Somali National Tuberculosis Strategic Plan 2020 – 2024

(Final draft)

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Preface

List of acronyms and abbreviations

ACSM	Advocacy Communication and Social Mobilization
AFB	Acid fast bacilli
ART	Anti-Retroviral Therapy
BCG	Bacille –Calmette -and Guerin (TB vaccine)
BOD	Burden of Disease
BSC	Biosafety cabinet
CBO	Community Based Organization
CCM	Country Coordinating Mechanism
CCS	Country Cooperation Strategy
CD	Communicable Diseases
CEO	Chief executive Officer
CHS	Community Health Strategy
CHW	Community Health Worker
CSO	Civil Society Organizations
DFID	UK's Department for International Development
DHIS	District Health Information System
DOT	Directly Observed Treatment
DRS	Drug Resistance Survey
DST	Drug Susceptibility Testing
EQA :	External Quality Assurance
FHWs	Female Health Workers
FRS	Federal Republic of Somalia
GDP	Gross Domestic Product
GF(ATM)	Global Fund to fight against AIDS, TB and Malaria
GFSC	Global Fund Steering Committee
GLC	Green Light Committee
GPW 13	Thirteenth General Programme of Work
Xpert	GeneXpert MTB/RIF - TB rapid molecular test
HF	Health Facilities
HCW:	Health care workers
HDI	Human Development Index
HIV	Human Immunodeficiency Virus
HMIS	Health Management Information system
HSSP	Health Sector Strategic Plan
UNHLM	United Nations High Level Meeting
IC	Infection control
ICF	Intensified TB case finding
IDP	Internally Displaced Persons
IEC	Information Education and Communication
IPT	Isoniazid Preventive Therapy
JHNP	Joint Health & Nutrition Programme
LF	Light Emitting Diode/Fluorescence microscope

LPA	Line Probe Assay
M&E	Monitoring and Evaluation
M&E	Monitoring and Evaluation
MCH	Maternal and Child Health
MDG	Millennium Development Goals
MDR-TB	Multidrug-Resistant TB
MOE	Ministry of Education
MoH	Ministry of Health
MoJ	Ministry of Justice
NAC	National AIDS Commission
NDG	National Development Goals
NDP	National Development Plan
NGO	Non-Governmental Organization
NRL	National Reference Lab
NTP	National Tuberculosis Program
OP	Operational Plan
PHC	Primary Health Care
PHU	Primary Health Unit
PLWHA	People Living With HIV/Aids
PPM	Public Private Mix
PR	Principle Recipient
RMNCAH	Reproductive, Maternal, Neonatal, Child and Adolescent Health
RR	Rifampicin Resistance
SDGs:	Sustainable development goals
SLDST	Second line Drug Sensitivity Testing
SR	Sub recipient
TB	Tuberculosis
TB/HIV	HIV-Related TB
TBMU	TB management Unit
UHC	Universal Health Coverage
UN	United Nations
UNAIDS	Joint United Nations Programme on HIV & AIDS
UNDP	United Nations Development Programme
UNFPA	United Nations For Population Agency
UNHCR	United Nations High Commission on Refugees
UNICEF	United Nations Children Fund
USAID	United States Agency for International Development
WASH	Water, Sanitation and hygiene
WB	World Bank
WFP	World Food Programme
WHO	World Health Organization
WVI	World Vision International Somalia (GFATM Principle Recipient)
XDR TB	Extensively drug resistant TB

Executive Summary

The new National Tuberculosis Strategic Plan (NSP) 2020 – 2024 replaces the current NSP 2018 – 2022. The decision to re-edit a new NSP was taken for various reasons. The United Nations' High Level Meeting (UNHLM) in 2018 resulted in an engagement of member states to targets and strategies with regard to tuberculosis (TB) control not taken in account in the current NSP. Then, Somalia intends to submit to the Global Fund (GF) a funding request for its TB program within the new funding cycle running from 2021-2023. A pre-condition for a funding request is a valid NSP covering the foreseen funding period. Further, the current NSP is not anymore on the track with its own objectives; re-planning is indicated. And finally, the current NSP had not included a M&E plan making it difficult to monitor progress; besides, of the series of eight objectives only three were formulated in a "smart" way rendering any progress measurement almost impossible.

The preparation of the TB NSP 2020-2024 for Somalia encompassed the following steps

- Desk review of relevant documents;
- Editing of preliminary program and epidemiologic reviews;
- Collection of information and data concerning present strengths, weaknesses, opportunities, and threads of the NTP and its achievements during three stakeholder meetings in Addis Ababa, Mogadishu, and Hargeisa (an activity organized with the help of and strongly supported by the PR of the GF, World Vision International (WVI), and the WHO country Focal Point for TB); stakeholder meetings included CSO representatives, NTP officials and TB officers as well as WVI managers and supervisors);
- A briefing during a meeting with Global Fund Steering Committee (GFSC) in Nairobi;
- Presentation and discussion of a Draft 0 of the NSP during a preliminary adoption meeting with stakeholders in Kampala;
- Submission of a Draft 1 following the various comments and suggestions of the preliminary adoption meeting;
- Submission of a final draft of the NSP.

The present document comprises a brief demographic, political and socio-economic background and describes the health sector and health indicators for Somalia followed by descriptions of the NTP organization and the epidemiological situation of TB in the country. Priority Gaps in TB diagnosis, care, prevention, and control in the country are presented with, subsequently, the logic of interventions proposed by this NSP. Then, the core TB NSP 2020 - 2024 is developed with its strategic framework of interventions and activities. Finally, the document is completed by an Operational Plan for Year 1, a budget for the NSP, a Monitor and Evaluation Plan, and a Technical Assistance Plan.

During stakeholder meetings and interviews with main actors the following priority gaps were identified

- The NTP and its activities are over-relying on donor funding and donor-dependent management.
- Integration of TB control activities in the general (public and private) health services is unsufficient with, consequently, low treatment coverage rates for DS and DR TB in all population groups, including vulnerable populations, and relatively low treatment success rates.
- The laboratory network needs strengthening.

- The TPT component of the program is largely under-developed.
- The national health data management and M&E system needs strengthening.
- Advocacy for political commitment and for resource allocation has to strengthened
- An explicit human rights and gender policy is lacking.
- Operational research is insufficient.

The new NSP 2020 -2024 develops strategies with main accent on enhancing access to DS and DR TB services via integration of the TB program, to the extent possible, in general health services compounded by much closer collaboration with the private sector and by strengthening the collaboration with the community, preferably with locally adapted activities. It focusses, further, on the strengthening of the laboratory network, on the development of a comprehensive TST component (LTBI), on the control of TB in key and vulnerable groups. Finally, interventions and activities are proposed for strengthening advocacy, the M&E component, supervisions, the human right component, and operational research.

The new NSP 2020 – 2024 endorses vision, goals and targets of the End-TB strategy and follows the logic of the three pillars and its components. Adapted components are converted in main strategic interventions with corresponding activities and sub-activities. Pillar 1 designs strategic interventions along the line of the patient's continuum of care (enhancing detection and quality diagnosis with strengthening of the laboratory net-work, enhancing the quality of care and and ensuring cure) completed by specific strategic interventions aiming at vulnerable populations, high risk groups, and the TB prevention component (TST). Pillar 2 designs supportive strategic interventions (enhancing commitment, appropriation and additional resources; engaging all care providers and the community; strengthening program management; enforcing advocacy). Pillar 3, finally, designs strategic interventions concerning innovation and operational research (OR).

The comprehensive strategic framework looks like follows:

Pillar 1. Integrated, patient-centred care and prevention

1.1. Promote locally care seeking and prevention through community engagement.
1.2. Accelerate early screening of TB
1.3. Ensure appropriate quality diagnosis of TB
1.4. Ensure quality of care and cure for drug sensible TB, including patient support
1.5. Ensure prevention, diagnosis, and treatment of childhood TB
1.6. Enhance programmatic management of drug-resistant TB, including patient support
1.7. Strengthen management of TB/HIV and other co-morbidities
1.8. Promote intensified screening, diagnosis and treatment of high-risk groups (HRG)

Pillar 2. Bold policies and supportive systems

2.1. Seek political commitment with adequate resources for TB and TB prevention
2.2. Enhance multi-sectorial collaboration and engage all care providers
2.3. Enhance programmatic management
2.4. Perform advocacy

Pillar 3. Intensified research and innovation

3.1. Uptake new diagnostic tools and anti-TB drugs
3.2. Determine research priorities and perform research

Introduction

Preparation of the NSP 2020-2024

The new National Tuberculosis Strategic Plan (NSP) 2020 – 2024 replaces the current NSP 2018 – 2022. The decision to re-edit a new NSP was taken for various reasons. The United Nations' High Level Meeting (UNHLM) in 2018 resulted in an engagement of member states to targets and strategies with regard to tuberculosis (TB) control not taken in account in the current NSP. Then, Somalia intends to request Global Fund (GF) funding for its TB program within the new funding cycle running from 2021-2023. A pre-condition for a funding request is a valid NSP covering the foreseen funding period. Further, the current NSP is not anymore on the track with its own objectives; re-planning is indicated. And, finally, the current NSP had not included a M&E plan making it difficult to monitor progress; besides, of the series of eight objectives only three were formulated in a "smart" way rendering any progress measurement almost impossible.

The National Tuberculosis Program (NTP) acts within the National Health Sector Strategic Plan (2017-2019). The new NSP aims to align with the goals and targets of the End-TB Strategy of World Health Organisation (WHO) and "The 2030 Agenda for Sustainable Development" (SDG) of the United Nations. It has been developed with active participation of representatives of all main stakeholders in TB control including civil society, national and international partners and various departments of the Federal Government of Somalia/Ministry of Health.

In a first step, epidemiological and program reviews – pre-requisites for the editing of a NSP - , also not conducted formally, have been substituted by a desk review of existing data bases, interviews with key actors, and meetings with actors and partners.

In a second step, a series of three country dialogue meetings were held Addis Ababa, Mogadishu, Hargeisa, with leadership of the NTPs and with the organisational support of World Vision (WV), the Principal Recipient (PR) of the ongoing NTP funding through the Global Fund (GF). The country dialogue meetings discussed TB-program component-wise the following questions: (1) What are our achievements? (2) What are our biggest problems and how to prioritise?; (3) What might be the causes of the problems (?) How can we optimise existing strategies, and what new strategies should we apply in order to tackle the problems identified (?).

Brief, challenges and achievements were reviewed and priority gaps identified. Finally, a consultant, assisted by the WHO Somalia Focal Point for TB and a team from the PR, collected, systematized and presented in Kampala during a preliminary validation meeting a draft 0 of two separate new NSPs for Tuberculosis Program, one for Somalia and one for Somaliland. Participants of the two zones, then, discussed separately in two working groups their respective drafts 0 and presented and discussed in a common meeting in plenary. Critical observations, suggestions, and amendments – for the two drafts, were done respectively for 2 days. The consultant took note of the observations and amendments resulting from group works and discussions, and edited draft 0. Further critical inputs resulted in a final draft which this version presents.

The present document comprises of a brief demographic, political and socio-economic background and describes the health sector and health indicators for Somalia followed by descriptions of the NTP organization and the epidemiological situation of TB in the country. Priority Gaps in TB diagnosis, care, prevention, and control in the country are presented with, subsequently, the logic of interventions proposed by this NSP. Then, the core TB NSP 2020 - 2024 is presented with its strategic

framework of interventions and activities. Finally, the document is completed by an Operational Plan for Year 1, a budget for the NSP, a Monitoring and Evaluation Plan, and a Technical Assistance Plan.

Situation analysis

Demographic, political and socio-economic background

The Federal Republic of Somalia is located in the Horn of Africa covering an area of 637 655 sq. km. The country has an estimated population of 15.5 million in mid-2019 with a population density of 25 per km^2 and an annual population growth of about 2.9%. The median age of the population is 16.3 years with a sex ratio (male/female) of 1.03. About 85% of the country's residents are ethnic Somalis, minorities being largely concentrated in the southern regions. The official languages are Somali and Arabic. Most people are Muslims. The urbanization rate is estimated to be 44%. - The 2018 Somalia Humanitarian Response Plan estimates the total intern displaced people (IDP) population due to a decennia long civil war and various droughts at 2.6 million. Moreover, an estimated 870,000 Somalis are registered as refugees in Yemen, Ethiopia, and Kenya.

Somalia is a Federal Republic officially composed by six federal member states, Somaliland, South West State of Somalia, Puntland, Jubaland, Hirshabelle, Galmudug. According to the UN, there are 18 regions and 90 districts within the six states, with significant variation in their administrative structures. Boundaries are still disputed.

Executive and legislative power are in the hands of an elected president and a parliament with two chambers, respectively. However, the Federal Government of Somalia's (FGS) control is limited. Puntland and Somaliland have their own constitutions, presidents, parliaments, and executive, and functioning central and local levels of government. The remaining states seek to consolidate their federal status. Moreover, the militant Islamic group al-Shabaab controls large areas in the southern part of the country, attacking regularly representatives of the federal authorities. Somalia is listed among the group of fragile states (Fragile State Index 113.2 (2018).

Somalia's economy is informal, based largely on livestock, remittance/money transfer companies and telecommunications. New investments are often financed by the Somali diaspora. In 2017, after the election of a new president Somalia collected a record amount of foreign aid and investment. The New Partnership for Somalia, followed by the Somali Partnership Forum in Brussels in July 2018, aligns with the National Development Plan, and outlines collective priority areas critical for development, including humanitarian issues, national security, inclusive politics, and economic recovery. The GDP real growth rate was estimated 2.3% in 2017. Economic activity have increased because of growth in the agriculture, construction and telecommunication sector. However, the country is listed among the poorest in the world. It has an index of human development (HDI) of 0.351, comparable with Niger, but with large variations across the regions. The yearly per capita income was estimated to USD 315 in 2018. More than half of the population lives below the poverty line. The percentage of working poor (PPP <$3.10 a day) was at 71% (2018). A large proportion is sensitive to negative shocks like drought and other natural catastrophes. Despite the improved performance, the government is still struggling with basic challenges in its fiscal operations. Recurrent expenditures account for almost all expenditure, with capital spending accounting for just 3% of total spending in 2016 and 2017. An important part of essential services, like health, is largely supported by donors and partner organizations.

Table 1. Demographic and socio-economic key indicators

No.	**Indicator**	Value	Source	Year *(est.)*
1	Population	15,442,905	UN	*2019*
2	Population growth (%)	2.9	UN	*2019*
3	Total fertility	6.1	UN	*2019*
3	Life expectance at birth (years)	57.3 years	UN	*2019*
4	Median age	16.5 years	UN	2019
5	Urban population (%)	46	UN	2019
6	Literacy rate among adults (>15 years (% of population)	63	UNICEF	2018
7	Net primary school enrolment ratio per 100 school-age children	17	WHO (EMR)	2014
8	GPD growth rate (%)	2.3	World Bank	2017
9	GNI	1,425,655,766	UN	2017
10	Working poor (PPP <USD 3.10 a day, % of total employment)	71.3	UN	2018

Health system and current health status of the population[1]

Across all dimensions of human development, the country has suffered severe consequences from decennia of conflicts. Somalia currently has some of the lowest humanitarian and development indicators in the world, and inequalities across different social groups – a major driver of conflict – have been widening. The fragility of Somalia over the past 25 years has resulted in weakening of the health sector, its systems and its personnel, with a subsequent focus on emergency response interventions to recurrent crises.

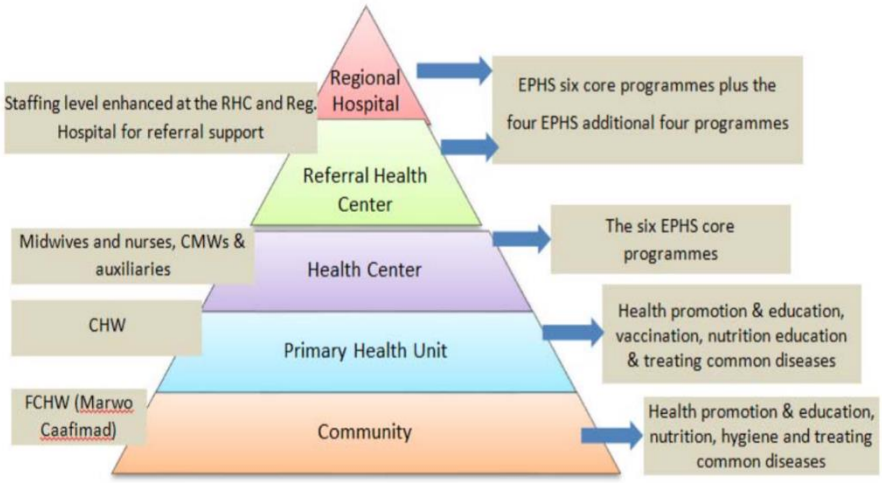
Under the administrative lead of a Federal Ministry, Health Authorities are working in Federal Member states. The following documents constitute the political framework of the health system.

- Somali Health Policy 2014, including the Essential Package of Health Services (EPHS)
- National Development Plan 5
- National Health Sector Strategic Plan (2017-2019)
- SDG 3 on Good Health and Wellbeing
- C4D Strategy for Somalia
- SBCC Strategy - Social and Behavior Change Communication (ACSM)
- Joint Health and Nutrition Program (JHNP)

Health services are delivered in the regions with four levels of service provision. The figure presents regional health organization, staffing and performance functions. However, an important part of health services is offered by private bon-for-profit or for-profit health care providers.

Figure 1.Levels of regional service delivery. (add placement of TBMUs - NTP)

[1] Cf. also Ministry of Health/ Somalia/World Health Organization. WHO Country Cooperation Strategy Somalia 2019-2023. (Draft 2019).



Source: Somali Health Policy, 2014

Health sector financing is difficult to express in quantitative terms. For many years the bulk of external financing has been channeled through the Common Humanitarian Fund for Somalia or the Central Emergency Response Fund, either through the three key UN agencies in health – UNICEF, WHO, UNFPA – or international and non-governmental organizations. Global health initiatives that contribute to funding the Somalia health sector include GFATM, GAVI, and the Global Polio Eradication Initiative. An important part of these funds is channeled through WHO and UNICEF, with some GFATM grants going through WV, nota bene for the NTP. Besides, there are bi-lateral donors, both OECD and non-OECD. Tracking is not systematic. The Somalia governments provides minimal funding to the health sector, altogether these funds constitute less than 5% of allocations.

The Somali government has endorsed a national health policy and developed comprehensive HSSPs in Somalia's three zones, South Central Somalia, Puntland and Somaliland. However, their implementation, also supported by donors and partners, meets considerable difficulties: de facto independence of Somaliland and relative autonomy of Puntland, weak institutional capacity with lack of accountability and transparency at all levels of the system, variations in the three zones, scarcity of human capital and health infrastructures, and, foremost, poverty on the one hand and lack of financing on the other. Government expenditure for health are estimated at USD 10-12 USD per capita, much to less for maintaining or improving the populations' health status. An essential package of health services (EPHS) is designed for the four levels of health services and four additional programs are provided at the referral level; TB diagnosis and care is included. Although still not completely rolled out, EPHS is adhered to by NGOs and donor agencies and has helped turn around deteriorated health facilities, improve standards of staff performance, implemented essential drug lists and quality treatment. A national treatment guideline has been released and is revised regularly – including standardized treatment regimens for TB according to WHO recommendations. The HMIS is partially functional in all three zones, supported by the GFATM, GAVI, and the Somali Joint Health and Nutrition Program (JHNP). WHO intends to support the roll-out of DHIS2 with the corresponding TB control module.

The Tables below show indicators of the health system and health risks, including mortality and morbidity.

Table 2. Health system indicators

No.	**Indicator**	Value	Source	Year *(est.)*
1	Total expenditure of health as percentage of GDP	N.A.		
2	Private expenditure on health ('out-of-pocket')	N.A.		
3	Health worker density p. 10,000 pop.	2	UHC	2019
4	Primary health facilities p. 10,000	7	WHO 2015	2015
5	DTC (BMU TB) p. 100,000			
6	DTP3 vaccination coverage (at 12 months) (%)	42	UHC	2019
7	Children <5 stunted/wasted (%)	>52	EMR report	*2018*
8	Female genital mutilation (%)	98	UNICEF, Borgenproject	2018
9	Population at risk with HIV test result during last 12 months (SW) (%)	20	EMR report	2014
10	Population with basic sanitation (%)	38	UHC	2019
11	Essential Package of Health Service Coverage (EPHS) (%)	35	UNICEF	2018
12	Universal health coverage (UHC SCI) [= SDG 3.8.1 (%)]	25 (2016: 21)	UHC	2017

Table 3. Current population health (mortality, morbidity), selected indicators

No.	**Indicator**	Value	Source	Year *(est.)*
	Mortality			
1	Neonatal mortality rate p. 1,000 live births	39	UN-IGME	2017
2	Under-5 mortality rate p. 1,000 live births	115	UN-IGME	2017
3	Maternal mortality ratio p. 1,000 live births	732	UN-MMEIG	2015
4	Mortality due to unsafe water etc. rate p. 100,000 pop.	86.6	EMR report	2016
5	TB p. 100,000 (WHO estimates)			
6	TB case fatality notified p. 100,000			
	Morbidity			
8	New infections HIV (number p. year)	<500	EMR report	2018
9	Incidence malaria p. 1,000	2.38	EMR report	2018
10	Incidence Hepatitis B p. 100,000 pop.	10,500	EMR report	2018

Overall, the 2015 statement of the WHO Strategic Review of the Health Sector still applies: "The key challenges facing the Somali health system are: (i) persistent high burden of disease; (ii) limited institutional capacity and stewardship roles of ministries of health; (iii) inadequate, unpredictable and unsustainable level of financing, with a high share of out-of-pocket spending on health; (iii) absence of balanced, motivated, well-distributed and well-managed health workforce with the appropriate skills." (WHO 2015).

Organization of the NTP

The current NTP organogram is as follows:

- NTP Manager
- Admin/Finance Officer
- Lab Supervisor
- M&E Officer
- PPM officer
- ACSM Officer

WV is the PR of the programme. Implementation is done through SRs that include international and local organisations, and NTP/MoH. WHO provides technical advice while MoH maintains an oversight on the programme.

Figure 2. Current implement arrangements.

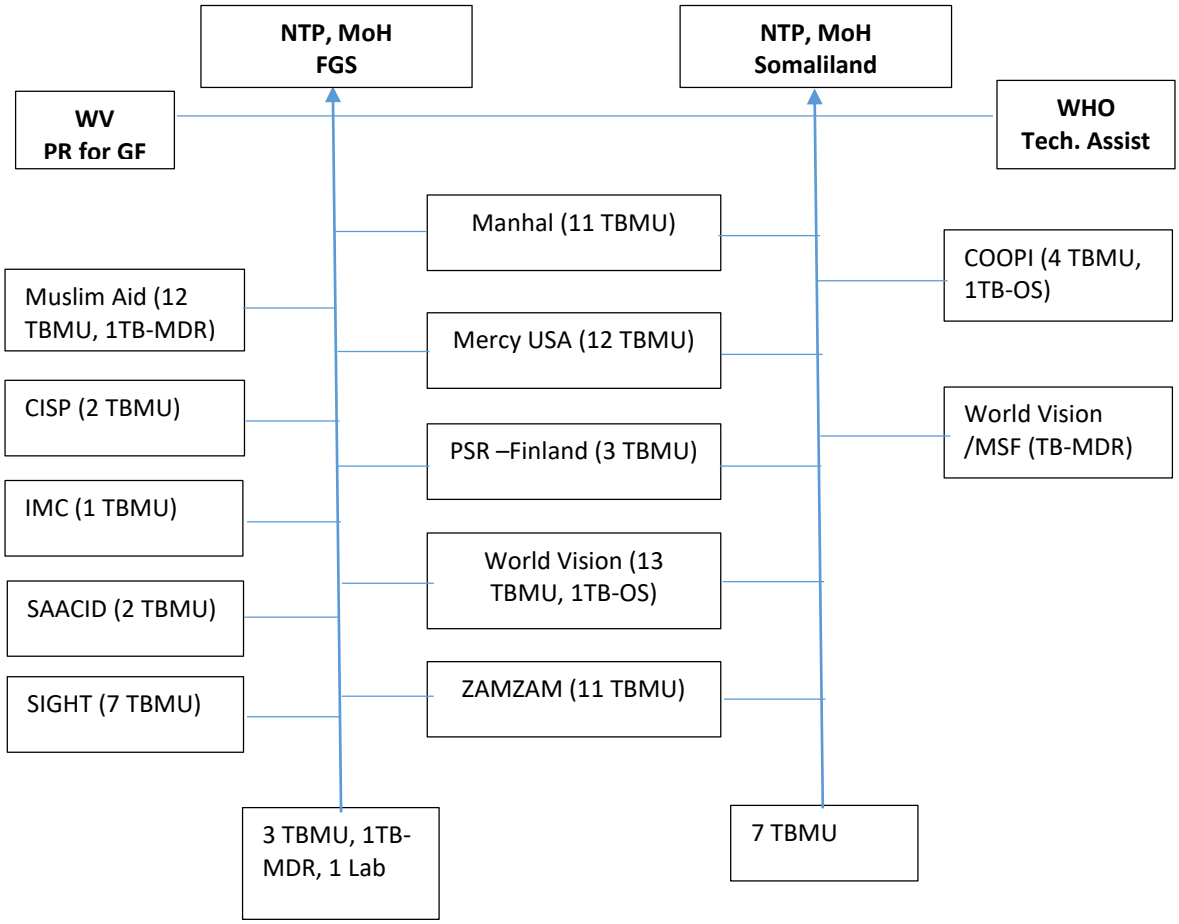
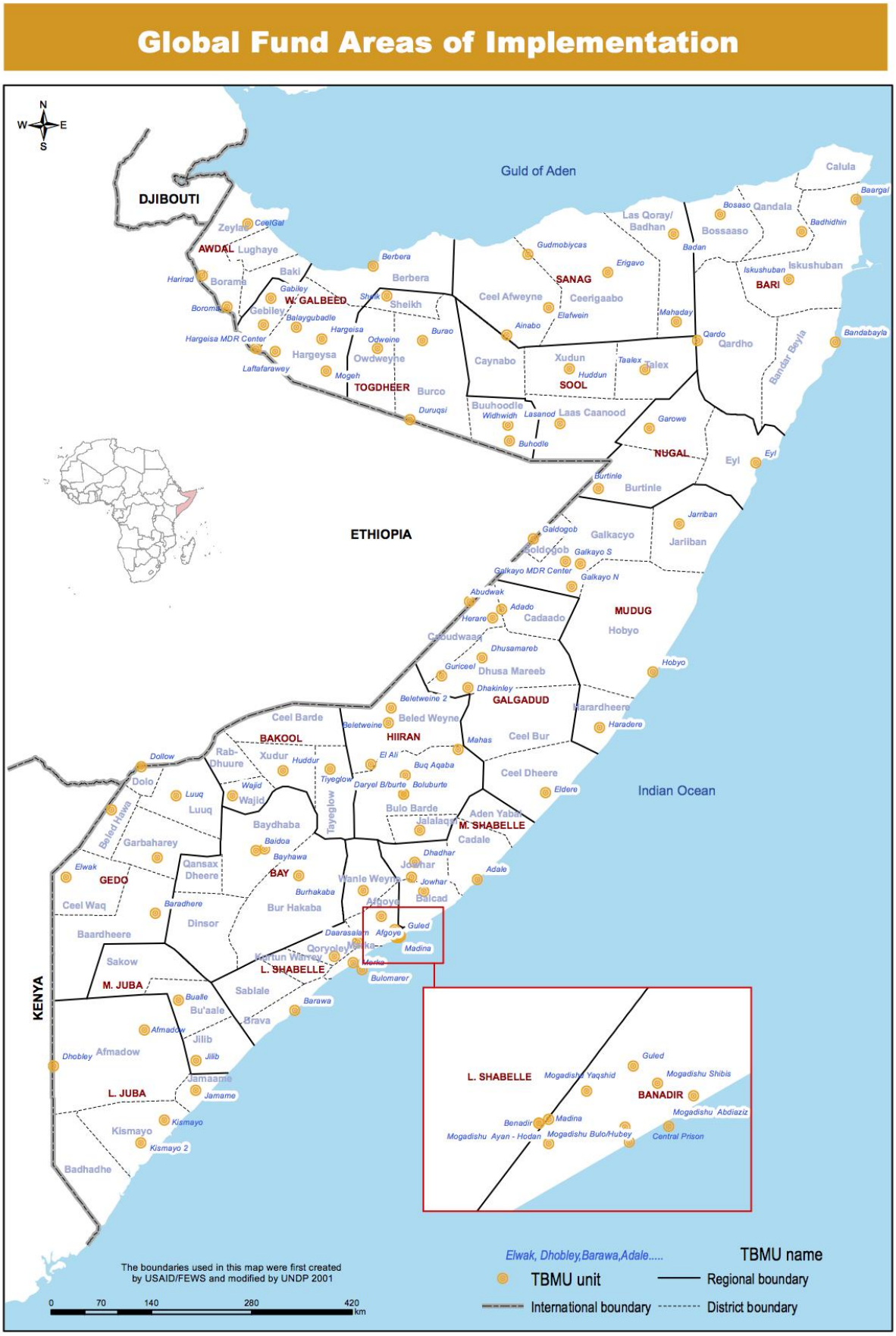


Figure 3. GF implementation areas for TB in Somalia, 2018. (Source: NSP 2018-2022, p. 10)

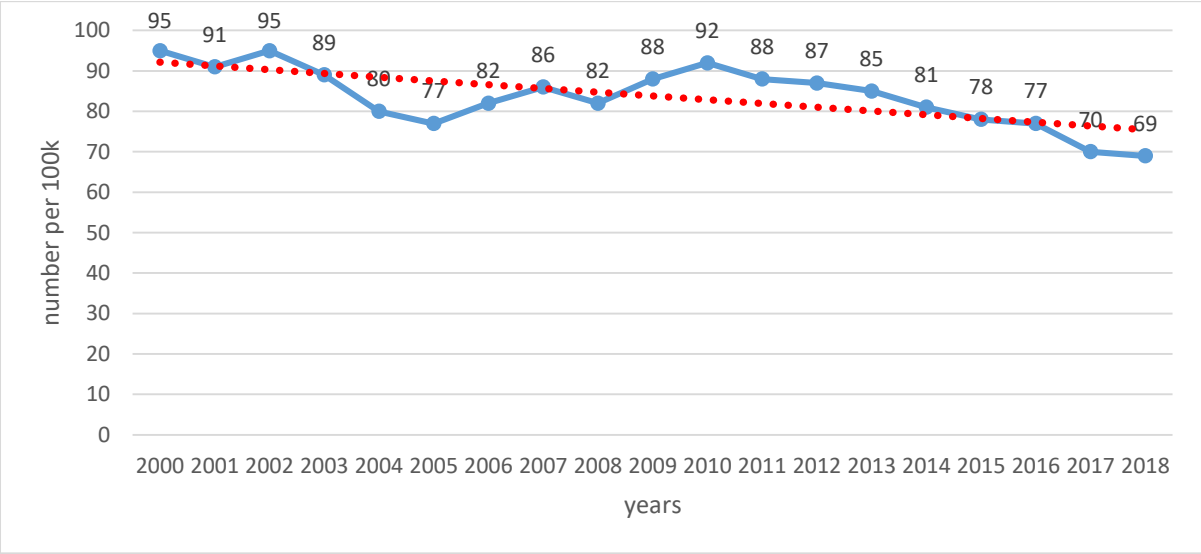


TB epidemic situation in Somalia

Estimations and notifications

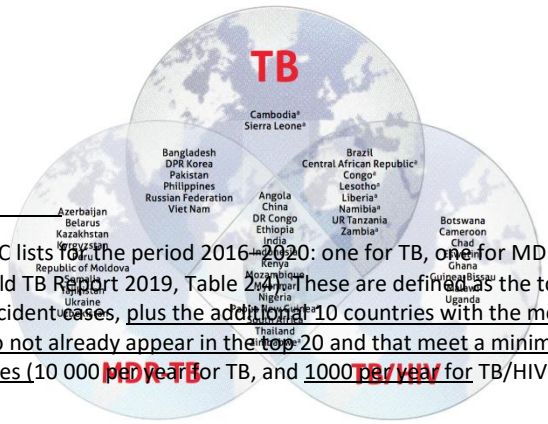
Somalia's TB burden in terms of incidence, prevalence and mortality is based on estimates. No national TB prevalence survey has been done, except a MDR-TB survey which had been performed in 2011. A civil registration system does practically not exist (estim. 5% coverage). Figure 1 shows estimations for TB mortality rates, including HIV/TB, and trends. For the year 2018, WHO estimates the TB mortality rate in Somalia, including HIV+TB, at 68.5 (41-105) per 100k population. Between 2015 and 2018, mortality rate decrease by about 19%.

Figure 4. Evolution of TB mortality rates estimated by WHO and trends, Somalia 2000-2018.



The estimation for the incidence rate of TB including HIV+TB for 2018 is at 262 (169-374) p. 100k population. The incidence rate of MDR/RR-TB is estimated to be at 27 (15-42) p. 110k population or 2,700 (1,500-4,200 cases in absolute numbers). These latter estimations places Somalia in one of the high-burden country lists (HBL), the list of high-burden countries for MDR TB, the absolute number of incident cases meeting the minimum threshold level of 1,000 incident cases per year.[2]

Figure 5. The three high-burden country lists for TB, TB/HIV and MDR-TB defined by WHO for he period 1016-1010, and their areas of overlap (source: WHO World TB Report 2019).



[2] In 2015 WHO defined three HBC lists for the period 2016–2020: one for TB, one for MDR-TB and one for TB/HIV. Each list contains 30 countries (WHO World TB Report 2019, Table 2.4). These are defined as the top 20 countries in terms of the absolute number of estimated incident cases, plus the additional 10 countries with the most severe burden in terms of incidence rates per capita that do not already appear in the top 20 and that meet a minimum threshold in terms of their absolute numbers of incident cases (10 000 per year for TB, and 1000 per year for TB/HIV and MDR-TB).

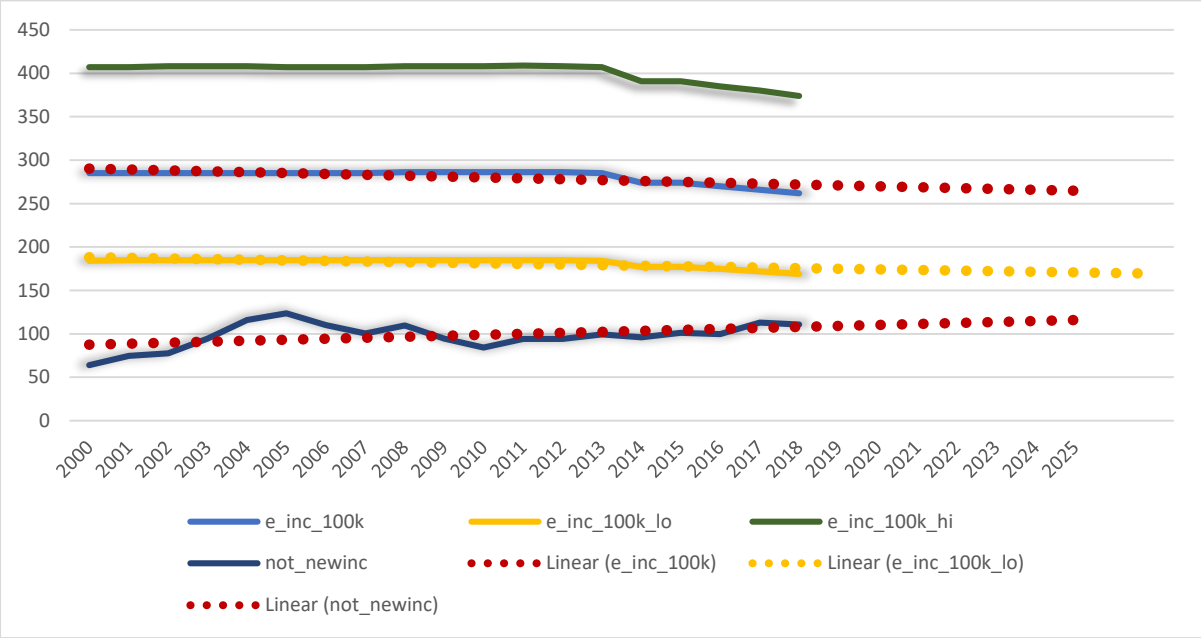
The total number of TB cases notified in 2018 was 16,673, a number almost identical to that of to 2017 (16,627). Case notification rate has improved between 2009 and 2018 by about 50%; yet almost three fifths of the increase (30%) has to be credited to the natural population growth, the mean annual increase thus being about 2%. Notable are some considerable annual variations ranging from -9% to +16%, the latest sharp rise occurring in 2017 (Table 4).

Table 4. TB case notification in Somalia, 2009-2018.

	NC_RT bac+	NC_RT clin	Extra Pulm	RT_noRel	Total	Variation
2009	6647	2463	1965	31	11106	
2010	6292	1811	1885	106	10094	**-9**
2011	7259	2030	2261	122	11672	**16**
2012	7576	1927	2271	122	11896	**2**
2013	6911	3533	2550	312	13306	**12**
2014	6620	3378	2813	227	13038	**-2**
2015	6970	3730	3255	221	14176	**9**
2016	6535	4140	3469	211	14355	**1**
2017	7691	4790	3978	142	16627	**16**
2018	10301	2326	3987	59	16673	**0**

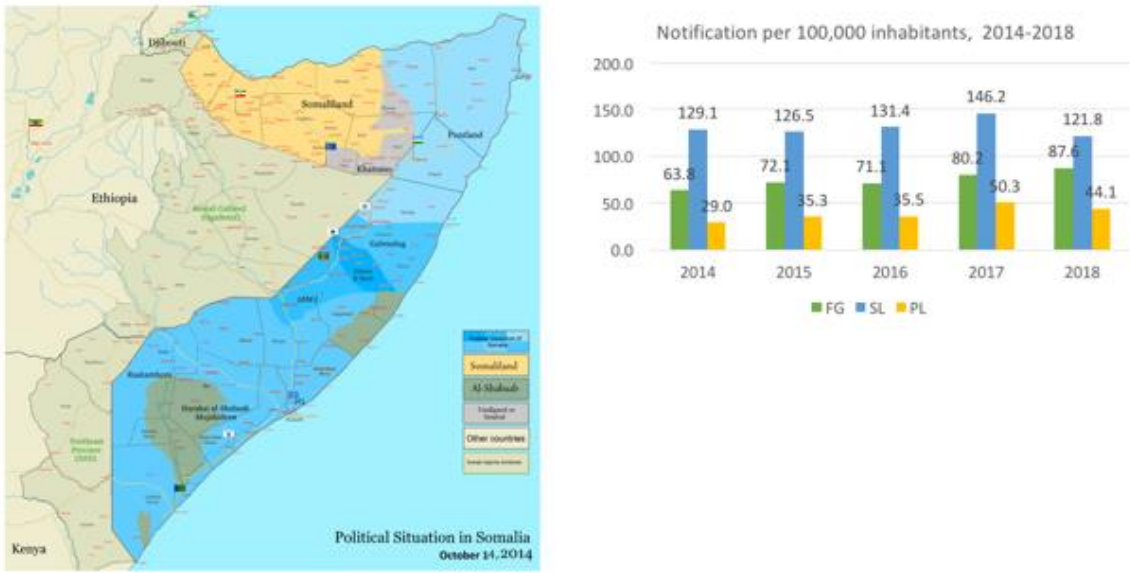
Large annual variations in overall reported TB cases (>10% increase of decrease) can be attributed to the level of functioning of the NTP rather than the real course of the TB epidemic. Continuing political and (armed) unrests in the country and subsequent service access problems are contributory to the observed variations. Overall, one might conclude that TB case notification in Somalia during the last ten years is increasing, facing, however, continuously an important, but uncertain number of not notified incident cases. According to WHO's estimations, in 2018 TB treatment coverage (notified/ estimated incidence) remains at 42% or at best at 65% (lower limit of confidence interval). This means that in spite of the significant progress in 2017, considerable efforts still have to be done in coming years to close a notification gap which, in spite of a 'natural' TB incidence decrease, widened again in 2018. Extrapolating existing trends makes evident that the country will have difficulties to meet the End-TB Strategy milestones (2025) and targets (2035) (Figure 6). However, one has to bear in mind that treatment coverage depends on estimations of population. It is important to note that no census has been done in Somalia and population data is estimated based on proxy information.

Figure 6. TB incidence, WHO estimations, notification and trends, Somalia 2000-2018



In 2018, 73% of notified cases were diagnosed with pulmonary TB, 45% of cases with bacteriological confirmation. The proportion of extra pulmonary is increasing. 2017 saw a slight increase in bacteriological confirmed pulmonary cases, supposedly due to the increased utilization of GeneXpert MTB/RIF® (Xpert) for diagnosis (Fig. 8-9). Increasing coverage of Xpert testing can be expected to increase during the coming years the proportion of patients with bacteriological confirmed TB disease. Notification rates appear to differ in the three zones, with Somaliland notifying higher rates (Fig. 7). It is unclear whether this is due to a different epidemic levels, or access to services, or perhaps to the relative more stable situation in Somaliland.

Figure 7. Notification rates in the three zones, FGS, Puntland and Somaliland, 2014-18.



(Reference populations controlled for calculation of notification rate, however, map has to been replaced).

Figure 8 and 9 present the proportions of TB cases notified by clinical form. In FGS, the proportion of bacteriologically confirmed new and relapse pulmonary TB cases is relatively high than in the other two zones, probably due to implementation of Xpert testing. However, Somaliland shows an increasing proportion. One has to bear in mind that one of the global target is to confirm 90% of notified TB cases.

Figure 8. TB notification according to form of disease, Somali 2009-2018.

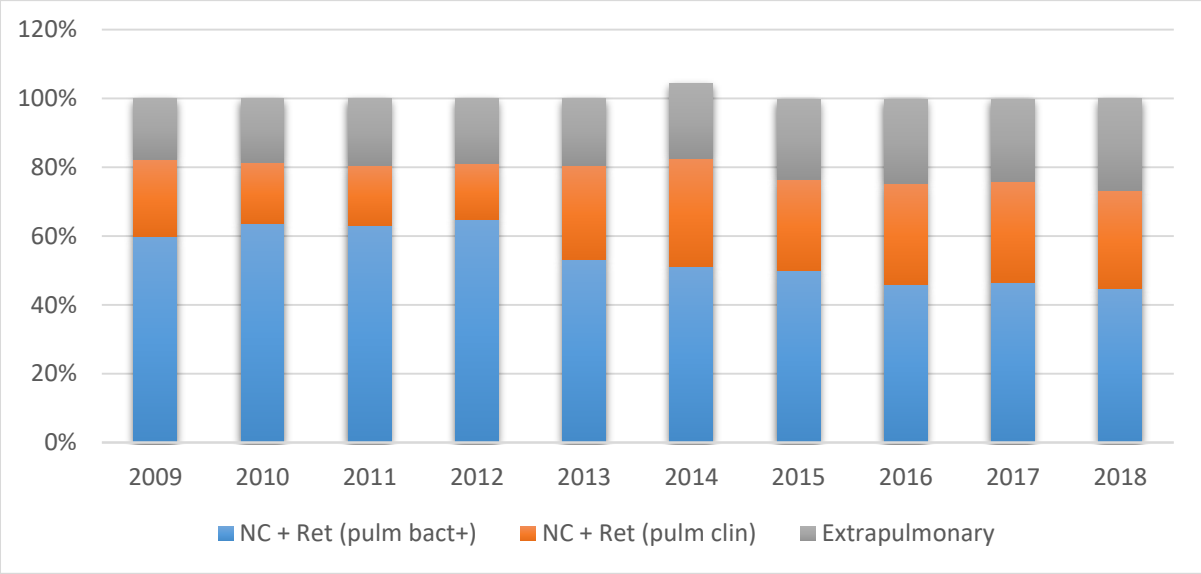
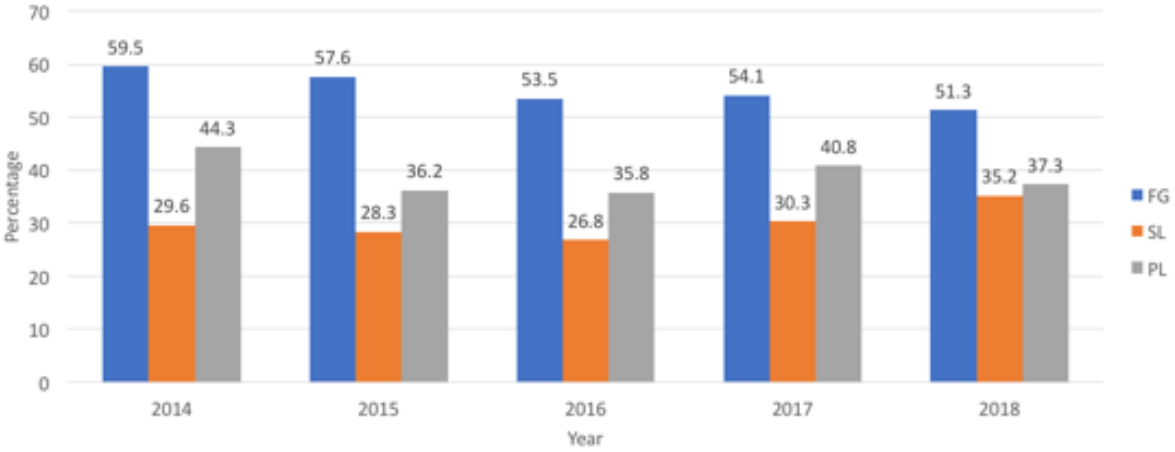


Figure 9. Proportion of TB cases by clinical form, Somalia – three zones, 2009-18



Notification by sex and age

Figure 10 presents the distribution of TB cases notified in 2018 according to age groups and sex. The overall sex ratio (male/female) is 1.4:1, except for children which is 'normal' for the region. According to WHO's estimates treatment coverage is equally low for all age groups, except for 65+ category (Fig. 11). 22% of TB cases are children <15 years old, making obvious the powerful transmission dynamic of the disease in the country, but leaving some doubts, too, about the quality of diagnosis.

Figure 10. New and relapse cases by age group and sex (annual), Somalia 2018

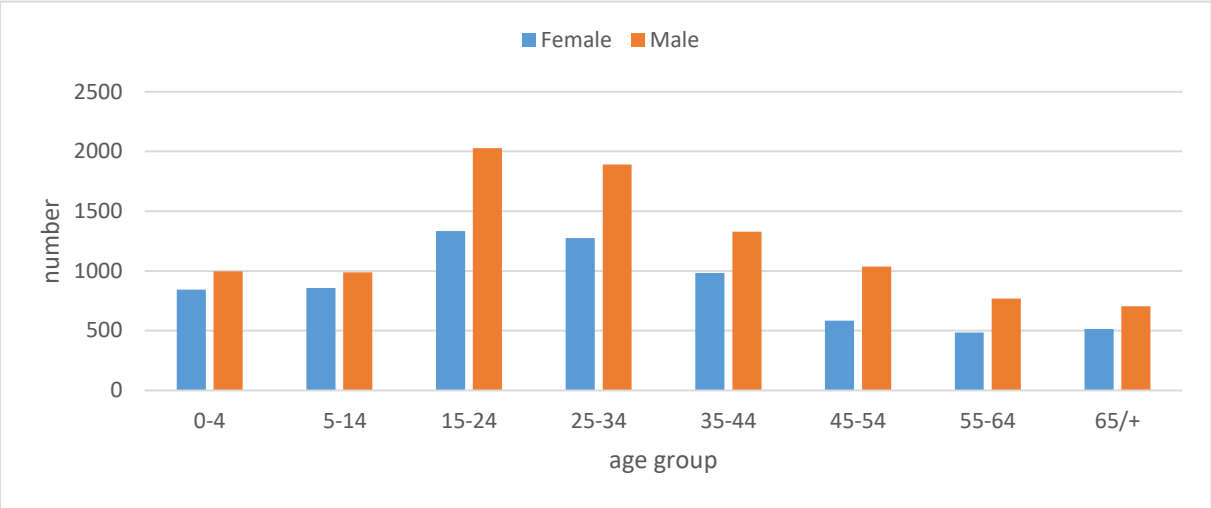
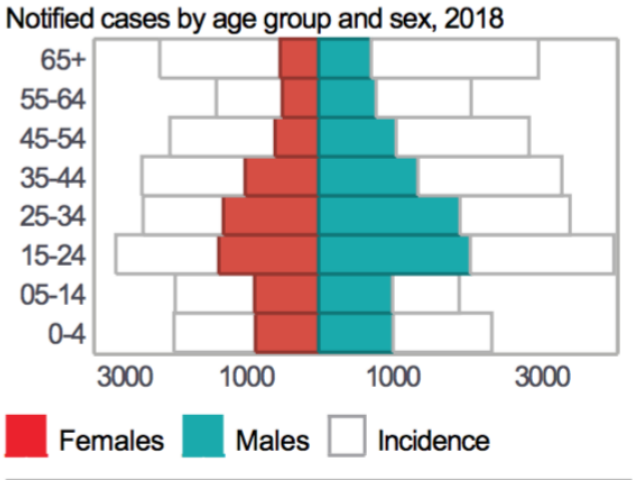


Figure 11. Notified cases by age group and sex vs. estimated incidence, Somalia 2018 (WHO 2018 Somalia country profile).



During the past 5 years, the age distribution among TB cases remained, overall, comparable, with case detection increasing in all age groups. Striking is, however, the decrease of case detection in the group of children between 2017 and 2018 (general decrease of 3%, in the age group <5years 21%). On the other hand, case detection made a more pronounced 'forward bound' in the age group 45-64, in line with the hypothesis that under detection might be important in elderly and that in these age groups important additional numbers of TB cases might be identified with appropriate strategies (Fig. 12, 13).

Figure 12.New and relapse cases by age group and sex (trend), Somalia 2015-2018.

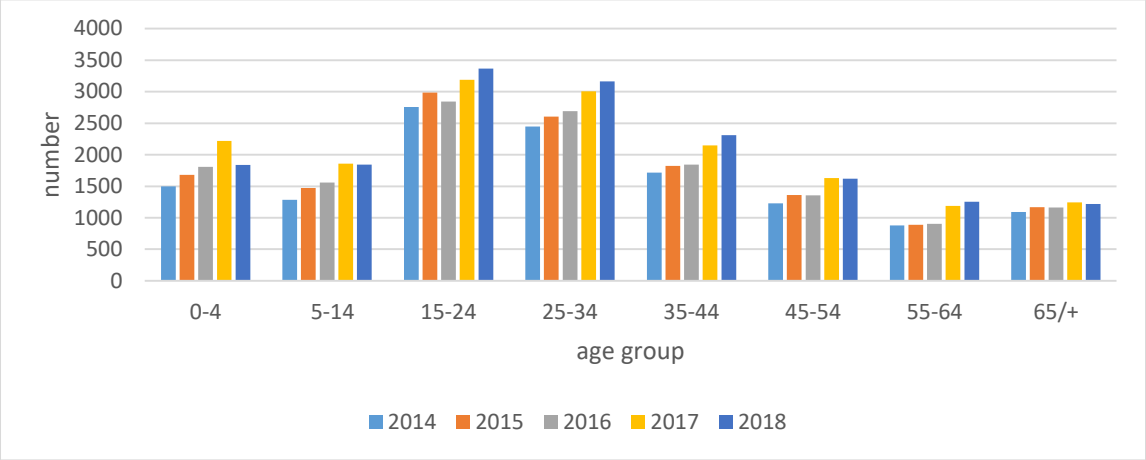
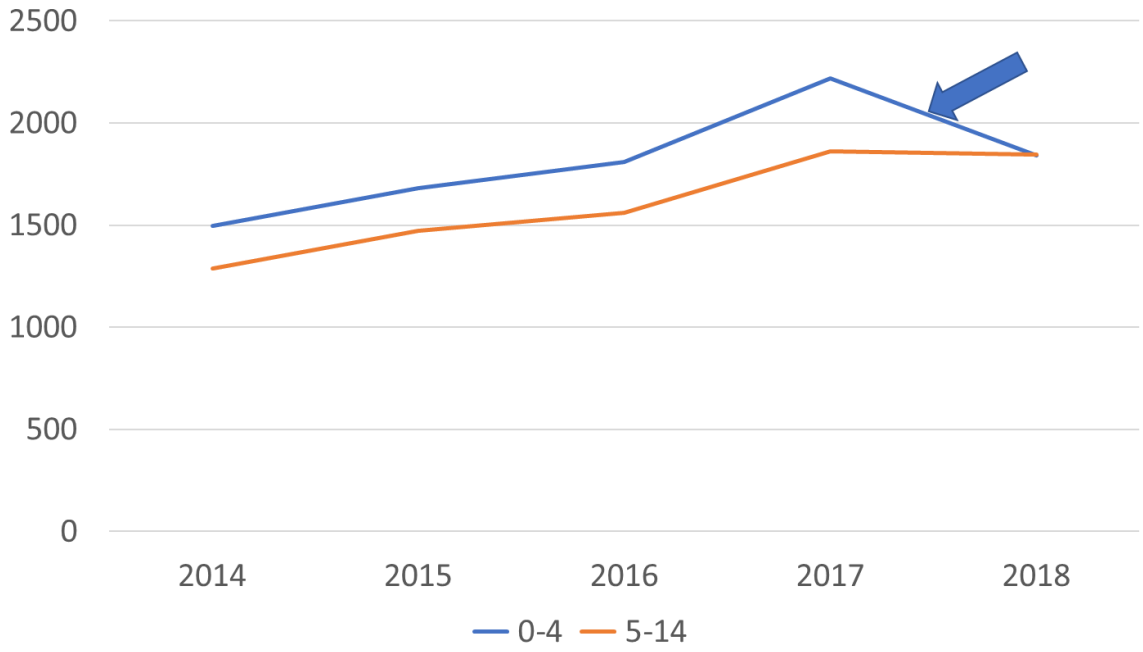


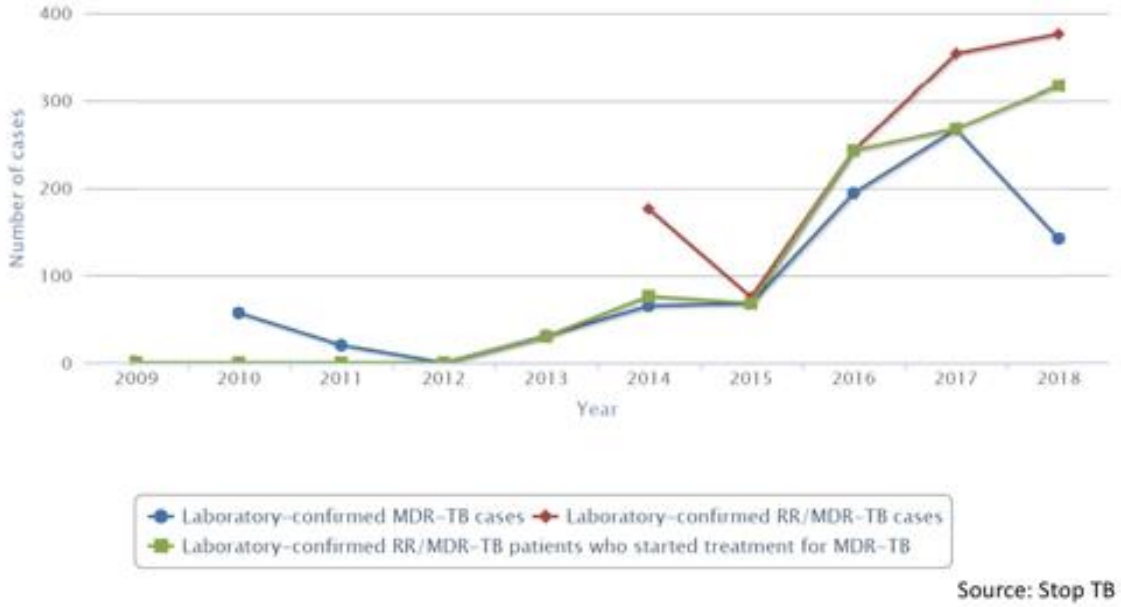
Figure 13. Evolution of childhood TB notification (0-4, 5-14 years old) between 2014 and 2018.



Notification of RR/MDR TB

Figure 14 presents the number of laboratory confirmed RR and MDR TB cases during the period 2009 to 2018 and the number put on treatment. The number of notified cases remains far below the number of estimated cases (2018: 376 notified vs. 2700 estimated cases (14%)). It remains, too, under the number targeted by the NTP for notification for the year 2018 (625 cases or 60%). Too low is, equally the proportion of cases notified and put on treatment: 320 (85% of) cases.

Figure 14. Evolution of RR and MDR TB notification and proportion initiated on treatment, 2009-18.



TB/HIV co-infection

The three following figures present diagnosis and care indicators for TB/HIV co-infection. HIV testing coverage of TB cases reached an appreciable, but still not sufficient level (>90% but <95%). The proportion of TB patients co-infection with HIV is relatively low (between 0.5% and 2% according to zone), with a trend to decrease, probably due to the increasing coverage, a phenomenon observed in other situations, too. However, ARV coverage is very low and decreased further during the last years (Fig. 15-17).

Figure 15. Percentage of TB patients with result of HIV testing.

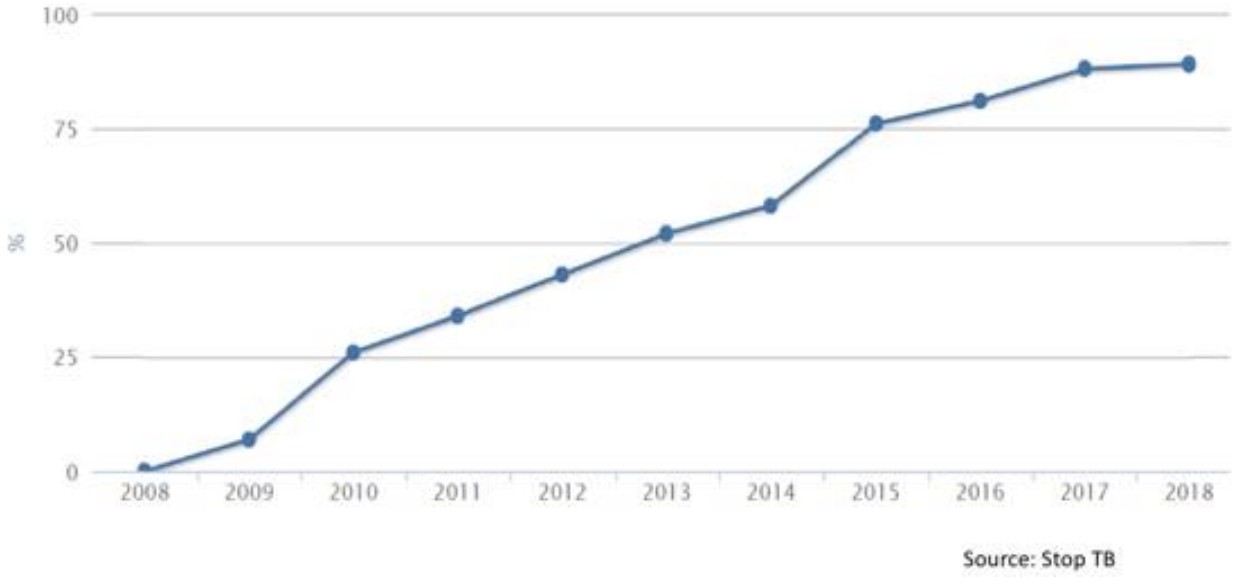


Figure 16. Percentage of Tb patients co-infected with HIV

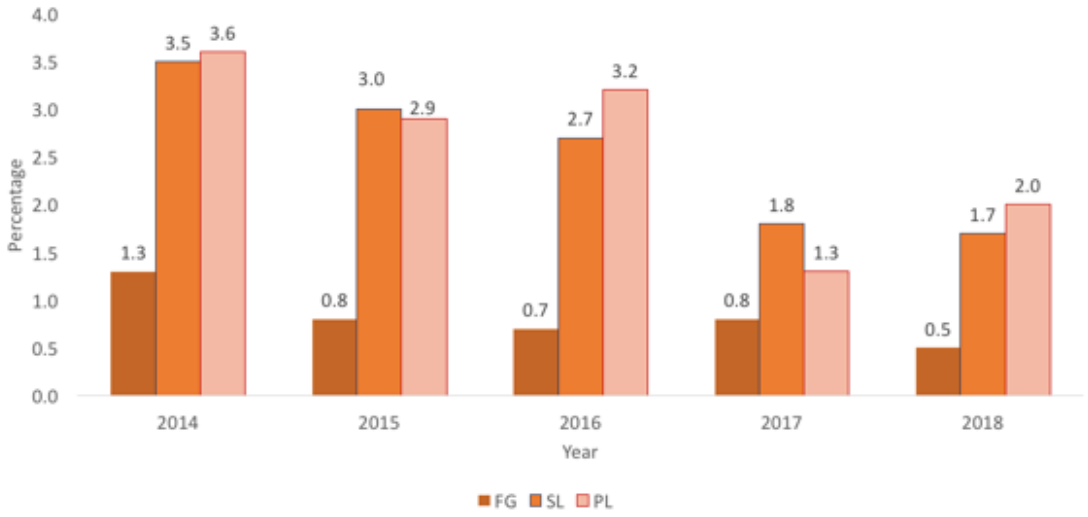
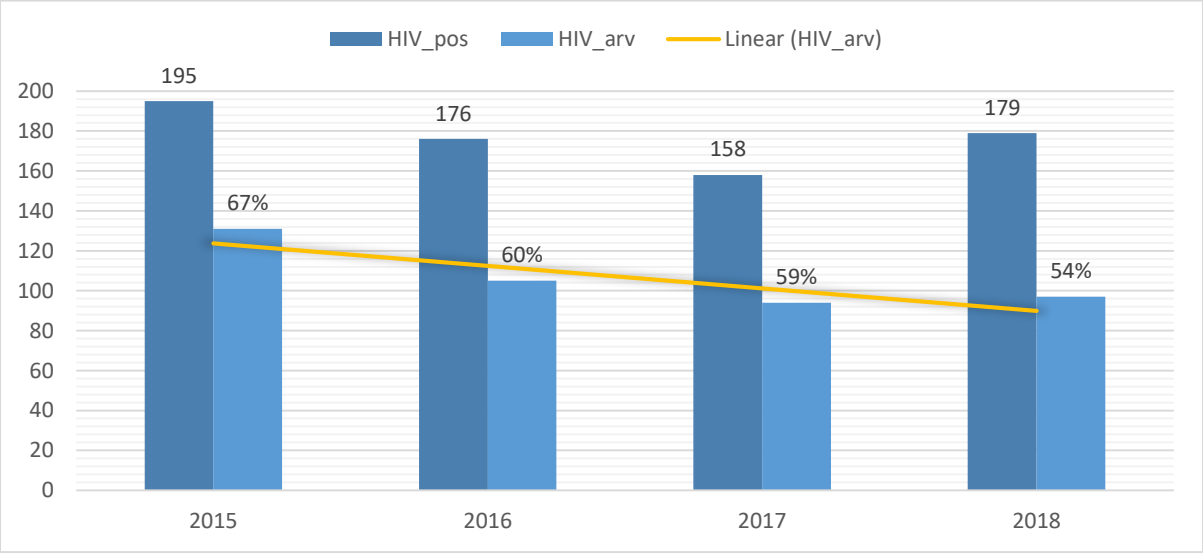


Figure 17. Number of notified HIV/TB co-infected patients and percentage with ARV initiation.



TB treatment outcome

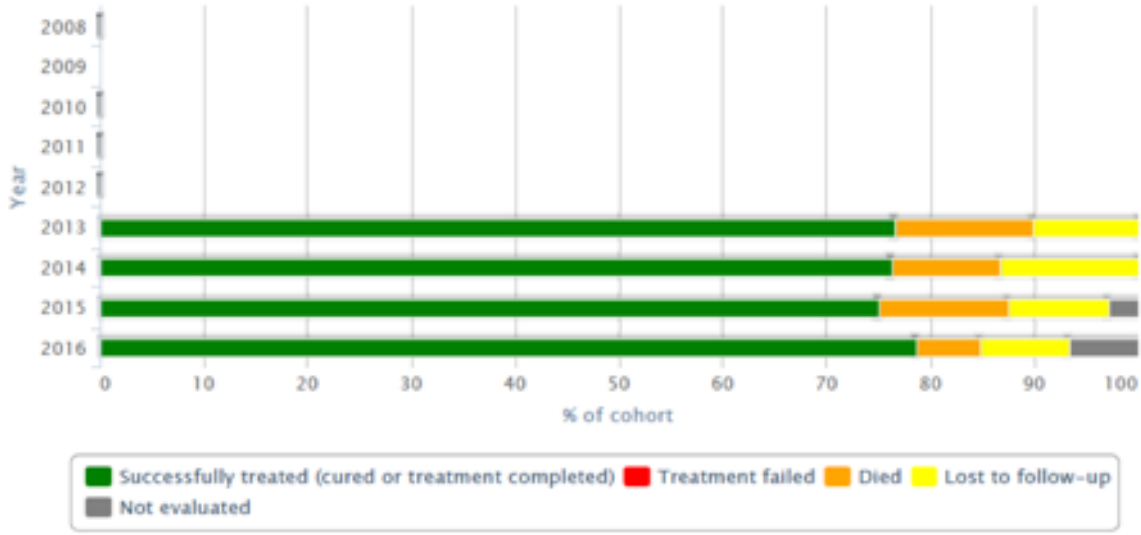
The following three figures present treatment outcomes for three different groups of patients, drug susceptible (DS) new TB cases, MDR-TB cases and TB/HIV co-infected patients (Fig. 18-20). In all groups, treatment success rates don't reach the desirable levels.

Figure 18. Outcomes of DS TB cases (new cases), Somalia 2009-17.

The treatment success rate in the 2017 cohort of new DS TB cases is 86% against the target of 90%. Looking at the unsuccessful treatment outcomes one notes in particular that the proportion of non-evaluated patients is too high and even increased in this cohort in comparison to the 2016 cohort. Equally, the rates of 'Lost to Follow-up' (LTFU) patients and death rate have to decrease.

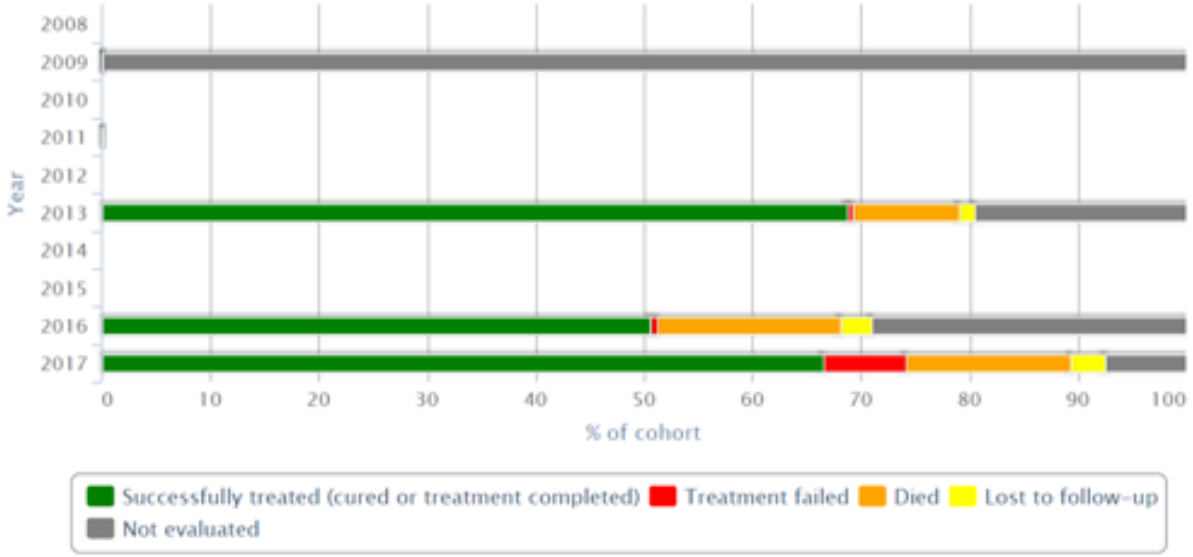
In RR/MDR TB patients, the proportion of patients not evaluated is increasing and the proportion of patients lost to follow-up is high. Death rate, on the other hand has decreased to almost a half.

Figure 19. Treatment outcomes in RR/MDR TB cases.



Finally, one observes – together with an increasing proportion of patients with a successful treatment outcome (better case-holding), an increasing proportion of treatment failures and a high death rate in HIV-co-infected patients.

Figure 20. Treatment outcomes in HIV-co-infected TB cases



Source: Stop TB

Evaluation of TB surveillance system

A preliminary evaluation of the Somalia surveillance system with the standards of WHO answering whether the system allows to measure the burden of TB in the country (mortality, incidence) gives the results presented in the following two tables (Table 5).

Table 5. Somalia TB surveillance system measured against WHO standards.

Standard	Met	Partially met	Not met	Not Applicable	Comments
B1.1. Case definitions consistent with WHO guidelines	X				
B1.2. TB surveillance system is designed to capture a minimum set of variables for all reported TB Cases	X				
B1.3. All scheduled periodic data submissions have been received and processed at the national level		?			All?
B1.4. Data in quarterly reports are accurate, complete, and internally consistent		?			Who monitors?
B1.5. Data in the national database are internally consistent and free of duplicates	?				Probably yes
B1.6. TB surveillance data externally consistent			X		Childhood TB >10% = OK, but >5 years <1.5-3 times?
B1.7. TB surveillance data are internally consistent over time	X				Age, sex, Form of TB etc. = regular trends
B1.8. All diagnosed cases of TB are reported		X			Private sector treating and only partially reporting
B1.9. Population has good access to health care			X		
B1.10. Vital registration system has high national coverage and quality			X		
B2.1. Surveillance data provide a direct measure of drug-resistant TB in new cases		X			Three quarters for 2019: +/- 17% Xpert testing
B2.2. Surveillance data provide a direct measure of the prevalence of HIV infection in TB cases		X			>90%
B2.3. Surveillance data for children reported with TB are reliable and all diagnosed childhood TB cases are reported		X			Reliable? All reported?

The surveillance system meets ten of the thirteen standards fully or partially. For three standards measuring is inconclusive. This means that the data the system presents is not fully able to reflect burden and epidemiological trends “Yes is can, but only partially”. It means that for the moment burden estimates have to rely on WHO estimates following modeling.

Priority gaps and Logic of intervention

Priority gaps

Treatment coverage is low.

TB treatment coverage has remained low in Somalia as compared to the number of estimated cases. More than 50% of the estimated incident cases are not detected and hence not treated in the National TB Programme.

According to WHO Global Report 2018, the treatment coverage[3] in 2017 was 42%, meaning that about 20,000 active TB cases remained untreated. TB treatment coverage was even lower in MDR TB cases (14%). Case finding is predominantly passive. A complex of causes leading to under-detection of TB cases can be hypothesized as follows: (a) lack of awareness of TB signs and symptoms, and stigmatizing beliefs about TB; (b) lack of access of the population to health services in general and to TB services in particular (economic, geographical, cultural barriers) – the number of TBMUs is even according to international standards low with one TBMU for 160,000 inhabitants;[4] (c) lack of integration of TB services in general health services; (d) inadequate access to effective screening strategies such as Xpert testing, (e) low index of suspicion among general health personnel of TB, for suggestive signs and symptoms, (g) insufficient diagnostic capacities (coverage of diagnosis with Xpert for sensitive diagnosis); (h) inadequate logistics for sputum sample transportation; (i) inadequate collaboration with the private sector, in case notification and treatment of TB cases.

TB detection in children is important, but could be higher and needs more quality. Sample collection techniques (sputum induction, naso-gastric aspiration, fine needle aspirate) are not routinely used which may be limiting bacteriological confirmation of diagnosis in children. There is need to increase the knowledge and skills of health workers, as well as conducting mentorship of clinicians on diagnosis.

For identifying possible MDR patients there is inadequate access to Xpert testing. Training and on-site support through supervision and mentorship have to be enhanced.

Also numerically not so important, there is treatment coverage gap for HIV co-infected TB patients with regard to initiation of ARVs.

ACF activities in the community through FHWs and outreach activities, are still inadequate and not systematically evaluated. Contact investigation is not fully implemented, in particular among children <5 years old and household contacts of HIV-infected patients. Vulnerable or high risk groups (HIV infected persons, prisoners, diabetes patients, IDR, trans-border migrants) have to be screened according to well-designed strategies, and treated.

[3] Treatment coverage is the proportion of notified cases among the estimated incident cases.

[4] These figures suggest strongly that the observed low detection rate of all forms of TB for Somalia partly may be attributed to poor access to TB services, especially for the rural population. Overall, diagnostic TB centers coverage in Somalia is 0.6 Centers per 100,000 people. The rural population is served by 0.4 TB centers per 100,000 people as compared to 0.7 TB centers per 100,000 for the urban population. – According to the current NSP, out of the total missing cases, 61% are in the community, 21% are missed in the Non-NTP health sector that includes the private and the emerging primary health care system and only 18% are missed in the NTP program due to none or improper reporting resulting from ineffective monitoring and supervision.

TB treatment success rate is low.

Case holding has to be enhanced. The treatment success rate for bacteriologically confirmed DS TB patients is about 86% below the 90% global target. MDR-TB treatment success rate is about 79%.

An increasing rate of "not evaluated" patients in DS and DR TB together with patients LTFU constitute important barriers for increasing the proportion of successful treatment results. Reasons for both negative treatment outcomes have to be identified and strategies applied mitigating them. In MDR-TB patients, moreover, the death rate is important, probably due to late diagnosis. For still unknown reason in HIV co-infected TB patients the failure rate is increasing.

The aDSM system in place neither for DS nor for DR TB cases need to be strengthened. There is insufficient support provided to vulnerable drug-susceptible patients (malnourished, diabetics, hospitalized, etc).

The TPT of the program is largely under-developed.

The treatment of TBI is a neglected component of global TB control. It has now been recognized that to achieve targets to end the epidemic of TB, essential actions are required in preventive treatment of persons at high risk of TB. As a result, last year's UNHLM on the fight against TB committed world leaders to provide TBI treatment to at least 30 million people. For the treatment of TBI, the TB programme must focus on people living with HIV, who are about to start, or are already accessing, antiretroviral treatment (ART). The TB program must focus on household contacts of patients with bacteriologically confirmed TB, more specifically children under five years of age, but also other household contacts, in particular if HIV positive.

According to Stop TB calculations only 542 (16%) individuals out of 3400 individuals targeted received TB Preventive Therapy (TPT) in 2018 in Somalia. The reason why only few child contacts, under five in particular, and few other contacts of bacteriologically confirmed TB cases do receive TST in the country might have been due to limited resources to address priority interventions. A major initiative, however, has been taken in 2019 with development of Latent Tuberculosis Infection Management Guidelines, Operational Plan and budget. The present NSP takes up this initiative, puts a strong accent on contact investigation and child TB prevention.

The coverage of TB in HIV infected should be strengthened ensuring efficient supply of drugs, monitoring and communication channels.

Taking isoniazid for six months is the main treatment of choice, but longer or continuous therapies for people living with HIV and suitable alternatives as a three-month course of weekly Rifapentine and Isoniazid, or a one-month course of daily Rifapentine and Isoniazid could be considered.

The NTP and its activities are over-relying on donor funding and management.

Over-reliance on donor funding and uncertainty around the funding in the future while more funding is necessary to find the missing cases which are more expensive is a major priority gap. To sustain the good achievement of TB control in Somalia in the future and give a good chance to reach the SDGs for the priority diseases such as TB innovative funding mechanisms are needed. Closing the gap to ensure complete national funding for TB is not possible during the timeline of this NSP, however including progressively all elements of TB care in the budget of the MoH should start

during this NSP. Probably, more progressive integration of TB in general health services could be a way forward to utilize scarce resources more efficiently. Moreover, over-reliance on donor funding constitutes an obstacle to thorough appropriation of the NTP by national authorities.

The laboratory network needs strengthening.

Somalia relies almost completely for reference laboratory work like phenotypic DST/sequencing, EQA, and cultures on the Uganda SNRL. The country needs LPA setup completing Xpert testing. In a country with little 2nd line resistance, and using Xpert more and more widely, LPA could be used for isoniazid and 2nd line resistance testing. In 2020 2nd line LPA will available. The three reference laboratories (FGS - Mogadishu, Puntland – Garowe, Somaliland - Hargeisa) need strengthening of their human resources capacity, infrastructures and equipment.

These reference laboratories need reliable maintenance system, in preference with the engagement of bio-medical technicians or engineers. At least in two of the laboratories culture (solid and/or liquid) facilities have to be quickly installed. Following WHO recommendations the country might plan for MGIT (also in practice LJ is much cheaper, faster and easier to set up). Specimens from RR/MDR cases should continue to be sent to the SNRL for QA. If a patient does not do well on treatment or relapses when the SNRL have the M0 specimen for reference for further analysis (it's very difficult and takes a long to get a specimen for phenotypic DST or sequencing if the person is already on treatment). Also the country should now consequently use Ultra instead of Xpert- Ultra is more sensitive for TB, and more reliable for RR-TB, faster and the same price as Xpert, recommended by WHO since March 2017 to replace Xpert.

Integration of TB control activities in the general health services is insufficient.

Somalia faces a challenge of maintaining sufficient skilled human resources. Although capacity building for personnel involved in TB control activities has been strengthened, the NTP faces high turnover of trained personnel calling for repetitive refresher trainings. Moreover, many TB workers are complaining about workload and infection risks related to their work. As important as preserving a highly skilled workforce for TB control is, however, further integration of TB control in general health services, an integration as far going as possible, but as restrictive as necessary. The TB program has to maintain its “competitive advantages”, standardized diagnosis, treatment regimens and management tools for monitoring and evaluation which all together guarantee cost-free services and quality of care. On the other hand, capacity transfer needed for TB control to non-NTP personnel is urgently needed. Knowledge and skills of non-TB health personnel with regard to TB (detection, diagnosis, and treatment) are largely insufficient. This transfer has to be compounded by logistical arrangements (distribution of management tools, access to specimen transport systems, return of results of exams, availability of drugs where indicated). While access to detection and diagnosis of TB based on professional competency has to be generalized, treatment and treatment follow-up have to be guaranteed according to the present high standards of the TB program. Solution for this ‘formula’ have to be arranged primarily according to local circumstances.

The collaboration with the private sector is insufficient.

No formal study has been done concerning the offer of health services and patients’ health seeking behaviour. But according to educated guesses more than 70% of patients’ first contact with the health sector occurs in private clinics. It is very probable that an important part of TB patients

seeks and receive TB treatment outside the NTP TBMU unit network (see above). Associating private health care providers (doctors, clinics) to TB control is progressing too slowly. There is reluctance from the side of the private health care providers, be it out of fear for financial losses, for transmission of TB within their facility or even for stigmatising their clinic when known as receiving TB patients. The NTP has not only to integrate TB control activities in the rest of the public health care sector services, but has, too, to collaborate much more extensively with private health care providers. Private clinics with a high average number of consultations could offer TB services. Flexible strategies, fitting the local environment circumstances, have to be adopted to "embrace" a largely reluctant private sector. Some models have been put in practice like the exchange of diagnostic tools (like microscopes or X-ray machines) and commodities against the engagement to diagnose, treat and report TB control activities to the NTP.

The national health data management and M&E system needs strengthening

Program data registration and collection happens on paper; summarizing is done outside the NTP (WHO, WVI). Data collection tools exist and are well utilized for informing on the performance frame-work of the GF. However, the electronic data collection system has insufficient coverage of TB patient by web monitoring via eTB. Numerous (web) platforms and spreadsheets collected data on laboratory, drug management, HIV and other diseases are not interrelated. For the collection of important management indicators like contact investigation coverage, risk group coverage by Xpert exams and the subsequent follow-up of TB cases, proportion of by community health worker referred (presumptive) cases of TB existing management tools are incomplete and/or not collected and analysed systematically. Absence of reliable data on all management levels do impede rational monitoring, evaluation and planning. For program data to be collected by the NTP and covering the data demanded by WHO the way forward is the installation of DHIS2, the nationally adopted basis of the NHMIS, with its TB monitoring module and in a second step a module for individualized patient data (like "Tracker" for MDR-TB patients. In the meantime, several output or coverage indicators of program activities management tools have to revised or designed and implemented in order to monitor and evaluate the revised strategic interventions.

Operational research is insufficient.

In order to refine strategies, the NTP is in need of more data about TB awareness in the population, about access to health facilities, about patients' pathways, about efficiency and cost-effectiveness of different ACF strategies, about catastrophic costs. The program has interest to do operational research on an all oral STR for MDR-TB patients. Finally, a new prevalence survey for MDR-TB could inform the program about burden and strategies to tackle this menace of the control of TB in the country.

NTP does not have an explicit human rights and gender policy

Vulnerable underserved populations have been defined by the NSP, however barriers are not systematically removed to guarantee access to services. No TB focused gender assessment has been performed. No national network or support group is engaged with the NTP for supporting persons affected by TB.

Logic of interventions of the NSP 2020 - 2024

Considering WHO's estimations of TB incidence (262/100,000 pop.) and TB mortality rates (68.5 per 100,000 pop., incl. HIV/TB mortality), considering, too, all evidence collected through daily experiences of TB program clinicians and TB program managers, TB constitutes a major public health problem in Somalia. The NTP, since its creation in 1995, was consequently aligned with WHO programmatic recommendations and treatment strategies. The latest Guidelines for DS and MDR TB, including program management tools for data collection, are in line with WHO's recent recommendations. Case notification rates increased during recent years also the NTP experienced a slight set back between 2017 and 2018.

This notwithstanding, case detection has to be enhanced considerably in order to detect and treat incidence numbers estimated by WHO. This concerns in particular, too, the MDR TB cases. When looking at the age distribution of notified cases, one observes an intense transmission of the disease. 22% of cases in 2018 were children. The groups of age mainly affected are the ones between 15 and 34 years, the group of young adults supposed to constitute the economic and social backbone of the population. On the other hand, not all patients diagnosed are initiated on appropriate treatment and cure rates remain under the goal of 90%. How to find the missing cases and how to diagnose, treat and cure as many TB cases as possible? Integration of NTP activities in general health services and close collaboration with the private health sector are priority strategies for the NTP.

The NSP 2020 – 2024 endorses vision, goals and targets of the End-TB strategy, and follows the logic of the three pillars and its components. Adapted components are translated in main strategic interventions with corresponding activities and sub-activities. Pillar 1 designs strategic interventions along the line of the patient's continuum of care (enhancing detection and quality diagnosis with strengthening of the laboratory network, enhancing the quality of care and ensuring cure) completed by specific strategic interventions aiming at specific epidemics (vulnerable populations, high risk groups (HRGs)), and prevention (TST). Pillar 2 designs supportive strategic interventions (enhancing commitment, appropriation and additional resources; engaging all care providers and the community; strengthening program management; enforcing advocacy). Pillar 3, finally, designs strategic interventions concerning innovation and operational research (OR).

Core NSP: vision, goals, expected results, strategic interventions

Vision:	A Somalia free of Tuberculosis - with less than 10 incident cases per 100,000 population by 2035.
Mission:	To contribute to the end of global tuberculosis epidemic by providing access to quality diagnosis and care of all forms of tuberculosis and by enhancing prevention of the disease.
Goals for 2024:	50% reduction in TB deaths (compared with 2015) 30% reduction in TB incidence rate (compared with 2015) <20% affected families facing catastrophic costs

Expected results:

Result 1	The number of all forms of notified drug sensitive TB cases increased to 32,000 in 2024 and treatment success rate increased to 90% in the same year.
Result 2	The number of RR/MDR TB cases enrolled on treatment increased to 1,500 in 2024 while the treatment success of the cohort of 2022 increased to 85%.
Result 3	The proportion of all diagnosed TB patients with a HIV test result and the proportion of HIV co-infected patients put on ART increased to 98% in 2024.
Result 4	The proportion of patients (children under five, HIV patients without TB disease, respectively) initiated on TPT increased to 80% in 2024.
Result 5	NTP program management capacities improved at all levels (coordination, monitoring and evaluation, data collection and exploitation for planning, execution of operational research).

Detailed Strategic framework

Strategic interventions as well as activities with expected outcomes to be implemented to achieve these results are developed according to the three pillars of the End-TB Strategy, and its adopted components as follows.

Pillar 1. Integrated, patient-centred care and prevention

1.1. Promote local care seeking behavior and prevention through community engagement.
1.2. Accelerate early screening of TB.
1.3. Ensure appropriate quality diagnosis of TB.
1.4. Ensure quality of care and cure for drug sensitive TB, including patient support.
1.5. Ensure prevention, diagnosis, and treatment of childhood TB.
1.6. Enhance programmatic management of drug-resistant TB, including patient support.
1.7. Strengthen management of TB/HIV and other co-morbidities.
1.8. Promote intensified screening, diagnosis and treatment of high-risk groups (HRG).

Pillar 2. Bold policies and supportive systems

2.1. Seek political commitment with adequate resources for TB and prevention.
2.2. Enhance multi-sectorial collaboration and engage all care providers.
2.3. Enhance programmatic management.
2.4. Promote Universal Health Coverage, social protection, human rights and nutrition.
2.5. Perform advocacy.

Pillar 3. Intensified research and innovation

3.1. Utilise new diagnostic tools and anti-TB drugs.
3.2. Determine research priorities and perform research.

Pillar 1: Integrated patient-centered care and prevention

Strategic interventions and activities within this pillar aim to detect as many patients as possible, as early as possible and to cure them. They intend to enhance the adequacy between the demand (health seeking behaviour), the offer (TB services) and the estimated and observed needs (reduction of TB incidence, avoidance of TB mortality, prevention of catastrophic costs incurred by TB disease). Apart from enhancement of the quality of technical interventions inherent to TB control for

which the NTP bears responsibility, an accent is put on the development of decentralized analyses and local initiatives and solutions, monitored during supervision.

Strategic intervention 1.1. Promote local care seeking and prevention through community engagement.

Activities

1.1.1. Identify gaps in knowledge, attitude and practices with regard to TB symptoms and disease and TB services offered, locally in the catchment area of the TBMU.
1.1.2. Identify patients' care seeking behaviours, locally in the catchment of the TBMU.
1.1.3. Develop, locally for the catchment area of the TBMU, communication strategies and referral activities and implement them (TBMU responsible).
1.1.3.1. Engage locally available 'multi-purpose' messengers (community health volunteers (CHV), community based organisations (CBO), FHW, volunteering local community leaders) for TB IEC and referral activities.
1.1.3.2. Pay incentives for IEC and referral activities according to local habits (yearly forfeit 1,200 USD per TBMU to spend on average).
1.1.3.3. Evaluate referral activities (use the TB register (column "Observation") for identifying patients referred from the community).
1.1.4. Monitor result of activities from the registers, locally and during supervisions.

Output target

Indicator	**Baseline**	**Target**
Increase proportion of people with TB symptoms referred by CHW, FHW, and volunteering local community leaders	**5% (estim.)**	**30%**

Strategic intervention 1.2. Accelerate early screening

Activities

1.2.1. Map the present network of TBMU, their catchment area and their catchment population. - identify TB service needs to be covered.
1.2.2. Map the present network of catchment areas for sample collection and corresponding GeneXpert sites - identify needs to be covered.
1.2.3. Increase the number of functional TBMUs gradually from presently 96 TBMUs to 176 Units according to the results of exercises 1.2.1. and 1.2.2.
1.2.4. Buy, install and make functioning, successively, 40 additional GeneXpert machines based on an evaluation and projection of the efficient utilisation of present and additional machines.
1.2.5. Ensure training of technicians, provide registers, maintenance and spare parts.
1.2.6. Establish connectivity for all machines to make results of examinations available to clinicians and NTP management – with support of a TB Reference Laboratory (Kampala?)
1.2.7. Supply GeneXpert MTB/RIF Ultra cartridges increasing the number of presumptive TB cases tested by GeneXpert from about 17% in 2018 to 90% (175,000) in 2024.

1.2.8. Redefine, annually, the priority targets for Xpert testing as long as all presumptive cases cannot be tested by available GeneXpert MTB/RIF machines and cartridges.

1.2.9. Implement transport systems for diagnostic and follow-up TB specimen samples according to the results of exercise 1.2.1. adapted to the local situations; include in the planning public and private health facilities and doctors associated to TB services, HIV treatment centres, prisons, and IDP settlements (see 2.3.2.); count for 30% of total samples to be transported in 2020, increasing annually by 10%.

1.2.10. Make available quarterly budgets for the transport of specimens to be managed by TBMUs according to the local situation (forfeit USD 600 annually per Xpert/FM/LM site, number yearly identical to number of TBMUs (1.2.3.).

1.2.11. Supply 10 motorbikes for sample transport, distribute according to priorities, and make available budgets for yearly maintenance, spare parts and for oil/gasoline; forfeit for consumables (1,200 USD/year/motorbike).

1.2.12. Ensure the biosecurity of sample transports by providing vaccine containers (500) and zip-lock plastic bags together with SOPs (30% of samples in 2020, increasing annually by 10%).

1.2.13. Identify according to priority and train consulting health personal not associated to the NTP in public and private health facilities (the latter with >10 consultations/day) on symptoms and risk groups for TB disease and on indication for IPT; determine respective tasks according to the local situation [one one-day training per 18 regions per year with 40 participants).

1.2.14. Develop, print and distribute screening algorithms together with the revised NTP diagnostic algorithm (cf. NSP 2018-22, p. 54) for TBMUs, public and private health services (750x).

1.2.15. Share with the collaborating private sector available consumables for TB diagnosis (sputum mugs, vaccine containers, access to samples transport systems); to be arranged locally according to situation.

1.2.16. Monitor the output during regional supervisions.

Output / coverage targets

Indicator	**Baseline**	**Target**
Increase number of functional TBMUs	**96 (2019)**	**176**
Increase proportion of notified TB cases that receive a rapid diagnostic test (GeneXpert MTB/RIF®) at the time of diagnosis	**17% (2018)**	**90%**

Strategic intervention 1.3. Ensure appropriate quality diagnosis of TB

Activities

1.3.1. Ensure supply of laboratory consumables for 60,000 sputum exams (15% LM, 85% FM) for 2020, increasing by 6,000 additional exams/year up to 2024.

1.3.2. Train/recycle annually 100 laboratory technicians in a 3-days training. Associate private sector and prison lab technicians according to the local situation.

1.3.3. Ensure EQA for all LM/FM/Xpert sites.

1.3.4. Replace not functional Xpert modules (20 x 5 years).

1.3.5. Supply Xpert calibration kits annually to 50 Xpert machines in 2020, yearly increase 15, up to 2022.

1.3.6. Organise Ultra cartridge waste management.

1.3.7. Identify priority sites (utility for general health services with integrated TBMU) for additional digital Mini X-ray machines and purchase six machines.
1.3.8. Train six (6) technicians for manipulating the machines (and reading X-rays).
1.3.9. Identify and engage per zone two staff for maintenance of all diagnostic equipment.
1.3.10. Identify and train 10 clinicians per year in a three-days training for interpreting X-rays.
1.3.11. Identify 3 Referral Doctors for assisting at distance through web-based communication with the interpretation of digital X-ray images, give forfeit of incentives of 100 USD/month.
1.3.12. Monitor the diagnostic yield of utilisation of Mini X-rays for TB diagnostic during supervisions.
1.3.13. Strengthen three TB reference laboratories (Hargeisa, Garowe, Mogadishu).
1.3.13.1. Rehabilitate premises for LPA and culture (MGiT, LJ) in Garowe, Mogadishu, Hargeisa.
1.3.13.2. Engage for each laboratory 2 additional technicians.
1.3.13.3. Engage for each laboratory a data manager (part-time).
1.3.13.4. Provide training on techniques for a total of 15 staff / 5 per site (5 days).
1.3.13.5. Provide consumables according to number of Xpert exams projected.
1.3.13.6. Ensure maintenance of all equipment.
1.3.13.7. Ensure quality control of NRLs technical activities.
1.3.13.8. Initiate accreditation process for the three reference laboratories.

Coverage target

Indicator	**Baseline**	**Target**
Increase proportion of diagnostic testing that monitored at least once a year through EQA system for all diagnostic methods performed.	**85% (0 pour Xpert)**	**>98%**

Strategic intervention 1.4: Ensure quality of care and cure for drug sensitive TB, including patient support.

Activities

1.4.1. Supply drugs and consumables for treatment (21,000 patients in 2020, yearly increase of 3,000 patients, 2024 increase of 2000 patients.
1.4.2. Create, according to the local situation, DOTS corners, 2-5 per TBMU, for decentralizing TB treatment, including private health care providers.
1.4.3. Train 100 clinicians /per year, including those of the newly created TBMUs and DOTS corners, in a 3-days training on TB and TB control, associating the private sector.
1.4.4. Integrate in all trainings of NTP personnel a module about infection control (IC) activities regarding TB transmission.
1.4.4.1. Supply a yearly total of 20,000 surgical masks for presumptive cases in waiting areas and TB patients hospitalized, increasing the number by 15%/year.
1.4.4.2. Analyse IC measures applied and agree during supervision on initiatives to be taken for each individual TBMU.
1.4.4.3. Monitoring application of the IC initiatives proposed during supervisions.
1.4.4.4. Distribute to each TB patient a flyer on TB, TB treatment, TB services and protection measures (cough hygiene, personal and contact protection).

1.4.5. Establish per TB treatment unit annual objectives with regard to treatment outcomes, and follow-up quarterly within the unit and during supervision.

1.4.5.1. Perform audits of all death, in particular in TB-HIV co-infected patients (unite the personnel concerned, describe the clinical evolution of the patient until the fatal outcome, identify the moment of probably wrong decisions, draw lessons and develop SOPs).

1.4.5.2. Identify probable causes for all failure and relapse cases and develop SOPs.

1.4.5.3. Develop and apply local strategies for enhancing treatment adherence and DOT (eHealth, utilisation of local HCWs and FHW, telephone reminders).

1.4.5.4. Provide to all TB Units monthly communication credit for follow-up of patients (10 USD/unit/month).

1.4.5.5. Note in registers and patient files patients' detailed contact/location coordinates for referred patients treatment outcomes.

Outcome / coverage target

Indicator	**Baseline**	**Target**
Increase treatment success rate (TSR) for all DSTB cases	**86%**	**90%**

Strategic intervention 1.5: Ensure prevention, diagnosis, and treatment of childhood TB

Activities

1.5.1. Provide drugs for 4,500 paediatric TB cases in 2020 dispersible form, paediatric dosage), increasing with 400 cases by year to 2024.

1.5.2. Provide diagnostic materials facilitating childhood TB diagnostics (for gastric, nasopharyngeal aspirate, for sputum induction, for lymph node biopsy), forfeit for, 3.50 USD for 2,500 exams yearly.

1.5.3. Use available Xpert Ultra cartridges preferably for non-respiratory specimens of children.

1.5.4. Ensure systematic contact investigation in child contacts of bacteriological confirmed DS- and DR TB cases, for contacts of DR cases preferable by health personnel.

1.5.4.1. Establish in all TB treating services 'contact investigation registers'.

1.5.5. Make a situation analysis and elaborate an extension plan for upscaling IPT for children (MoH, partners).

1.5.6. Organise during 2020-2024 yearly 4 training courses on childhood TB for the most frequented TBMUs and MCH/IMCD units in public and private clinics and doctors with >25 paediatric cases/week, include training on sputum induction and aspiration techniques (30 participants, 2 days).

1.5.7. Organise two informative sessions per year to 'medical opinion leaders' and private MCH/IMCD units about the need, the progress and the challenges of the NTP with regard to childhood TB (prevention, treatment) – 1-day session, 30 persons per session; during year 2020 – 2024.

1.5.8. Print and distribute 750 guidelines for management of childhood TB and LTBI (to distribute in TBMUs, in major public and private health facilities including MCH/IMCD services, among

participants of the informative sessions). Simultaneously, reproduce diagnostic algorithms for childhood TB in form of posters and distribute.

1.5.9. Supply INH for the prophylactic treatment of TB in children targeting firstly children <5 years old (2020: 1000, 2021: 3000, 2022: 5000, 2023: 7000), 2024: 10000.

1.5.10. Promote BCG vaccination coverage individually and at health personnel meetings.

1.5.11. During supervisions, check for progress in coverage; include check of appropriate IC measures, advice for amelioration if indicated, and monitor.

Coverage targets

Indicator	**Baseline**	**Target**
Increase contact investigation among under five contacts of TBB+ patients	**N.A.**	**90%**
Increase LTBI treatment for contacts <5 years of TBB+ DS patients	**N.A.**	**75%**

Strategic intervention 1.6: Enhance programmatic management of drug-resistant TB

Activities

1.6.1 Supply drugs for MDR-TB treatments, according to the increasing number of cases detected during 2020-2024 (2020: 500, 2021: 700, 2022: 900, 2023: 1100, 2024: 1500). 75% short-course regimens, 25% WHO standard regimens.

1.6.2. Supply Linezolid 600mg as substitution drug for MDR patients developing auditory adversary effects (quantification: 15% of 75% of patients under STR treatment, on average 90 days).

1.6.3. Supply ten audiometers and portable ECG machines to MDRTB treatment centres.

1.6.4. Ensure that all pre-treatment and follow-up exams are free of charge for the patients organising this where there are no diagnostic facilities by contracting a laboratory or a major clinic on a post-payment basis (monthly).

1.6.5. Ensure for all patients DST for SLD.

1.6.6. Supply management tools for the management of MDRTB patients.

1.6.7. Supply 300 FFP2/N95 masks to MDR TBMUs personnel in 2020, increasing the number by a factor multiplying the number of additional MDR TBMUs with each time three additional personnel in need.

1.6.8. Ensure a social aid package for each MDRTB patients under treatment (100 USD/month).

1.6.9. Ensure 100% coverage of contact investigation among patients put on MDRTB treatment (additional to development of contact registers and distribution of management tools for monitoring and evaluation).

1.6.10. Train clinical personnel in charge of MDRTB while doing simultaneously the yearly evaluation, 45 participants/4 days/year.

1.6.11. Develop, print and distribute sets of plasticized SOPs for consultation rooms and wards for MDR TB personnel and patients (infection control, regimens and posology, adverse effects and their treatment, checking audio faculty) on average 40 sets of 8 sheets.

1.6.12. Ensure connectivity for all Xpert machines (15 days external AT) – cf. 1.2.6.

1.6.13. Designate at central level(s) a focal point MDR-TB and establish responsibilities and tasks (ensuring that all patients belonging to at-risk groups for RR TB are Xpert tested (RT cases, contacts of known RR/MDR patients, patients from 'hot spot' regions, foreigners, patients not

evaluating well clinically or bacteriologically); further ensuring treatment initiation of all MDR cases without delay (<7 days), DST for SLD for all diagnosed RR/MDR patients, systematic contact investigation, aDSM data collection and transmission etc.).

1.6.14. Create at central level(s) a continuously updated comprehensive data base for all MDR TB patients diagnosed by Xpert (LPA, culture) as a line listing containing, too, data about reason for Xpert testing, DST for SLD, treatment initiation. Xpert data can be transmitted via GxAlert connectivity.).

1.6.15. Introduce "Tracker" (where DHIS2 is functioning) for establishing an individualized data base for MDR TB patients; assisted by external AT 20 days/year, starting in 2021.

1.6.16. Buy smart-phones for entering MDRTB data in Tracker, number increasing yearly according to the number of MDRTB treatment units.

1.6.17. Establish a map of distribution of RR/MDRTB (including the past two years) in order to check for 'hot-spots'.

1.6.18. Create, on zonal level, a group of 3 clinicians deciding on "difficult" drug-resistant cases (adverse effects, additional resistances, extensive lesions etc.) who are regularly joinable on a social network and who propose and monitor appropriate quality clinical care and social support.

1.6.19. Distribute aDSM forms, introduce their use during training and supervision, ensure during supervision that data is collected/transmitted.

1.6.20. Develop models of decentralized management of MDR-TB care, according to local circumstances, community based or through 'MDR-TB DOT shops' (2020 10%, increasing yearly by 10%).

1.6.21. Supply five (5) WHO recommended standard XDRTB treatments in 2020, adding each year two treatments.

1.6.22. Ensure the yearly participation of one clinician at the Union-organized MDR TB course for African participants.

1.6.23. Conduct an operational study on a standardized all-oral STR for MDR TB, replacing Amikacin by two (?) oral drugs. Seek AT (Union?); protocol 2020, study 2021-2023, evaluation in 2024 – cf. 3.2.

1.6.24. Pay the yearly contribution to the Green Light Committee.

Outcome targets

Indicator	**Baseline**	**Target**
Increase number of MDR-TB treatment sites	**3 (2018)**	**13**
Increase number of notified RR/MRTB cases	**376 (2018)**	**1,500**
Increase proportion of notified RR/MDR patients initiated on treatment	**85% (2018)**	**100%**
Increase proportion of MDRTB patient files with aDSM information	**50% (estim.)**	**100%**
Increase proportion of MDR-TB patients with successful treatment outcome	**79% (2018)**	**85%**
Increase proportion of patients treated with new anti-TB drugs	**NA**	**90%**

Strategic intervention 1.7: Strengthen management of TB/HIV and other co-morbidities

Activities

1.7.1 Install, in parallel to the TB/HIV taskforce established and operationalized at the zonal levels, mechanism for collaboration between TB and HIV on regional and district level with once quarterly meetings evaluating common activities.

1.7.2 Conduct situation analysis and elaborate an extension plan for scaling up IPT for HIV infected patients (MoH, collaborative working group at all three levels, partners).

1.7.3 Nominate TB/HIV focal points within the zonal NTPs, define responsibilities and tasks.

1.7.4 Organise a data collection system for IPT in HIV treatment units exploiting existing registers, monitor progress on IPT for PLWH together with existing HIV services.

1.7.5 Promote, create wherever possible One-Stop shops for HIV and TB.

1.7.6 Ensure contact investigation of HIV co-infected TB patients and TST.

1.7.7 Distribute existing guidelines for management of TB/HIV co-infection and for LTBI together with SOPs in form of posters displayed in consultation rooms; 200 Guidelines, 1000 posters.

1.7.8 Organise 5 yearly trainings on clinical management of HIV/TB, target group HIV centre and TBMU personnel (30 participants, 2 days).

1.7.9 Supply INH preventive treatments (6month treatment) for PLWH free of TB disease, targeting preferably newly identified and unstable HIV patients.

1.7.10 Administer IPT to PLWH without TB disease, 4000 doses in 2020, increasing with 1000 doses each year.

1.7.11 Supply HIV tests annually according to the number of expected cases to notify, adding 4% confirmation tests.

1.7.12 Refer all HIV positive patients for treatment initiation to a HIV treatment unit for CTX and ART.

1.7.13 Identify, locally, private clinics and doctors treating diabetes patients and offer TB diagnostic facilities and treatment if indicated.

Output / Coverage targets

Indicator	**Baseline**	**Target**
Increase proportion % of TB cases with test result for HIV	**>90%**	**>99%**
Increase proportion of co-infected TB patients put on ART treatment	**54% (2018)**	**>99%**
Increase proportion of HIV pos. patients put on IPT	**N.A.**	**75%**

Strategic intervention 1.8: Promote intensified screening, diagnosis and treatment of high-risk groups (HRG)

Activities

1.8.1. Plan and conduct outreach activities according to locally pre-identified high risk populations (contacts, prisons, IPD settlements, nomads, supposed 'TB hotspots') and measure continuously number screened, number with presumptive TB, number referred and put on treatment (use register column "Comment" or "Observation", and number started on treatment.).

1.8.2. Establish cross-border TB patient monitoring.

1.8.2.1. Identify TBMUs along the border (each TBMU individually according to observed patient pathways). Establish a communication channels between cross-border TB centers staff.

1.8.2.2. Ensure the availability of transfer mechanisms between cross-border TBMUs, locally.

1.8.3. Ensure TB and HIV diagnosis and care in prison population.

1.8.3.1. Map major prisons with number of prison population, medical services within prisons *(Hargeisa, Somaliland; Bosasso, Galkayo and Garowe, Puntland; Mogadishu)* and candidate facilities for reference (TBMU, HIV treatment center).

1.8.3.2. Establish formalized collaboration agreements between TBMU and Treatment centres for HIV, including mutual responsibilities.

1.8.3.3. Train prison health personnel for diagnosis and management for TB and HIV; 3 trainings including 20 persons/3 days in each zone.

1.8.3.4. Organize sample transportation and return of results for TB and HIV screening for all new patients (3000/year).

1.8.3.5. Supply management tools for TB and HIV and drugs (anti-TB, ART, INH, CTX).

1.8.3.6. Train per prison (5) five peer educators, equip them with educational material and motivate for monitored educational and presumptive case identification and referral activities (10 USD/month/peer educator from 2021 – 2024).

1.8.3.7. Develop data collection tools and monitor and evaluate quarterly during supervision.

1.8.3.8. Integrate TB and HIV data in TB and HIV data collection system of the reference centres.

1.8.3.9. Cover TB detection, diagnosis and treatment in other prison within outreach activities.

1.8.4. Ensure TB and HIV diagnosis and care in internally displaced person (IDP) populations

1.8.4.1. Map major IDP settlements and habitats with population numbers and available medical services.

1.8.4.2. Establish formalized collaboration agreements between existing medical services (of partners) and TBMU and HIV treatment centres in vicinity.

1.8.4.3. Organize sample transports and return of results for screening for all presumptive TB cases (10,000/year).

1.8.4.4. Develop data collection tools and monitor and evaluate quarterly during supervision.

1.8.4.5. Supply management tools for TB and HIV drugs (anti-TB, ART, INH, CTX).

1.8.4.6. Train per settlement three peer educators, equip them with educational materials and for monitored educational and presumptive case identification and referral activities provide incentives (10 USD/month/peer educator from 2021 – 2024).

1.8.4.7. Enhance detection, diagnosis and case management by complementary rationally planned outreach activities.

1.8.4.8. Integrate TB and HIV data in TB and HIV data collection system of the reference centres.

1.8.5. Identify and organise a confidentiality guaranteeing free of charge network for voluntary periodical TB and HIV testing among HCW free of charge.

Coverage targets

Indicator	**Baseline**	**Target**
Increase proportion of HCW in charge of TB care screened for TB and/or HIV at least once per year	**N.A.**	**70%**

Increase proportion of prisons with a comprehensive HIV/TB control program	**N.A.**	**3**

Pillar 2: Bold policies and supportive systems

The Somalia NTP depends heavily on external funding and technical assistance for essential managerial tasks, mainly through international and local organisations. To improve TB control in Somalia, to reach the SDGs' and the End-TB strategy goals, political commitment with increasing government funding, good governance are necessary. Access to TB diagnosis and treatment form part of the measurement framework of UHC, for which indicators remain weak in the country. Interventions within this pillar seek to strengthen political commitment of administrations, coordination with partners, collaboration with the private health sector and communities and civil society. The interventions aim, further, at strengthening of the program management, in particular monitoring and evaluation. Finally, they aim at alleviating the financial and moral burden of TB experienced by TB patients and their families, and at advocating for support for the program and its activities in general.

Strategic intervention 2.1: Seek political commitment with adequate resources for TB services

Activities

2.1.1. Establish a high-level multi sectoral coordination mechanism to drive the national response to end TB (MoH/NTP will lead this mechanism, members of key ministries (MOH, MOE, MOJ, MOPID) NAC, and CSO; focus: increase of CDR, 11% per annum (through advocacy, awareness, legislation etc.).

2.1.1.1. Develop /Enforce legislation for TB services in the private sector.

2.1.1.2. Regulate the pharmaceutical sector with regard to importation, sale, and prescription of anti-TB drugs.

2.1.2. Re-design a functional organogram for the NTP (central levels), negotiate with the MoH acceptance, make nominate HR accordingly (data manager, LTBI and MDR-TB focal points).

2.1.3. Apply for 24 personnel (8 in Somaliland, Puntland, FGS, respectively) stationery, 18 computers, 3 printers, and logistics (3 cars, telephone and internet connection and running costs).

2.1.4. Increase staff morale through increasing the current paid incentives.

Strategic intervention 2.2: Enhance multi-sectorial collaboration and engage all care providers

Activities

2.2.1. Contribute to the expanding of UHC, with collaboration and promotion of TB services offered at private health clinics and private doctors, in exchange for diagnostic or other appropriate means; evaluate continuously the yield (3 presumptive TB cases per 100 consultations at least).

2.2.2. Share where feasible NTP quality TB drugs and management tools with private treatment providers.
2.2.3. Increase the number of FHW (100 additionally each year) in coordination with health sector interventions of MoH and other partners and define with the latter their package of activities (to define by districts, regions, and zones, separately, according to local circumstances like interventions of other partners etc.).
2.2.4. Integrate in all FHW and community health worker training sessions a TB/HIV module including information on the notion of patient-centred care, patient rights and gender issues.
2.2.5. Include in all trainings of the NTP programme members of civil society organisations.
2.2.6. Enhance participation of NTP personnel in meetings of professionals, in curricula planning committees of professional/medical schools in order to present Somalia's TB control program.

Coverage target

Indicator	Baseline	Target
Proportion of major private sector providers (> 150 consultations/week) engaged to provide comprehensive TB services	**N.A.**	**50%**

Strategic intervention 2.3: Enhance programmatic management

Activities

2.3.1. Supply registers, patient files, management tools (number per year according to patient number expected) as well for DS TB as for DR TB and childhood TB.
2.3.2. Organise workshops for revision of Guidelines for DS-TB and DR-TB (2021).
2.3.3. Multiply the Guidelines.
2.3.4. Perform once yearly zonal (2 participants/TBMU two days) and national (5 participants/zone three days) evaluation meetings.
2.3.5. Establish a half-yearly up-dated NTP training database in order to evaluate the training coverage among key TB staff and to determine training needs.
2.3.6. Plan, budget, and organize yearly trainings (content, who, where, how long, by whom),
2.3.7. Strengthen supervision.
2.3.7.1. Perform supervisions regionally (1x quarterly each TBMU, one supervisor, 2 days on average)
2.3.7.2. Develop supervision monitoring forms including key indicators of the program (TB epidemiology and program data quality; decentralisation – public and private; TST; IC; ACF activities).
2.3.7.3. Make pin up in each TBMU measurement of key indicators, together with local targets, and update continuously.
2.3.7.4. Send supervision reports within three days to regional, central level.
2.3.8. Ensure availability of data for programmatic monitoring and planning at central level.
2.3.8.1. Perform supervision, nationally, at least 1x/ year/per TBMU (1.5 day/TBMU/1 supervisor).
2.3.8.2. Install DHIS2 with TB module, completed by an individualized data base (Tracker) – (supported by TA).
2.3.8.3. Exploit data from (eTB and soon) DHIS2 and supervision reports, measure indicators per TBMU and region against targets, give quarterly feed-back.

2.3.8.4. Pin up measurement of key indicators, together with central/zonal targets, and update continuously.

2.3.8.5. Include a M&E framework training module in evaluation meetings and apply during supervisions.

2.3.9. Ensure yearly participation of NTP personnel (2) at a regional TB program management course (UNION).

2.3.10. Ensure yearly participation of NTP personnel (2) at international conferences.

2.3.11. Plan and organise Technical Assistance (TA) for GF proposal (2020), for mi-term evaluation, for an epidemiologic review and a programme review as well as for the revision of the NSP (2024).

Strategic intervention 2.4: Universal Health Coverage, social protection, human rights and nutrition

Activities

2.4.1. Integrate the module on psycho-social aspects of TB and TB treatment, communication strategies, and gender and rights in all trainings of NTP personnel.

2.4.2. Map all social welfare schemes, public and private (CSO), currently available for the poor and vulnerable groups in the country and assess how people with TB and their families may derive benefits from existing schemes.

2.4.3. Coordinate with relevant ministries and departments and advocate integration of TB into existing social protection schemes, or formulate new ones for people (and their families) with TB and with other diseases requiring long-term treatment.

2.4.3.1. Organise, via existing government and private protection schemes social support for people with TB and their families, according to priorities to be established (children, malnutrition, families living under the poverty line); take in account also other than hospitalized patients.

2.4.4. Cost average TB services (diagnosis, treatment, opportunity costs), separately for DS-TB and DR-TB, in forecast of future payment by health insurances or government welfare schemes and in order to argue with facts when asking for support.

Outcome targets

Indicator	Baseline	Target
Proportion of households affected by TB facing catastrophic costs	**N.A.**	**<20%**

Strategic intervention 2.5: Perform advocacy

Activities

2.5.1. Develop (with a professional agency) a communication plan including strategies, media, main messages, for information to the general public about TB, TB services, HIV, HIV services; integrate a strong component combating stigmatizing.

2.5.2. Develop, print and distribute information on TB and TB services for the general public in the public communication sphere according to the plan.

2.5.3. Contract with a telephone provider for sending yearly messages about TB to clients.

2.5.4. Organise World TB day.

2.5.5. Disseminate a yearly NTP reports to partners and possible funders, possibly during a meeting with partners and funders to advocate for support.

Pillar 3: Intensified research and innovation

The programme has attentively to follow the rapidly changing landscape of diagnostic tools and preventive and curing drugs. Uptake of these innovations (Xpert cartridges permitting 2nd-line DST, TB prevention by shorter regimens, 2nd-line anti-TB drugs) will have to be taken up timely. Further, programme-based operational research is key for improving programme implementation nationally and locally. The identification of problems, monitoring of activities, and evaluation of interventions permit to adjust policy along evidence-based recommendations. The NTP foresees the following OR activities 2020: RR among TBB+ NC; protocol + start all oral STR for MDR; 2021: KAP study; PPA, locally; 2022: MATCH study; Evaluation of efficiency case finding strategies; 2023: Catastrophic cost analysis; evaluation all oral STR; KAP study. NTP research capacity at different levels will be developed and a research team will be set up to work on identified research topics, including people from different Institutions. Technical assistance may be needed in many of those steps to carry out better research for better strategy.

Strategic intervention 3.1. Uptake new diagnostic tools and anti-TB drugs

Activities

Depending on the evolution of the rapidly changing landscapes of WHO approved diagnostic tools and approved new anti-TB medicaments the NTP will adopt recommended policies and integrate new diagnostic and treatment tools.

Strategic intervention 3.2. Determine research priorities and perform research

Activities

3.2.1. Seek collaboration for executing operational research (OR) activities (research institutions, TA).

3.2.2. Carry out the following operational research (OR) activities:
2020: RR prevalence among TBB+ NC; Protocol + Start of an all oral STR for MDR;
2021: KAP study; PPA study, by systematic sampling or locally;
2022: MATCH study, by systematic sampling or locally; Evaluation of efficiency case finding strategies;
2023: Catastrophic cost analysis study among TB patient households;
2024: Evaluation all oral STR; KAP study.

Estimated budget cost for the TB NSP 2020 – 2024

Pillar	Strategic Intervention	Year 1	Year 2	Year 3	Year 4	Year 5	Total	%
Pillar 1. INTEGRATED, PATIENT-CENTERED CARE AND PREVENTION	1.1. Promote locally care seeking and prevention through community engagement	894,760	754,000	1,070,627	884,000	1,175,493	**4,778,880**	5%
	1.2. Accelerate early screening of TB	1,754,884	1,124,234	2,007,094	2,089,577	3,026,971	**10,002,758**	11%
	1.3. Ensure appropriate quality diagnosis of TB	875,300	3,617,117	1,073,529	1,001,847	1,150,101	**7,717,895**	9%
	1.4. Ensure quality of care and cure for drug sensible TB, including patient support	1,169,831	1,301,696	1,501,613	1,692,174	1,998,423	**7,663,737**	9%
	1.5. Ensure prevention, diagnosis, and treatment of childhood TB	423,643	556,218	630,138	712,502	810,005	**3,132,506**	4%
	1.6. Enhance programmatic management of drug-resistant TB, including patient support	1,243,687	1,888,434	2,251,931	2,665,728	3,227,664	**11,277,444**	13%
	1.7. Strengthen management of TB/HIV and other co-morbidities	166,129	193,701	189,273	186,845	210,129	**946,078**	1%
	1.8. Promote intensified screening, diagnosis and treatment of high-risk groups (HRG)	594,800	685,800	852,200	845,800	1,112,200	**4,090,800**	5%
Pillar 2. BOLD POLICIES AND SUPPORTIVE SYSTEMS	2.1. Seek political commitment with adequate resources for TB and prevention	493,500	63,000	63,000	63,000	42,000	**724,500**	1%
	2.2. Enhance multi-sectorial collaboration and engage all care providers	100,000	105,000	110,000	110,000	120,000	**545,000**	1%
	2.3. Enhance programmatic management	583,020	391,890	574,180	463,220	800,340	**2,812,650**	3%
	2.4: Universal Health Coverage, social protection, human rights and nutrition	651,000	600,000	601,000	600,000	651,000	**3,103,000**	3%
	2.5. Advocacy	223,000	223,000	223,000	223,000	223,000	**1,115,000**	1%
Pillar 3. INTENSIFIED RESEARCH AND INNOVATION	3.1. Uptake new diagnostic tools and anti-TB drugs	200,000	-	200,000	-	200,000	**600,000**	1%
	3.2. Determine research priorities and perform research	580,000	50,000	140,000	100,000	145,000	**1,015,000**	1%
	Program Management	4,976,777	5,777,045	5,743,792	5,818,846	7,446,163	**29,762,624**	33%
Total		**14,930,331**	**17,331,135**	**17,231,377**	**17,456,539**	**22,338,490**	**89,287,872**	100%

Monitoring and Evaluation Plan

The M&E plan has been developed to measure progress made in the implementation of activities of the 2020 2024 NSP, as well as to measure progress made to achieve the intended goals and results. For each indicator, the following elements have been specified, purpose (impact, outcome, output or process); mode of calculation, source of information, periodicity (and timeliness) of data collection, entity which collects data, level of data collection, and baseline and expected values at the end of the year for which report is done. **-** This monitoring and evaluation plan contains 28 indicators assessing the goals (impact), operational objectives (outcome) and strategic interventions (output, coverage).

Currently, M&E support supervision in Somalia is done by two (2) entities namely MOH (NTP) and an independent international medical Organization (CCM-Italy). There are 3 distinct NTP offices in the three (3) zones i.e. South central, Puntland and Somaliland.

(To be developed by NTP, WVI, WHO(?))

NSP 2020 - 2024 performance framework

GOALS for 2024 as compared to 2015:															
30% reduction of TB incidence rate 50% reduction of TB deaths Reduction of TB-affected families facing catastrophic costs due to TB to >20%															
	Indicator		**Detail**	**Source**	**Freq.**	**Who collects**	**Level**	**2018**		**Targets for the years 2020 - 2024**					**Comments / calculations /hypotheses**
									2019	**2020**	**2021**	**2022**	**2023**	**2024**	
	Impact														
	Percentage of reduction of TB Incidence rate (per 100,000 pop.)	Impact	Measured by WHO estimations by modeling	WHO, annual TB Report	Annually Cumulative	WHO				6%	6%	6%	6%	5%	Decrease by 6% until 2023, then 5% by 2024 to reach 30% of TB incidence reduction in 2024 (against 2025 target of 50%)
	Percentage of reduction of TB Deaths rate	Impact	Measured by WHO estimations by modeling	WHO, annual TB Report	Annually Cumulative	WHO				6.5%	13%	19.5%	26%	31.5%	Decrease 6.5 p. 100k / year to reach 50% of 2015 value in 2024 (against 2025 target of 75%)
	Percentage of TB-affected families facing catastrophic costs due to TB (End TB Top-ten indicator N°3)	Impact	Numerator: Proportion of TB patients (and their households) who incur catastrophic costs Denominator: all patients treated	Survey				N.A.						>20%	

GOALS for 2024 as compared to 2015:															
30% reduction of TB incidence rate 50% reduction of TB deaths Reduction of TB-affected families facing catastrophic costs due to TB to >20%															
	Indicator		**Detail**	**Source**	**Freq.**	**Who collects**	**Level**	**2018**		**Targets for the years 2020 - 2024**					**Comments / calculations /hypotheses**
									2019	**2020**	**2021**	**2022**	**2023**	**2024**	
	Results or coverage														
	TB notification rate new and relapse cases (per 100k hab.)	Outcome	Numerator: Number of TB cases notified (new and relapses) Denominator: Population/100,000	HMIS, NTP report	Annually	NTP	National	111		133	148	162	175	183	
	Number of TB cases (all forms) notified	Outcome		HMIS, NTP report	Annually	NTP	National	16,614		21,000	24,000	27,000	30,000	32.000	Increase of 3000 up to 2023, then increase of 2000
	TB treatment coverage (End TB Top-ten indicator N° 1)	Outcome	Numerator: Number of new and relapses cases that were notified and treated Denominator: estimated number of incident cases in the same year (%)	NTP report WHO incidence estimates	Annually	WHO	National	42		55	65	76	87	96	
1.2	Total number of TBMU	Output		NTP reports	Annually	NTP	National	96		116	136	146	156	176	
1.3.	Percentage of newly notified TB+ patients diagnosed using WHO recommended rapid tests (End TB Top-Ten N°4)	Output	Numerator: Number of new and relapses cases diagnosed using WHO recommended rapid tests Denominator: Number of new and relapses case notified	HMIS, NTP reports	Quarterly and annually	NTP	National region HF	NA		30	40	60	70	80	Cf. DST coverage

GOALS for 2024 as compared to 2015:															
30% reduction of TB incidence rate **50% reduction of TB deaths** **Reduction of TB-affected families facing catastrophic costs due to TB to >20%**															
	Indicator		**Detail**	**Source**	**Freq.**	**Who collects**	**Level**	**2018**		**Targets for the years 2020 - 2024**					**Comments / calculations /hypotheses**
									2019	**2020**	**2021**	**2022**	**2023**	**2024**	
1.4	Treatment success rate (TSR) for all forms of TB cases (DS & DR-TB cases) (End TB Top-ten 2)	Outcome	Numerator: TB cases (DS- and DR-TB cases) successfully treated (cured plus completed treatment) Denominator: total number of TB cases (DS- and DR-TB cases) registered during the year	RHMIS	Annually	NTP	National District TBMU	86		87	88	89	90	90	
1.5	Percentage of LTBI treatment coverage among contacts < 5 (End TB Top-ten indicator N°5)	Coverage	Numerator: number of children who are contacts of TB cases started on LTBI treatment Denominator: number of children eligible for LTBI treatment	HMIS/NTP report	Quarterly and annually	NTP	National, TBMU, HF	NA		15	20	35	55	75	Parameters: one child <5 years per TBB+ patient; TBB+ proportion among notified cases increasing 10%/year
1.6	Number of TBMR treatment units	Output		HMIS/NTP report	Annually			3		5	7	9	11	13	
1.6	Number of notified RR/MRTB cases	Output		HMIS/NTP report	Annually	NTP	National	376		720	940	1160	1380	1500 **(1350 ?)**	If lower limit of confidence interval estimation remains unchanged - then >10% than this bound; 1350 = bound

GOALS for 2024 as compared to 2015:															
30% reduction of TB incidence rate 50% reduction of TB deaths Reduction of TB-affected families facing catastrophic costs due to TB to >20%															
	Indicator		**Detail**	**Source**	**Freq.**	**Who collects**	**Level**	**2018**		**Targets for the years 2020 - 2024**					**Comments / calculations /hypotheses**
									2019	**2020**	**2021**	**2022**	**2023**	**2024**	
1.6	Coverage of MDRTB patients treated with new drugs (%) (End TB Top-ten indicator N°8, adapted)	Coverage	Numerator: Number of TB patients treated with regimens that include new TB drugs Denominator: Number of notified TB patients eligible for treatment with new drugs	HMIS/NTP report	Annually	MDR-TB unit NTP	National	NA		40	50	60	80	90	
1.6	Percentage of RR/MDRTB cases diagnosed put on treatment	Coverage	Numerator: Number of notified RR/MDR TB cases started on appropriate treatment Denominator: Number of notified RR/MDR TB cases eligible for treatment within the same period	HMIS/NTP report	Annually	MDR-TB unit NTP	National	85		95	>95	>98	>98	>98	
1.6	Proportion of MDRTB patient files with aDSM information	Coverage	Numerator: Number of TB patients whose TB treatment card section on AE was completed adequately (every month) Denominator: Total number of registered MDR TB cases during the period of assessment.	HMIS/ NTP report	Annually	MDR-TB unit NTP	National	N.A.		80	>95	>99	>99	>99	
1.6	Treatment success rate, confirmed RR/MDR-TB	Outcome		HMIS/NTP report	Annually (for cohort)	MDR-TB unit NTP		79		>85	>85	>85	>88	90	
1.7	Percentage of TB cases with test result for HIV (End TB Top-ten indicator N°9)	Output	Numerator: Number of TB patients who had an HIV test result recorded in the TB register Denominator: Total number of registered TB cases during the period of assessment.	HMIS/NTP report	Quarterly and annually	NTP	National, Region Hospital, TBMU	>90		>99	>99	>99	>99	>99	

GOALS for 2024 as compared to 2015:															
30% reduction of TB incidence rate 50% reduction of TB deaths Reduction of TB-affected families facing catastrophic costs due to TB to >20%															
	Indicator		**Detail**	**Source**	**Freq.**	**Who collects**	**Level**	**2018**		**Targets for the years 2020 - 2024**					**Comments / calculations /hypotheses**
									2019	**2020**	**2021**	**2022**	**2023**	**2024**	
1.7	Proportion of HIV positive TB cases given antiretroviral therapy during TB treatment	Output	Numerator: number of HIV-positive TB cases given antiretroviral therapy during TB treatment Denominator: number of HIV-positive TB cases registered during the evaluated period	HMIS/NTP report	Quarterly and annually	NTP	National, Region, Hospital, TBMU	54		65	85	95	>99	>99	
1.7	Percentage of newly identified PLHIV and unstable PLHIV initiated on TPT	Coverage	Numerator: Percentage of newly identified PLHIV and unstable PLHIV initiated on TPT Denominator Total number of newly identified PLHIV and unstable PLHIV initiated on TPT	HMIS/NTP report	Quarterly and annually	NTP	National, Region, Hospital, TBMU	NA		20	40	50	60	75	
1.8	Percentage of Health providers working with TB screened for TB/HIV at least once during the year	Coverage	Numerator: number of Health providers working with TB screened for TB/HIV at least once during the year. Denominator: number of Health providers working with TB	HMIS, NTP report	Annually	NTP	All HF	N.A.		10	30	40	50	70	
1.1.	Percentage of presumptive cases referred by civil society, community (%)	Output	Numerator: Number of contacts presumptive cases referred by community Denominator: Total number of presumptive cases	HMIS, NTP report	Annually	NTP	TBMU	N.A.		5	10	20	25	30	

GOALS for 2024 as compared to 2015:															
30% reduction of TB incidence rate 50% reduction of TB deaths Reduction of TB-affected families facing catastrophic costs due to TB to >20%															
	Indicator		**Detail**	**Source**	**Freq.**	**Who collects**	**Level**	**2018**		**Targets for the years 2020 - 2024**					**Comments / calculations /hypotheses**
									2019	**2020**	**2021**	**2022**	**2023**	**2024**	
1.6	Coverage of contact investigated MDR TB cases (%) (End TB Top Ten 6) (End TB Top-Ten N°6)	Coverage	Numerator: Number of contacts of bacteriologically confirmed TB cases who were investigated for TB Denominator: Number of contacts of bacteriologically confirmed TB cases	HMIS, NTP report	Annually	NTP	National level	NA		80	90	>95	>95	>95	
1.3.	Percentage of TB cases with DST for rifampicin (End TB Top-Ten indicator N° 7)	Coverage	Numerator: Number of TB patients with a drug susceptibility result for at least Rifampicin (Xpert MTB/RIF or phenotypic DST) Denominator: Number of bacteriologically confirmed notified cases in the same year. Disaggregation for New TPB+ and previously treated cases	HMIS, NTP report	Quarterly and annually	NTP	TBMU	17 (2018)		40	50	60	80	90	
1.4.	Case fatality rate (CFR) for notified cases (%) , adapted from (End TB Top-ten indicator N° 10)	Outcome	Numerator: Number of TB deaths (from TB registers Denominator: estimated number of incident cases in the same year	HNIS, NTP report	annually	NTP WHO	National	4		<5	<5	<5	<5	<5	No vital register, thus adaption of the indicator

GOALS for 2024 as compared to 2015:															
30% reduction of TB incidence rate 50% reduction of TB deaths Reduction of TB-affected families facing catastrophic costs due to TB to >20%															
	Indicator		**Detail**	**Source**	**Freq.**	**Who collects**	**Level**	**2018**		**Targets for the years 2020 - 2024**					**Comments / calculations /hypotheses**
									2019	**2020**	**2021**	**2022**	**2023**	**2024**	
2.3.	Percentage of TBMU with no stock out of FL tracers (RHZE and RH ad) drugs of experienced in the last 12 months	Coverage	Numerator: Percentage of TBMU with no stock out of First-Line TB tracer drugs (R150H75ZE&R150H75) Denominator Total number of TBMU	NTP report	Annually	NTP	National	0		<2	<2	<2	<2	<2	
2.4.	Percentage of population with adequate knowledge* on TB symptoms, transmission and prevention	Outcome	Numerator: Number of people with adequate knowledge* on TB symptoms, transmission and prevention Denominator: Number of people interviewed through the survey.	Survey reports	Bi-annual	NTP	National	N.A.						>90	
2.3.	eTB 2020) ou DHIS2 TB module (2022-24) coverage in TBMUs as proxi of Timeliness of routine reporting	Process	Numerator: Number of cases reported in eTB/ DHIS2 during the evaluated period Denominator: Total Number of cases reported in all sources documents (eTB + and register) during the evaluated period by RSQA	NTP report	Quarterly, annually	TBMU, NTP	Regional, NTP	N.A.		>90	>95	>95	>99	>99	

GOALS for 2024 as compared to 2015:															
30% reduction of TB incidence rate 50% reduction of TB deaths Reduction of TB-affected families facing catastrophic costs due to TB to >20%															
	Indicator		**Detail**	**Source**	**Freq.**	**Who collects**	**Level**	**2018**		**Targets for the years 2020 - 2024**					**Comments / calculations /hypotheses**
									2019	**2020**	**2021**	**2022**	**2023**	**2024**	
3.2.2.	Number of operational research studies completed	Output	Number of completed operational researches (report disseminated)	Study report	Annually	NTP	National, Regional	N.A.		1	2	2	1	2	For details cf. NSP

Technical Assistance Plan

Activity	Expert profile	Period	Responsible partner	Estimate cost	Source of financing
1.2.2. Map services, patients, etc..	Expert in mapping	Year 1, 2; 45 days (3x10, 3x5 days)	WHO	Ticket 1,500 + 950 USD x number of days	GF, WHO
1.2.4. à 1.2.5 : Installation of new Xpert machines and training of lab technicians	Cepheid certified technician	Year 1, 2; 40 days (1/machine)	Xpert provider	Included in contract	Xpert provider
1.2.6. : Ensuring connectivity of Xpert machines (GxAlert)	Senior Consultant TB lab	Year 1, 2; 30 days (2x 15 days)	SNRL Uganda, (TB Reference Lab Bamenda)	Ticket 1,500 + 950 USD x number of days	GF
1.3.10. Strengthen the capacities for interpreting X-rays (TB, TB/HIV/paediatric TB)	National specialist/ Expert from abroad	Year 1-5; 3 days	Nat. association of lung specialists	500 USD x number of days or Ticket 1,500 + 950 USD x number of days	WHO, (The UNION/Expertise France?)
1.3.13. Strengthening des three NRL for TB	Senior Consultant TB lab	Year 1, 2; 30 days (3x10 days)	WHO / GLI	Ticket 1,500 + 950 USD x number of days	GF, WHO
1.3.13.7. : Audit for accreditation for NRL (Garowe, Mogadishu, Hargeisa)	Expert (international)	Year 3; 18 days (3x6 days)	WHO/ GLI	Ticket 1,500 + 950 USD x number of days	GF, WHO
1.4.5. Support implementation of IC strategies of the NTP	Expert (international)	Year 1, 3; 18 days (2x9 days)	WHO	Ticket 1,500 + 950 USD x number of days	WHO
2.3. Enhance NTP management capacities (M&E)	Consultant senior TB	Year 1-4; 100 days (4x25 days)	WHO, The UNION	Ticket 1,500 + 950 USD x number of days	WHO, GF, (The UNION/Expertise France?)
2.3.2. Guideline revision (DS TB, DR TB)	Expert in Public Health (TB program management)	Year 2, 3; 20 days (2x10 days)	WHO	Ticket 1,500 + 950 USD x number of days	WHO, GF

2.3.7. Strengthen HIMS (DHIS2) system and availability of data	Expert in Public Health (TB program data management)	Year 1, 2, 3; 60 days (3x20 days)	University of Oslo, WHO	Ticket 1,500 + 950 USD x number of days	WHO, GF
2.3.12. Mid-term and end-term evaluation of the program; epidemiological review	Expert in Public Health (TB program evaluation)	Year 3, 5; 45 days (3x15 days)	WHO	Ticket 1,500 + 950 USD x number of days	GF, WHO
2.3.12. Preparation of a new funding request to GF	Expert in Public Health and TB program management	Year 1, 4; 40 days (2x20 days)	WHO	Ticket 1,500 + 950 USD x number of days	GF
2.3.12. Preparation of a new NSP	Two experts in Public Health and TB program management	Year 5; 50 days (30 + 20 days)	WHO	Ticket 1,500 + 950 USD x number of days	GF
2.5. Develop with a professional agency a communication plan (strategies, media, main messages) for information of the general public about TB, TB services.	Expert in community mobilization and health communication	Year 1; 20 days	WHO	Ticket 1,500 + 950 USD x number of days	WHO, GF, (The UNION/Expertise France?)
3.2.1. Design operational research	Expert in Public Health (investigator)	Year 1-5; 35 days (5x7 days)	The UNION, WHO	Ticket 1,500 + 950 USD x number of days	GF, WHO

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