state/provincial/regional internet-based system <input type="checkbox"/> Data are recorded electronically on a local system <input checked="" type="checkbox"/> Data are recorded on paper (all districts) <input type="checkbox"/> Data are not recorded	<p>Key comments:</p> <ul style="list-style-type: none"> Existing R&R updated with revised WHO R&R in the TB-DHIS2 during 2015 (data clerks in facility level, information officers at district level) <p>Key actions:</p> <ul style="list-style-type: none"> Intensify supportive supervision of district staff in strengthening and supporting implementation of TB-DHIS2 Strengthen harmonization efforts between TB-DHIS2 and eRegister when country wide roll-out is completed 	Routine district monitoring covered in work plan and budget (activity 4)
A2. Do all service delivery points systematically use standardised TB data collection forms and tools?	<input checked="" type="checkbox"/> Yes, completely <input type="checkbox"/> Mostly <input type="checkbox"/> Partially <input type="checkbox"/> No, not at all	<p>Key actions:</p> <ul style="list-style-type: none"> Ensure utilization of updated TB collection and data tools based on revised WHO R&R (tools not completely accessed country wide due to dissemination issues) 	N/A
A3. Which TB cases are included in the national TB surveillance data? <i>(Tick all that apply and describe):</i>	<input type="checkbox"/> All TB cases from all parts of the country <input checked="" type="checkbox"/> Some TB cases are excluded <input type="checkbox"/> Some part(s) of the country are excluded <input type="checkbox"/> Some case types are excluded <input type="checkbox"/> Some care providers, e.g. non-NTLP providers, prisons, private practitioners, are excluded. <input type="checkbox"/> Others: _____ Describe: _____	<p>Key comments:</p> <ul style="list-style-type: none"> Loss in recording and reporting cases that are diagnosed at hospitals but referred back to facilities 	Routine district monitoring covered in work plan and budget (activity 4)

<p>A4. What types of TB data are available at the national level? <i>(Tick all that apply)</i></p>	<p><input type="checkbox"/> Patient level data that allow multiple episodes of TB in the same person to be identified are available</p> <p><input type="checkbox"/> Case level data are available for all of the country</p> <p><input type="checkbox"/> Case level data are available for parts of the country</p> <p><input checked="" type="checkbox"/> Aggregated data are available, i.e. summaries for groups of cases.</p>	<ul style="list-style-type: none"> ● Aggregated information at the national level 	<p>N/A</p>
<p>A5. What is the expected frequency of data transmission from the first sub-national administrative level to the national level? <i>(Tick all that apply)</i></p>	<p><input type="checkbox"/> Real-time</p> <p><input type="checkbox"/> More often than monthly</p> <p><input type="checkbox"/> Monthly</p> <p><input checked="" type="checkbox"/> Quarterly</p> <p><input type="checkbox"/> Less often than quarterly</p>	<ul style="list-style-type: none"> ● Entries in DHIS2 ongoing, but reporting and analysis conducted quarterly 	<p>N/A</p>
<p>A6. At what levels of the system are TB data systematically verified for accuracy, timeliness and completeness? <i>(Tick all that apply)</i></p>	<p><input type="checkbox"/> From the service unit upwards</p> <p><input checked="" type="checkbox"/> From the 1st administrative level upwards</p> <p><input type="checkbox"/> From the 2nd administrative level upwards</p> <p><input type="checkbox"/> Only at the national level</p> <p><input type="checkbox"/> Not at any level</p>	<ul style="list-style-type: none"> ● DQA at facility level with informal feedback mechanisms both to health facility and district level exists, but formal DQA mechanisms to be adopted 	<p>Work plan activity 3 and 14</p>
<p>A7. What types of quality assurance procedures are systematically undertaken for TB data? <i>(Tick all that apply)</i></p>	<p><input type="checkbox"/> Quality controls are in place for the electronic surveillance system (automated checks at data entry and batch checking, plus SOPs)</p> <p><input type="checkbox"/> Data are reviewed during supervisory monitoring visits to service units and sub-national levels (How often? _____)</p> <p><input checked="" type="checkbox"/> Data are reviewed during meetings with TB staff (How often? Quarterly)</p> <p><input type="checkbox"/> Other (specify: _____)</p>	<ul style="list-style-type: none"> ● Strengthen Onsite data verification (OSDV) and introduce DQA for quality assurance and SOPs to strengthen electronic surveillance system 	<p>Work plan activity 14</p>
<p>A8. Is feedback on TB data quality systematically provided to all lower reporting levels?</p>	<p><input type="checkbox"/> Yes, completely</p> <p><input type="checkbox"/> Mostly</p> <p><input checked="" type="checkbox"/> Partially (to districts)</p> <p><input type="checkbox"/> No, not at all</p>	<ul style="list-style-type: none"> ● NTLP to provide feedback on TB performance to districts on a quarterly basis – DQA feedback is based on scoring during visits – and no formal DQA reports currently 	<p>Work plan activity 14</p>

A9. When are national TB case data for a given calendar year considered ready for national analyses and reporting?	<input checked="" type="checkbox"/> Before April the following calendar year <input type="checkbox"/> Before May the following calendar year <input type="checkbox"/> Before June the following calendar year <input type="checkbox"/> On or after beginning of June the following calendar year		N/A
A10. Are there national guidelines for recording and reporting of TB data e.g. documentation or instructions? <i>(Tick all that apply)</i>	<input type="checkbox"/> Yes. They are posted on the internet. <input checked="" type="checkbox"/> Yes. They are available in a manual or other reference document, e.g. training materials <input type="checkbox"/> No	<ul style="list-style-type: none"> ● TB treatment guidelines to be updated; in hard copy and not posted on the internet 	N/A
A11. Does the national TB programme have a training plan which includes staff involved in data collection and reporting at all levels of the reporting process?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Key comments: <ul style="list-style-type: none"> ● Data management training to TB coordinators and TB officers (hospitals) and information officers trained in Nov 2017 (after 2014). M&E team considers training every 2 years required. ● Data clerks at facility level are trained by district TB coordinators ● Biannual meetings – used as an opportunity to train ● WHO Regional Training on TB data analysis in 2016 – for M&E officers ● Several DHIS2 trainings in country – conducted by ICAP 	<ul style="list-style-type: none"> ● Identify capacity building initiatives for M&E staff – regional and national level – based on field mission interactions, <ul style="list-style-type: none"> ○ Capacity building of senior M&E staff working at central level to attend WHO regional surveillance workshops or M&E trainings (4 trainings during NSP 2019-2022) ○ Cascade training of TB coordinators during biannual NTLT meetings at central level by senior M&E staff 	Work plan activity 2
A12. How often do TB programme staff receive training specifically on TB surveillance, i.e. recoding and reporting of TB data? <i>(Tick all that apply)</i>	<input checked="" type="checkbox"/> Training is routinely received at national and sub-national levels (How often? Annual) <input type="checkbox"/> Training is received on an ad hoc basis <input type="checkbox"/> Staff receive training when they are hired <input type="checkbox"/> No routine training is received	As above	As above

<p>A13. How many staff work on TB surveillance at the national level? <i>(Tick all that apply)</i></p>	<p><input type="checkbox"/> Epidemiologist- full-time (# _____) <input type="checkbox"/> Epidemiologist- part-time (# _____) <input type="checkbox"/> Statistician- full-time (# _____) <input type="checkbox"/> Statistician- part-time (# _____) <input type="checkbox"/> Data manager- full-time (# _____) <input type="checkbox"/> Data manager- part-time (# _____) <input type="checkbox"/> Data quality officers-full time (# _____) <input type="checkbox"/> Data quality officers-part time (# _____) <input checked="" type="checkbox"/> Other (specify: M&E officer and data entry staff)</p>	<p>Key comments: 2 Field M&E officers 2 M&E officers working since 12-13 years with background in computer science and trainings on TB M&E</p> <p>Actions: Trainings as proposed under A11</p>	<p>N/A</p>
<p>A14. Is a national TB surveillance report routinely produced and disseminated on an annual basis?</p>	<p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>	<p>Key comments:</p> <ul style="list-style-type: none"> • NTLP develops annual TB reports also seen as surveillance reports • Epi-reviews done every 2 years 	<p>N/A</p>
<p>A15. Are there written goals of the surveillance system?</p>	<p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>		
<p>A16. Policies and procedures are in place to protect the confidentiality of all surveillance data e.g. records, registers.</p>	<p><input type="checkbox"/> Yes, completely <input checked="" type="checkbox"/> Mostly <input type="checkbox"/> Partially <input type="checkbox"/> No, not at all</p>	<p>Actions:</p> <ul style="list-style-type: none"> • Ensure policies and procedures are in place to protect confidentiality of surveillance data at regional/districts levels (ongoing) • Relevant when eRegister - case based management information systems is rolled-out country wide 	
<p>A17. Is there a long term financial plan and budget in place to support TB surveillance activities?</p>	<p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>	<ul style="list-style-type: none"> • No long term financial and budget plan to support TB surveillance activities 	
<p>A18. When was the last time the TB surveillance system was evaluated?</p>	<p><input checked="" type="checkbox"/> Within the last 5 years (epidemiological surveillance analysis conducted) <input type="checkbox"/> Within the last 5-10 years <input type="checkbox"/> Never</p>	<ul style="list-style-type: none"> • Epi-review done in 2017 and 2015 	

ADDITIONAL NOTES: _____

PART B (Section 1): CHECKLIST FOR TB SURVEILLANCE AND VITAL REGISTRATION SYSTEMS

For each standard, please assess whether the system is able to satisfy the associated benchmark(s), using the methods recommended in the user guide. Indicate 'Met', 'Partially met', "Not met" or 'Not applicable' in the results column. Describe the key results, any actions recommended to improve the quality of the system and the estimated budget to address these actions in the last two columns.

STANDARD	BENCHMARK(S)	RESULTS (See the User Guide for interpretation)	RESULTS (DESCRIPTION) INCLUDING KEY ACTION(S) REQUIRED TO ADDRESS THE GAPS	ESTIMATED BUDGET REQUIREMENTS TO ADDRESS KEY ACTION(S)
TB SURVEILLANCE SYSTEM DATA QUALITY				
B1.1 Case definitions are consistent with WHO guidelines	<p>All three benchmarks should be satisfied to meet this standard:</p> <ul style="list-style-type: none"> Laboratory-confirmed casesⁱ are distinguished from clinically diagnosed cases New cases are distinguished from previously treated cases Pulmonary cases are distinguished from extrapulmonary cases 	<input type="checkbox"/> Met <input checked="" type="checkbox"/> Partially met <input type="checkbox"/> Not met	<p>Key comments:</p> <ul style="list-style-type: none"> Case definitions are updated based on revised WHO R&R guidelines in 2014; 2017 changes to new reporting requirements based on donor funding and not technical guidelines 	
B1.2 TB surveillance system is designed to capture a minimum set of variables for all reported TB cases	<p>Data are routinely collected for at least each of the following variables for all TB cases:</p> <ul style="list-style-type: none"> Age or age group Sex Year of registration Bacteriological results History of previous treatment Anatomical site of disease For case-based systems, a patient identifier, e.g. numeric ID. 	<input checked="" type="checkbox"/> Met <input type="checkbox"/> Partially met <input type="checkbox"/> Not met		

<p>B1.3 All scheduled periodic data submissions, e.g. electronic data files or quarterly paper reports, have been received and processed at the national level</p>	<ul style="list-style-type: none"> • <i>For paper-based systems:</i> 100% of expected reports from each TB basic management unit have been received and data aggregated at national level • <i>For national patient-based or case-based electronic systems that import data files from sub-national. e.g. provincial or regional, electronic systems:</i> 100% of expected data files have been imported 	<input type="checkbox"/> Met <input checked="" type="checkbox"/> Partially met <input type="checkbox"/> Not met <input type="checkbox"/> Not applicable	<ul style="list-style-type: none"> • Electronic reporting and processes at the national level and from district level to national level through DHIS2 • Case based electronic systems being piloted currently across 45 sites – planned expansion to country level 	<p>Work plan activity 8</p>
--------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------

STANDARD	BENCHMARK(S)	RESULTS (See the User Guide for interpretation)	RESULTS (DESCRIPTION) INCLUDING KEY ACTION(S) REQUIRED TO ADDRESS THE GAPS	ESTIMATED BUDGET REQUIREMENTS TO ADDRESS KEY ACTION(S)
<p>B1.4 Data in quarterly reports (or equivalent) are accurate, complete, and internally consistent (<i>For paper-based systems only</i>)</p>	<p>All benchmarks should be satisfied to meet this standard:</p> <ul style="list-style-type: none"> • Sub-totals of the number of TB cases by age group, sex, and case type equals the total number of reported TB cases in $\geq 95\%$ of quarterly reports (or equivalent) from basic management units. • The number of TB cases in $\geq 95\%$ of quarterly reports (or equivalent) matches the number of cases recorded in TB basic management unit registers and source documents (patient treatment cards and laboratory register) • Data for a minimum set of variables are available for $\geq 95\%$ of the total number of reported TB cases in BMU TB registers 	<input type="checkbox"/> Met <input checked="" type="checkbox"/> Partially met <input type="checkbox"/> Not met <input type="checkbox"/> Not applicable	<p>Key comments:</p> <ul style="list-style-type: none"> • New R&R tools in place since Jan 2018 – full roll-out of DHIS2 in 2015 and TB module implementation in 2016. • Strengthen timeliness of report submission and accuracy of case-finding and treatment outcomes 	

<p>B1.5 Data in national database are accurate, complete, internally consistent, and free of duplicates (For electronic casebased or patientbased systems only)</p>	<p>All benchmarks should be met to reach this standard:</p> <ul style="list-style-type: none"> Data validation checks are in place at national level to identify and correct invalid, inconsistent, and missing data in the minimum set (B1.2) For each variable in the minimum set (standard B1.2), >90% of case records are complete, valid and internally consistent for the year being assessed. <1% of case records in the national dataset for the year being assessed are unresolved potential duplicates 	<p><input type="checkbox"/> Met <input checked="" type="checkbox"/> Partially met <input type="checkbox"/> Not met <input type="checkbox"/> Not applicable</p>	<p>Key comments:</p> <ul style="list-style-type: none"> No TB database at country level beyond DHIS2 (excel aggregated database at country level before DHIS2, electronic TB register (eTR) was at facility level before DHIS2. Paper-based at facility level. <p>Key actions:</p> <ul style="list-style-type: none"> Data validation to ensure duplication is avoided 	<p>Work plan activity 14</p>
<p>B1.6 TB surveillance data are externally consistent</p>	<ul style="list-style-type: none"> Among new TB cases, the percentage of children is between 5-15% in low- and middle-income and <10% in high-income countries 	<p><input type="checkbox"/> Met <input checked="" type="checkbox"/> Not met</p>	<p>Key comments:</p> <ul style="list-style-type: none"> Children accounted for 3% of all cases in 2018 	
<p>B1.7 Number of reported TB cases is internally consistent (within country)</p>	<p>If vital registration systems are available, then the following benchmarks should be satisfied for this standard to be met: 1 Year to year change in the national number of reported TB cases is consistent with year to year change in national TB mortality (HIV-negative, from national vital registration) i.e. trajectories with the same direction</p> <p><i>If vital registration systems are not available, then the following benchmarks should be satisfied for this standard to be met:</i> At the national level, evidence of internal consistency over the previous five years for the following benchmarks:</p>	<p><input type="checkbox"/> Met <input checked="" type="checkbox"/> Not met</p>	<p>Key comments:</p> <ul style="list-style-type: none"> No link with vital registration system. TB mortality data is based on NTLP R&R NTLP tracks the below indicators <p>Key action:</p> <ul style="list-style-type: none"> To ensure tracking of changes in trend on the 7 parameters in Year to Year change during ANNUAL reporting of TB cases To strengthen linkages between health system including TB and VR systems in Lesotho 	

	<p>2. Ratio of notified pulmonary to extrapulmonary TB cases</p> <p>3. Ratio of male to female TB cases</p> <p>4. Proportion of childhood TB cases out of all TB cases</p> <p>5. Year-to-year change in the case notification rate for all forms of TB</p> <p>6. Year-to-year change in the case notification rate for new smear-positive TB</p> <p>And if data are available,</p> <p>7. Ratio of the number of people with presumptive TB to total notifications of TB</p>			
TB SURVEILLANCE SYSTEM COVERAGE				
B1.8 All diagnosed cases of TB are reported	<p>Both benchmarks should be satisfied to meet this standard:</p> <ul style="list-style-type: none"> • TB reporting is a legal requirement • $\geq 90\%$ of TB cases are reported to national health authorities, as determined by a national-level investigation, e.g. inventory study, conducted in last 10 years 	<input type="checkbox"/> Met <input checked="" type="checkbox"/> Partially met <input type="checkbox"/> Not met	<p>Key action:</p> <ul style="list-style-type: none"> • To conduct an inventory study during NSP 2018-2022 	Work plan activity 18
B1.9 Population has good access to health care	<p>Both benchmarks should be satisfied to meet this standard:</p> <ul style="list-style-type: none"> • Under-5 mortality rate (probability of dying by age 5 per 1000 live births) is < 10 • $< 25\%$ total health expenditure is out-of-pocket 	<input type="checkbox"/> Met <input checked="" type="checkbox"/> Partially met <input type="checkbox"/> Not met	<p>Key comment:</p> <ul style="list-style-type: none"> • No clarity on Out of pocket expenditure • Under-5 mortality – 85/1000 live births – Lesotho DHS 2014 (2009 – 117) <p>Key action:</p> <ul style="list-style-type: none"> • To improve awareness among patients and general population 	
QUALITY AND COVERAGE OF VITAL REGISTRATION SYSTEM				

B1.10 Vital registration system has high national coverage and quality	<p>Both benchmarks should be satisfied to meet this standard:</p> <ul style="list-style-type: none"> • Cause of death documented in $\geq 90\%$ of total deaths recorded in a) national vital registration system OR b) sample vital registration system • $< 10\%$ of deaths have ICD codes for illdefined causes (defined as ICD-9 780799 and ICD-10 R00-R99) 	<input type="checkbox"/> Met <input type="checkbox"/> Partially met <input checked="" type="checkbox"/> Not met	<p>Key comments:</p> <ul style="list-style-type: none"> • Linkages between health sector and vital registration not yet established. There fore no ICD codes used in country <p>Key action:</p> <ul style="list-style-type: none"> • To link health system with Vital registration system and update TB death information in Vital registration system 	
------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--

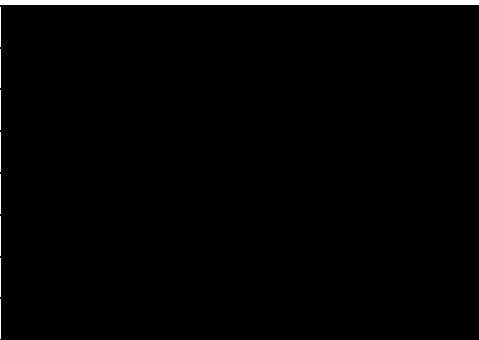
PART B (Section 2): SUPPLEMENTARY CHECKLIST FOR TB SURVEILLANCE

For each standard, please assess whether the system is able to satisfy the associated benchmark(s), using the methods recommended in the user guide. Indicate ‘Met’, ‘Partially met’, ‘Not met’ or ‘Not applicable’ in the results column. Describe the key results, any actions recommended to improve the quality of the system and the estimated budget to address these actions in the last two columns.

STANDARD	BENCHMARK(S)	RESULTS	RESULTS (DESCRIPTION) INCLUDING KEY ACTION(S) REQUIRED TO ADDRESS THE GAPS	ESTIMATED BUDGET REQUIREMENTS TO ADDRESS KEY ACTION(S)
SURVEILLANCE OF DRUG RESISTANT TB				
B2.1 Surveillance data provide a direct measure of drug resistant TB in new cases	<p>One of the two benchmarks should be satisfied to meet this standard:</p> <ul style="list-style-type: none"> • Rifampicin susceptibility status (positive/negative) documented for $\geq 75\%$ of new pulmonary TB cases • Rifampicin susceptibility status (positive/negative) documented for a nationally representative drug resistance survey of new pulmonary TB cases 	<input checked="" type="checkbox"/> Met <input type="checkbox"/> Partially met <input type="checkbox"/> Not met	<p>Key comments:</p> <ul style="list-style-type: none"> • 87% of new and relapse TB cases were diagnosed using Gx (source- 2018 surveillance report of DR-TB) • DRS – national level DRS conducted in Aug 2013 and completed in Jul 2014; Report released in 2017. 	
SURVEILLANCE OF TB/HIV				

<p>B2.2 Surveillance data provide a direct measure of the prevalence of HIV infection in TB cases</p>	<p>One of the two benchmarks should be satisfied to meet this standard:</p> <ul style="list-style-type: none"> • HIV status (Positive/Negative) documented for $\geq 80\%$ of all TB cases notified in all settings with a generalised epidemic stateⁱⁱ or concentrated epidemic stateⁱⁱⁱ and in settings with a low level epidemic state,^{iv} where feasible • HIV status is available from a representative sample from all TB cases notified in settings with a low-level epidemic state where it is not feasible to implement routine surveillance 	<p><input checked="" type="checkbox"/> Met <input type="checkbox"/> Partially met <input type="checkbox"/> Not met</p>	<p>Key comments:</p> <ul style="list-style-type: none"> • 2018 – Notified AF TB cases with documented HIV status = 96% (6748/7040 AF cases) • Coinfected = 65% (4355/6748) • Coinfected on ART = 92% (4013/4355) 	
<p>SURVEILLANCE OF CHILD TB</p>				
<p>B2.3 Surveillance data for children reported with TB (defined as ages 0-14 years) are reliable and accurate or all diagnosed child TB cases are reported</p>	<p>Both of the benchmarks should be satisfied to meet this standard:</p> <ul style="list-style-type: none"> • Ratio of age groups 0-4 to 5-14 years is in the range 1.5-3.0 • $\geq 90\%$ of child TB cases are reported to national health authorities, as determined by a national-level investigation, e.g. inventory study, conducted in last 10 years 	<p><input checked="" type="checkbox"/> Met <input type="checkbox"/> Partially met <input type="checkbox"/> Not met</p>	<p>Key comments:</p> <p>2018 data:</p> <ul style="list-style-type: none"> • 0-4: 97 N&R TB cases • 5-14: 143 N&R TB cases <p>Ratio: 1.47</p> <p>Total children = 240 (3.4% of all cases) Total in adults and children = 6883 (N&R)</p>	

CHECKLIST SUMMARY (TICK THE BOXES WHERE APPROPRIATE)				
STANDARD	MET	PARTIALLY MET	NOT MET	NOT APPLICABLE
B1.1		X		
B1.2	X			
B1.3		X		
B1.4		X		
B1.5		X		

B1.6			X	
B1.7			X	
B1.8		X		
B1.9		X		
B1.10			X	
B2.1	X			
B2.2	X			
B2.3	X			

Annex 3: Monitoring and Evaluation Work plan activities and budget

Annex E - Monitoring and Evaluation Workplan and Budget 2018-2022																							
Activity	Timeline												Responsible unit/implementing agency	Collaborating agencies	Budget	Budget assumptions	Source of funding	Link with MESST Action plan or with other recommendations	Expected outcome				
	2018			2019			2020			2021										2022			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4								Q1	Q2	Q3	Q4
1		X		X		X		X		X		X		X		X		NTP-MOH	WHO, EGFAP, PIH	USD 80 people: 60' lunch & tea * 3 days = 340'60'3=61200 60' mineral water*2 * 3 days= 60'20'3 = 3600 Accommodation * 25 (toilets) * 3 = 850'25'3 = 63750 accommodation: Singles * 5 = 850'5 *3=12750 Hall hire: 1500'3 = 4500 (all in LSI but total budget in USD dollars at 1:13 ER) 1,12,153.80 US\$11,215.38 per meeting * 2 meetings*5 years 20,000.00	No budget		At least 2 meetings held per annum. Stakeholders perspectives on challenges and achievements sourced and action plans drawn.
2			X			X			X			X			X		NTP-MOH	WHO, EGFAP, PIH	6,000.00	4 guides * \$5'300 copies =6000	Covered by MOH-NTP	Surveillance checklist A11	2 M&E officers trained in TB surveillance/data analysis/user/reporting and recording.
3						X											NTP-MOH	WHO, EGFAP, PIH	6,000.00	4 guides * \$5'300 copies =6000	Covered by MOH-NTP	Surveillance checklist A6	Protocol developed, printed and disseminated to districts
4	X		X		X		X		X		X		X		X		NTP-MOH	WHO, EGFAP, PIH	63,692.30	30 people: 30' lunch & tea * 3 days = 340'30'3=30600 30' mineral water*2 * 3 days= 60'20'3 = 1800 Accommodation * 12 (toilets) * 3 = 850'12'3 = 30600 accommodation: Singles * 6 = 850'6'3 = 15300 Hall hire: 1500'3 = 4500 (all in LSI but total budget in USD dollars at 1:13 ER) US\$ 6369.20 per district/year *10 districts	No budget	Surveillance checklist A1	2 meetings held in each district every year.
5			X			X		X	X	X	X	X	X	X	X	X	NTP-MOH	WHO, EGFAP, PIH	1,30,000.00	Each OR study proposed to cost @ Usd 10,000; Y1-10000, Y2-20000, Y3-30000, Y4-30000, Y5-40000= USD 130,000	No budget		At least five operational studies completed and their results incorporated in a program improvement initiative.
6		X			X					X				X			NTP-MOH	WHO, EGFAP, PIH	6,498.46	Printing of 220 (each @ \$20) TB registers, 1100 presumptive registers (each @ \$20), 220' 4 reporting booklets (each @ \$8). All these will be printed twice in the lifetime of this plan (total budget in USD dollars)	No budget		220 TB registers, 220 presumptive reports and reporting books printed.
7			X			X			X			X			X		NTP-MOH	WHO, EGFAP, PIH	40,000.00	\$21000 Printing of laminated informatics sheets: A3 * 200 facilities * 2 per year * 5 = \$10'200'3years'2 times * 5	No budget		Data visualizations printed and improved data use at all levels.
8																	NTP-MOH	ICAP, WHO, EGFAP, PIH			No budget	Surveillance checklist B1.3	All patient TB data captured in the e-register in real-time.
9	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	NTP-MOH	WHO, EGFAP, PIH	4,061.54	4 key central M&E staff (220'12 monthly * 5 years*4 people) (all in LSI but total budget in USD dollars at 1:13 ER)	No funding		Enhanced communication
10	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	NTP-MOH	WHO, EGFAP, PIH	85,296.55	83 Data clerks engaged and deployed at different facilities in Lesotho	Global Fund		Timely reporting and completeness of recording tools. Enhanced data quality.
11	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	NTP-MOH	WHO, EGFAP, PIH	75,896.17	1 M&E Officer engaged oversee M & E activities within the grant and complement national M&E system	Global Fund		TB M & E fully staffed.
12	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	NTP-MOH	WHO, EGFAP, PIH	62,176.24	Y1= \$20'276.07, Y2= \$20'272.74, Y3= \$211'78.03 - to facilitate use of DHIS2, data to be procured for 102 tablets used in the exercise.	Global Fund		Improved quality reporting
13							X				X			X			NTP-MOH	WHO, EGFAP, PIH	22,458.51	Budget in L&L. 3'97320.18 for two staff members over the course of the M&E plan = US\$7486.17'3 participants over lifetime of the M&E plan	No budget		Capacity of staff improved and improved M&E system.
14			X			X											NTP-MOH	WHO, EGFAP, PIH	12,156.60	proposed for Team 2 - 2 M&E officers and 1 driver (10 quarters*1215.66)	part of budget - 7293.96 covered by Gk	Surveillance checklist A6, B1.5	Improved quality of data.
15			X		X		X		X		X						NTP-MOH	WHO, EGFAP, PIH	17,019.24	2431.32 per quarter. Meant for MOH IT to supervise districts on DHIS2	Global Fund		Improved reporting (timely and complete)
16																	NTP-MOH	WHO, EGFAP, PIH	25,533.72	20 people trained for 5 days on data analysis by an external consultant. The training will focus on different statistical software packages that are used in data analysis. The training is intended to expose the participants on the different methods of in-depth analysis of health data for different stakeholders. Participants include 10 HIMS officer, 2 DCD M & E Officers, 3 planning, 2 lab, 3 PMU.	Global Fund		Capacity of district HIMS officers improved and data use at district and sub-district levels improved.
17				X	X	X	X	X	X	X	X	X	X	X	X	X	NTP-MOH, URC	WHO, EGFAP, PIH, URC,MOF		Survey tool Xray Machines (2 mobile, 1 portable) Reagents Sample transportation Transport	Global Fund, SATHSS, MOH		TB Prevalence survey complete and a good estimate of the burden of TB in Lesotho known and used for decision making.
18										X	X	X	X				NTP-MOH	WHO, EGFAP, PIH		Perdiems & accommodation Consultancy fees Transport	No budget		At least one inventory assessment conducted and bottlenecks to an optimal TB surveillance system identified.
TB prevalence survey is supported by ongoing grants by MOH, SATHSS and Global Fund.												Total		6,82,943									
Roll-out of e-Register at National level is currently not yet finalized; to be quantified by HIMS/MOH and part of funding at a later date to be supported by NTLP												Funded		2,86,922									
												Funding Gap		4,17,021									

(attached as a separate excel with this document)