MINISTRY OF HEALTH
SOMALIA

The National Strategic Plan for Tuberculosis Control

National Tuberculosis Control Programme

2023

Foreword

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List of Acronyms

ACSM	Advocacy Community and Social Mobilization
AIDS	Acquired Immunodeficiency Syndrome
AMR	Anti-microbial resistance
ART	Anti-retroviral Treatment
BMU	Basic Management Unit
CAD	Computer-Aided Detection
CBO	Community Based Organization
CHW	Community Health Workers
CSO	Civil Society Organization
DOTS	Directly Observed Treatment Strategy
DQA	Data Quality Assessment
DST	Drug Sensitivity Test
EPHS	Essential Package of Health Services
EQA	External Quality Assurance
FGS	Federal Government of Somalia
FHW	Female Health Worker
GDP	Gross Domestic Product
GF	Global Fund
GTB	Global TB
HIV	Human Immunodeficiency Virus
KAP	Knowledge, Attitude, and Practice
LPA	Line Probe Assay
LTBI	Latent TB Infection
MoH	Ministry of Health
MD	Medical Doctor
NSP	National Strategic Plan
NSP-TB	National Strategic Plan for TB
NTP	National TB Program
NTRL	National TB Reference Laboratory
OPD	Outpatient Department
PDX	Portable Digital X-ray
PLWH	People living with HIV
PMDT	Programmatic Management of Drug Resistant TB
PPM	Public Private Mix
PPP	purchasing power parity
PQE	Program Quality Improvement and Efficiency
PSM	Procurement and Supply Chain Management
RR	Rifampicin Resistant
SLD	Second-line Drug
SOP	Standard Operating Procedures
TA	Technical Assistant
TBMU	TB Management Unit
TPT	TB Preventive Treatment
TSR	Treatment Success Rate
WHO	World Health Organization
WOW	Wellness on wheel truck
WVI	World Vision International

1. Executive Summary

1.1 Background

The National Strategic Plan for TB (NSP-TB) 2024-2026 is Somalia's fourth plan and replaces the current NSP-TB 2020-2024. The document presents the country's desire to end TB in line with the End TB Strategy of the World Health Organization (WHO). The strategies captured in this plan are well thought through and build on the significant progress the Ministry of Health (MOH) through the NTP has achieved to date, and at the same time, intends to address those gaps it could not address during the implementation of the last NSP, which ended in 2023. The plan seeks to scale up evidence-based practices, innovation, and new thinking to guarantee universal access to affordable, quality-oriented, patient-centred TB care and prevention. In addition, this new NSP-TB aligns with the National Health Policy and Plan of the MOH and builds on the achievements of the Essential Package of Health Services. Besides, its strategic framework is anchored on building a multisectoral platform that will ensure the provision of quality TB prevention, diagnosis, and treatment driven by bold policies, research, and innovation, including accountability at all levels.

Furthermore, through the NTP, the MOH has made significant strides in controlling TB in Somalia and has continued to make efforts toward ending the TB scourge in the country in line with the milestones and targets of the global strategy to end TB. For instance, TB incidence has reduced from 262/100,000 in 2018 to 250/100,000 population by 2021. To this end, and along with malaria and HIV/AIDS, TB has been pronounced as one of the health priorities in the national health plan and the essential package of health services. Also, the MOH/NTP has begun integrating TB service delivery into the routine healthcare service delivery system by shifting away from the concept of standalone TB units. The program believes this decision will help it achieve universal access to affordable, quality-oriented, and patient-centred TB care and prevention faster than it is now. Not let us forget that, like other diseases, TB service delivery has equally suffered the long decades of decennia of conflicts, political instability, and natural disasters, which have bewildered the country. This has encouraged the migration of skilled health workers and worsened the health situation in the country, thus, impacting the overall TB situation in Somalia. Despite the numerous challenges, the government has continued progressing across all program's thematic areas but not at the pace it would want.

1.2 TB Epidemics in Perspective

Tuberculosis (TB), an infectious disease affecting all ages, remains a significant public health problem in Somalia, despite the government's unrelenting efforts. The estimates of the disease burden in Somalia are still based mainly on indirect estimation, with uncertainty around how accurately they may reflect the actual burden of TB disease in the country. Nonetheless, Somalia is one of the high-burden countries for MDR-TB. As in many other high TB burden settings, economic, health, and sociodemographic factors are the key issues underlying TB disease in Somalia. In addition, the TB situation in the country is further complicated by the ability of the country to detect and notify over 50% of its estimated TB cases, including drug-resistant TB. In 2021, the incidence of TB was 250/100,000, with an HIV-negative TB mortality rate of 66/100,000 and an MDR/RR-TB incidence rate of 12/100 000. In the same year, of the estimated 43,000 incident TB cases (all forms) and 2,100 MDR/RR-TB cases, the country notified 17,422 (41% treatment coverage for TB), and 326 MDR/RR-TB cases (15.5% treatment coverage for MDR/RR-TB) were reported respectively. Of the 17,422 incident

TB cases notified in 2021, 87.4% knew their HIV status, and of this proportion, less than 1% were co-infected with TB and HIV, and 60% of the co-infected cases were placed on ART. Irrespective of gender, the age group 25-54 (the economically productive age group) in Somalia accounts for approximately 44% of the total incident TB cases notified in the country in 2021, further reiterating the economic impact of TB on Somali society. TB Treatment success rate (TSR) among incident TB, TB/HIV co-infected, and DR-TB cases has improved over the last nine years. For example, 89.5% of new and relapse TB cases registered in 2019 were successfully treated, 79.5% of HIV-positive TB cases reported in 2019, and 76.7% of MDR/RR-TB cases started on second-line treatment during the same period were treated successfully.

1.3 New Strategic Direction: NSP-TB 2024-2026

The NSP-TB 2024-2026 is a revision and extension of the NSP-TB 2020-2024 and will pave the way for more innovative and efficient TB control programming in Somalia. Before now, much has been done to provide TB services to Somalians; however, the gap in notification remained unbridged, as about 59% of estimated incident TB cases were missed annually between 2017 and 2021. Therefore, the need for re-strategizing and re-focusing became inevitable during the implementation of the last plan based on the findings of the epi analysis and program reviews. For clarification, developing the new NSP-TB is a deliberate effort of the National TB Program (NTP) to respond to new challenges and realities in TB control. It also considers the need to have an updated plan in preparation for its intention to request the Global Fund (GF) funding within the new funding cycle running from 2024 to 2026. The new NSP will consider the current gaps in program performance and other significant events, including adopting new recommendations, strategies, and technologies that enhance efficiency and program performance.

Furthermore, the new plan is designed to strengthen the NTP, serve as an advocacy tool for resource mobilization for TB care and prevention in Somalia, and ensure that the country is on track to achieving its goal of eliminating TB in Somalia, thus, contributing to the global effort to end TB. The overall goal was formulated to align with the three pillars of the Global End TB strategy, focusing on ensuring patient-centeredness, government accountability, community involvement, bold policies, regulatory system development, and adoption of innovation and research. The approaches adopted for this plan are well thought through and align with WHO normative guidance, other international recommendations and strategies, and program experiences, including techniques proven to be efficient and effective in similar settings. In a collaborative manner, the MOH/NTP, supported by the WHO and WVI under the technical guidance of an international consultant, adopted this three-year plan to provide universal access to quality TB services through:

- Expanding access to TB preventive, diagnostic and treatment services for DS-TB and DR-TB, including children, thus, increasing TB case notification and improving treatment success.
- Integrate TB and HIV services to reduce the burden of the two diseases among those affected.
- Address the needs of key affected populations (e.g., slum dwellers, IDP camps, and people living in hard-to-reach areas, including malnourished populations) by providing systematic screening, early detection, and uninterrupted treatment through people-centred approaches.
- Reduce catastrophic costs incurred due to TB by patients and their families.
- Mobilize domestic resources to sustain the gains made.

- Strengthen supporting systems for these achievements, including ensuring collaboration and accountability by establishing a "multisectoral accountability framework."

The framework of the MoH and NTP's vision and mission for TB control in Somalia guided the overall guiding principle for finalizing this NSP-TB 2024-2026. Also, it aligns with the global strategy to end TB and sets ambitious but achievable targets for the three years as part of its desire and efforts towards reaching the end TB targets and milestones. Table 1 highlights NTP's vision, mission, and the NSP-TB 2024-2026 goal.

Table 1: National TB Strategic Plan 2024 – 2026 for Somalia at a glance

The vision, mission, goal of the NTP, and the NSP-TB 2024-2026 goals
NTP's Vision for Tuberculosis: ▪ A Somalia free of Tuberculosis. **NTP's mission for Tuberculosis:** ▪ To contribute to ending global tuberculosis epidemic by favouring access to quality diagnosis and care of all forms of tuberculosis, including enhancing prevention of the disease. **NTP's goal for TB:** ▪ End TB in Somalia by 2035 **Goal of the NSP-TB 2024 - 2026:** ▪ Reduce TB deaths and incidence by 39.5% and 30.7%, respectively, compared to the 2015 value, and ensure that affected families facing catastrophic costs are <20% by 2026.

This overarching goal provides the fulcrum for the objectives, strategic intervention, and activities proposed in this NSP-TB, including the selected indicators and aligns with the three pillars of the End TB strategy. The objectives are SMART, the strategic interventions are apt and concise, and the activities are implementable within the implementation arrangement of the NTP's scope. The first pillar focuses on adopting innovative strategies, including technology, to enhance the provision of high-quality TB preventive, diagnostic, and treatment and care services to all Somalians, irrespective of their sociocultural status, without incurring catastrophic costs. The second looks at instituting bold policies and supportive systems for TB prevention, diagnosis, treatment, and care. The last pillar talks about embracing innovation and intensifying research. Overall, this goal will reduce the TB incidence rate from 274 per 100,000 in 2015 to 190 per 100,000 and correspondingly reduce the mortality rate of TB from 76 per 100,000 in 2015 to 46 per 100,000 in 2026. It also ensures that TB patients and their families face catastrophic costs below <20% by 2026. Table 2 summarizes the link between the goal, the three pillars of the End TB strategy and objectives for the NSP-TB 2024-2026.

Table 2: Summary of the NSP-TB 2024-2026 goals and objectives

Goal of the NTP: End TB in Somalia by 2035	
Impact Indicators and Targets This NSP will contribute to the following long-term impact indicators by reversing the TB epidemic in Somalia through increased access to patient-centred quality care and prevention services, embracing bold policies and supporting enabling systems, including adopting innovative ways to improve diagnosis, treatment, and care for TB: 1. Decrease TB mortality from 76/100,000 in 2015 to 46/100,000 by 2026. 2. Decrease TB incidence from 274/100,000 in 2015 to 190/100,000 by 2026. 3. Reduce the percentage of TB patients and their households experiencing catastrophic costs due to TB to <20% by 2026.	
Pillar 1: To provide high-quality TB preventive, diagnostic and treatment services to all patients without their having to incur catastrophic costs.	
Objectives under Pillar 1	
1.1	Increase TB treatment coverage from 41% in 2021 to 83% in 2026 by strengthening presumptive TB identification and increasing access to universal drug susceptibility testing.
1.2	Increase DR-TB treatment coverage from 15.5% in 2021 to 78.6% in 2026 and ensure that 100% of notified cases are enrolled on second line treatment by 2026 by improving access to DST.
1.3	Increase TB treatment success rate for new and relapse TB cases (adults, children, and adolescents) from 90% in 2021 to ≥90% in 2026 through providing quality treatment and care for DS-TB patients, including patient support.
1.4	Increase DR-TB treatment success rate from 77% in 2019 to ≥80% in 2026 through the provision of quality second line treatment and care, including patient support for DR-TB patients (adults, children, and adolescents).
1.5	Ensure that the proportion of children among new and relapse TB cases notified is ≥15% by end of 2026 by improving in-country diagnostic capacity.
1.6	Increase TB treatment success rate among TB/HIV co-infected persons from 46% in 2020 to ≥80% by 2026 through improving the management of TB/HIV co-infection and co-morbidities.
1.7	Increase the percentage of contacts of bacteriologically confirmed index TB cases (< 5 and ≥5 years) started on TB preventive therapy (TPT) from 0% in 2021 to ≥50 by 2026 through strengthening contact investigation and provision of shorter TB preventive regimen.
Pillar 2: Institute bold policies and supportive systems for TB care and prevention	
Objective under Pillar 2	
2.1	Mobilize at least 90% of funding needed to implement activities of the NSP-TB 2024-2026 by the end of 2026.
2.2	Increase the proportion of community contribution to national case notification to at least 20% of all new and relapse TB cases (all forms) notified annually by 2026.
2.3	Increase the proportion of PPM contribution to national case notification from 15.4% in 2021 to ≥20% of new and relapse TB cases (all forms) notified by 2026.
2.4	Ensure TB case reporting coverage is more than 90% by 2026 through strengthening of existing monitoring and evaluation, universal health coverage policy and regulatory frameworks for case notification.
2.5	Reduce stock out of TB product to less than 5% by 2026 through strengthening of the Procurement Supply Management (PSM) system and development of regulatory frameworks for quality rational use of TB medicines.

2.6	Reduce the percentage of TB patients and their households that experience catastrophic costs due to TB to less than 20% by 2026 through provision of social protection, poverty alleviation and actions on other determinants of TB.
2.7	Create supportive system for the successful implementation of at least 90% of activities captured in the NSP-TB 2024-2026 by the end of 2026.
Pillar 3: Intensified research and innovations	
Objective under Pillar 3	
3.1	Conduct at least 2 operations research annually by the end of 2026 to optimize implementation of the NSP-TB 2024-2026.
3.2	Adopt the use of two new tools at the end of 2026 to promote innovation for impact.

In addition to rigorously finding the missing TB cases and reversing the TB epidemic in the next three years, this plan's goal, objectives, and strategic interventions will achieve key interim targets in TB control performance in line with the milestone of the overarching indicators of the end TB strategy. The evaluation of the plan is presented in the third section of the document, the monitoring and evaluation (M&E) plan. More importantly, the program will work with all stakeholders within and outside the TB space to mobilise adequate resources and efficiently implement all the activities proposed in this plan. The implementation cost for the NSP-TB 2024-2026 is **Sixty million, one hundred and thirty-four thousand, seven hundred and sixty-five United States Dollars (US$60,134,765.00).**

2. Introduction

2.1 Purpose of the NSP-TB 2024 - 2026

The new National Strategic Plan (NSP) 2024 – 2026 for tuberculosis replaces the current NSP 2020 – 2024. The National TB Program's (NTP) desire to respond to new challenges and realities in TB control, including its intention to request the Global Fund (GF) funding within the new funding cycle running (2024-2026) are some of the reasons for reviewing and extending the current NSP 2020 – 2024. In addition, the mid-term program review findings revealed that the NSP 2020 – 2024 is not on track with the set targets and that the objectives are not SMART enough, indicating the need for the NTP to re-strategize and, hence, re-edit and extend the document. The new NSP will consider the current gaps in program performance and other significant events, including adopting new recommendations, strategies, and technologies that enhance efficiency and program performance.

The new NSP for TB will cover three years (2024 to 2026) and will focus the efforts of the NTP and its partners toward achieving the goals and targets to end TB through the provision of universal access to high-quality, patient-centered TB prevention, diagnosis, and treatment services for all in Somalia by 2026. In line with existing national and international health strategic documents, this document will emphasize strategies to address critical socio-economic determinants influencing TB in Somalia. As such, it will engage line Ministries, civil society organizations, and the community. The document is divided into four broad sections:

- **The core plan Section:** Describes the current situation of TB control in Somalia and presents a programmatic gap analysis, including critical challenges. It describes the goals, objectives, and strategic interventions the program intends to implement to address these challenges.
- **Operational and technical assistance plan section:** Describes the activities, sub-activities, and timeline for implementation and funding sources(s) of these activities.
- **Monitoring and Evaluation plan section:** Describes how the NTP will assess progress toward each of the targets set in the core plan.
- **Budget plan section:** Estimates the costs for implementing the NSP over the three years.

2.2 The NSP-TB development process

This NSP-TB was developed through a transparent, scientific, and inclusive process in response to the country's TB profile and the desire of the NTP to address issues related to low TB case finding urgently and inefficiency in program management. Several critical steps were involved in the entire process, including desk reviews, TB epidemiological analysis, review of mission reports (e.g., program review and rGLC mission), and in-country consultation with non-NTP stakeholders. The program provided primary efforts in putting the document together with support from the international TA **(Dr. Kuye Joseph, MD, Ph.D.)**, the Somalia WHO Focal Point for TB, and a team from the World Vision international. The 2024-2026 NSP-TB development began in January 2023, involving the engagement of critical stakeholders and program staff. Its development followed the country's epidemiological and mid-term program reviews in 2022, allowing for a thorough gap analysis and identifying the root causes of program underperformance. Beyond the two reviews, additional information, including consultations with critical constituencies, was used to obtain their input to the NSP further. Notably, as part of efforts to align the 2024 – 2026 NSP-TB to existing national health strategies, it was unanimously agreed that the document's lifespan should be three years; hence, NSP-TB 2024-2026.

3. Situation Analysis

3.1 Background Information

3.1.1 The Country Profile

The Federal Republic of Somalia is Africa's easternmost country in the continent's Horn, covering an area of 637,657 sq. km. The country is bordered west by Ethiopia, north by the Gulf of Aden, east by the Somali Sea and Guardafui Channel, and southwest by Kenya. The terrain consists mainly of plateaus, plains, and highlands, with a long coastline stretching to about 3,025 kilometers, arguably the longest of mainland Africa. Somalia's climate is principally desert.

Figure 1: Map of Somalia

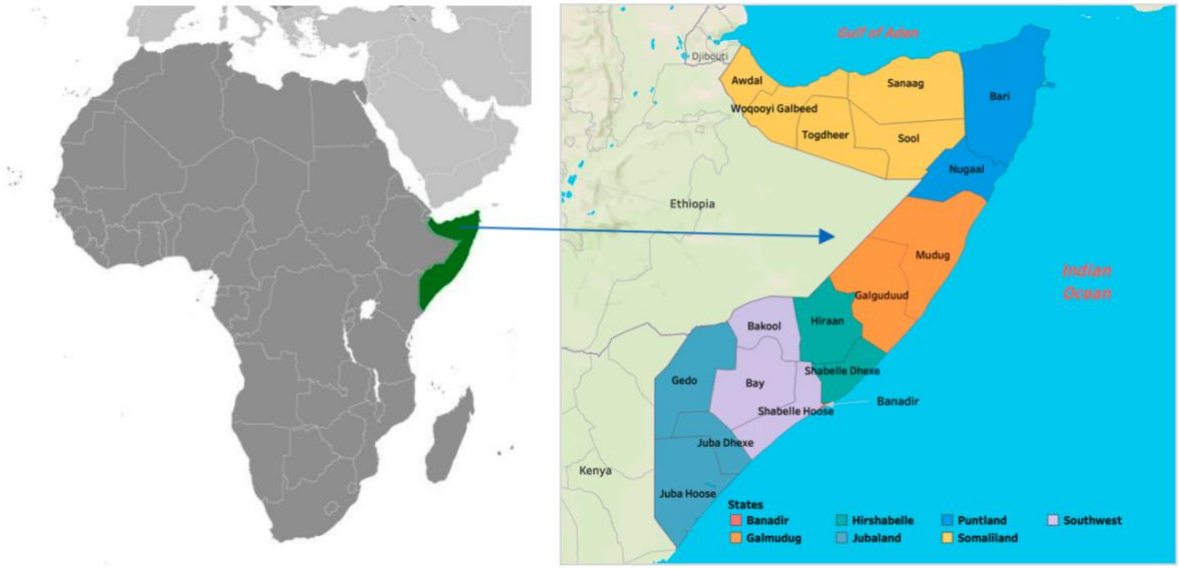


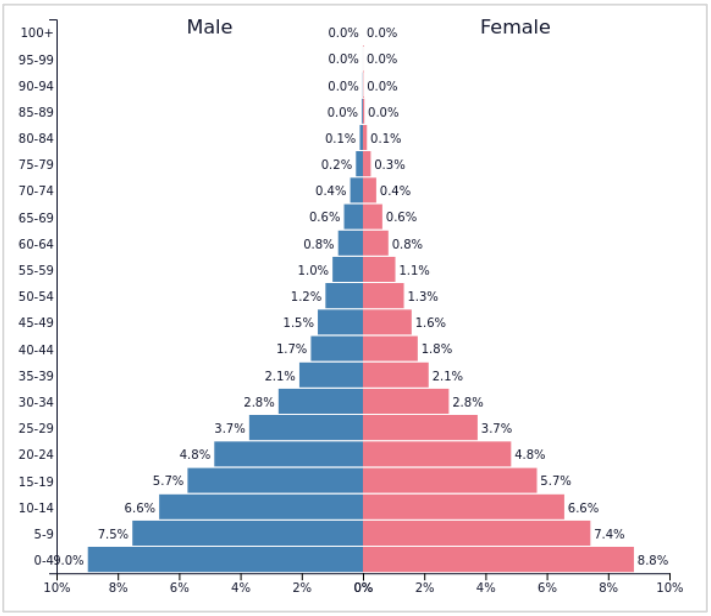
Table 3: Summary Country profile of Somalia[1]

Profile	Value	Period (Source)
Geographic Size	637,657 sq. km	
Natural Resources	Uranium, iron ore, tin, gypsum, bauxite, copper, salt, natural gas, and likely oil reserves.	
Founded	1960	
Legislature	Bicameral (Senate and House of Representatives)	
Mean annual precipitation	277.79 mm	2021 estimate (World bank)
Gross Domestic Product GDP (current US$)	US$7.63 billion	2021 (World bank)
Gross Domestic Product Growth Rate (Annual %)	4.0 %	2021 (World bank)
Poverty headcount ratio at $2.15 a day (2017 PPP) (% of the population)	70.7%	2017 estimate (World bank)
Access to electricity (% of population)	49.7%	2020 estimate (World bank)

[1] World bank. https://data.worldbank.org/country/somalia.

Population	17,065,581	2021 estimate (World bank)
Fertility rate, total (births per woman)	6.4%	2020 estimate (World bank)
Population Growth Rate (Annual %)	3.1%	2021 estimate (World bank)
Urban population (% of total population)	47%	2021 estimate (World bank)
Life expectancy at birth, total (years)	56 years	2021 estimate (World bank)
Under Five Mortality	112/1000 live births	2021 estimate (World bank)
Maternal mortality ratio (modelled estimate, per 100,000 live births)	829	2017 estimate (World bank)
Literacy rate among adults (>15 years (% of population)	63%	2018 (UNICEF)
HIV sero-prevalence	0.1%	2021 estimate (World bank)
People using safely managed sanitation services (% of population)	32%	2020 estimate (World bank)

3.1.2 Demographic profile



The country's population is estimated to be 17,065,581 in 2021, with 85% being the age group below 35, suggesting a youthful population as shown in the country's population pyramid for 2021.[2] Children below five comprise 28%, while the age group 65 and above accounts for only 4% of the population. The population's median age is 16.6 years, with a sex ratio (male/female) of 1.01. The ethnic Somalis make up 85% of the country's residents, and the minorities (Bantu and other non-Somali, including 30,000 Arabs) occupy mainly the southern regions. A large percentage of the country is Muslim, and the official languages in the country include Somali and Arabic.

With an annual urban-population growth of 4.4%, 47% of the population lives in the urban area giving a population density of 26 people per sq. km of land area. Many of the population are internally displaced people (IDP) or are living as refugees in other countries because of many droughts and protracted civil wars. In 2020, Somalia had a crude Birth rate of 44/1,000 people, an infant mortality rate of 73/1,000 live births, and a life expectancy at birth of 56 years, which increased from its lowest of 27 ever recorded.[3]

[2] Source: https://www.populationpyramid.net/somalia/2021/#google_vignette.
[3] World bank: https://data.worldbank.org/indicator/SP.DYN.LE00.IN?locations=SO

3.1.3 Governance structures

Somalia is a Federal Republic comprising seven states Galmudug, Hirshabelle, Jubbaland, Southwest, Benadir, Puntland, and Somaliland, the de facto independent state yet to be recognized by the international community.[4] Within the seven states are 18 regions divided into 90 administrative district areas. The country runs a federal parliamentary republic type of government, with Mogadishu as the country's capital city. The executive branch of government comprises the chief of state/President and the head of government/Prime Minister of the republic. The legislative branch is a bicameral Federal Parliamentary system consisting of the Senate (54 seats) and the House of the People (275 seats). It is worth noting that the Federal Government of Somalia (FGS) has limited control over Puntland and Somaliland. Both states have separate constitutions, presidents, parliaments, and executive and functioning central and local governments levels of government. The situation is worsened by the activities of the militant Islamic group al-Shabaab, which controls large areas in the southern part of the country, regularly attacking representatives of the federal authorities. Somalia is counted among the group of fragile states.[5]

3.1.4 Economy and economic indicators

Somalia is classified as a low-income country with a per capita GDP PPP of US$ 1,303 and a total GDP of US$ 19.399 billion (2021 est.).[3] The economy is fragile, mainly informal, depending largely on agriculture, livestock, remittance/money transfer companies, and telecommunications. In addition, the potential of its economy has been crippled by war and instability; still, it has high remittances for basic survival, including making progress in clearing some of its unsustainable debt.[4] The primary agricultural produce includes animal milk (camel, sheep, and goat), sugar cane, fruit, sorghum, cassava, vegetables, and maize. In addition, the country has mineral deposits such as Uranium and a large residue of unexploited reserves of iron ore, tin, gypsum, bauxite, copper, salt, natural gas, and probable oil reserves.[4] Somalia's economy experienced a triple shock in 2020, including floods, coastal infestation, and the COVID-19 pandemic. Despite the triple shock, the economy only contracted by an estimated 0.4 percent, less severe than the 1.5 percent decline forecast in the 2020 Somalia Economic Update (World bank). According to the World Bank, the government's fiscal policy measures to aid businesses, increase official flows, and social protection measures to cushion vulnerable households are why the economy has performed better than expected.

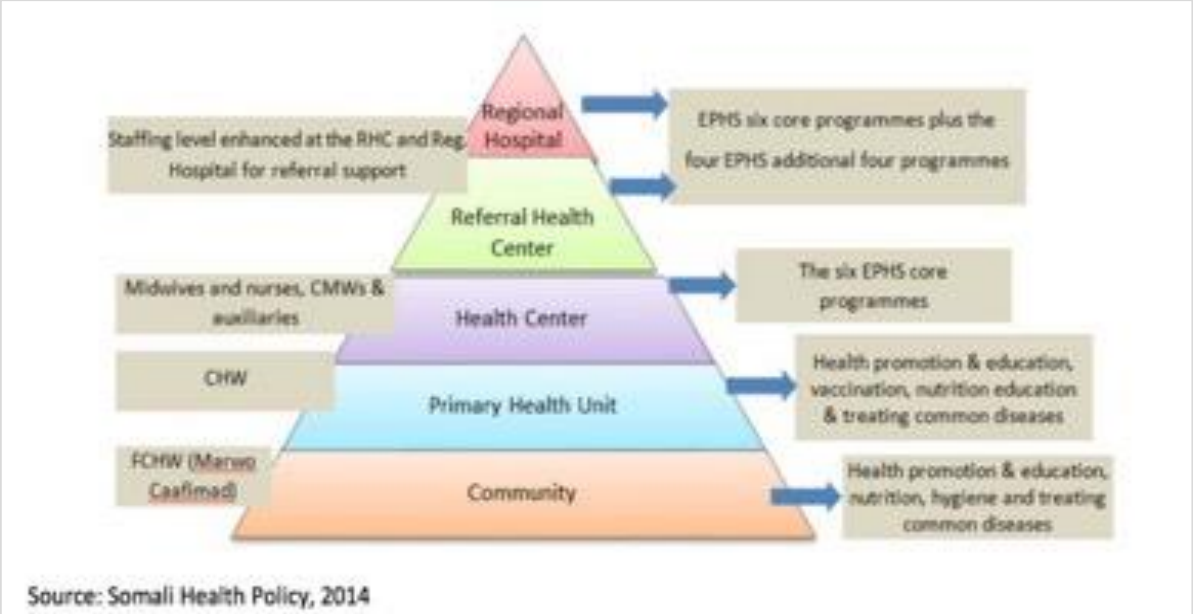
3.1.5 The Somalia Health System

Somalia's health system is fragile and fragmented, resulting from decennia of conflicts, political instability, and natural disasters. It is one of the countries with the world's lowest humanitarian and development indicators and inequalities across different social groups. In addition, the long decades of decennia of conflicts, political instability, and natural disasters have made the country suffer across all dimensions of human development, encouraging the migration of skilled health workers and worsening the situation. Health services in Somalia are delivered along five levels of care through the regional hospital, referral health centers, health centers, primary health unit, and the community (Figure 2). The level of healthcare determined the staffing level, staff cadre, and performance functions. In addition, health services delivery is augmented by private healthcare providers (Private-for-non-profit and private-for-profit) and other informal healthcare providers such as the Elaj across

[4] The World Factbook. https://www.cia.gov/the-world-factbook/countries/somalia/summaries.
[5] Fragile State Index 113.2, 2018.

the country. Figure 2 shows the relationship between the level of care, staffing, and performance functions.

Figure 2: Levels of regional service delivery, Staffing, and performance functions



Furthermore, health service delivery in Somalia is guided by well-thought-through policies and strategic priorities, which align with international strategies such as the Sustainable Development Goals (SDGs), and together provide the political framework for the health system and service delivery in the country. The key documents are listed below.

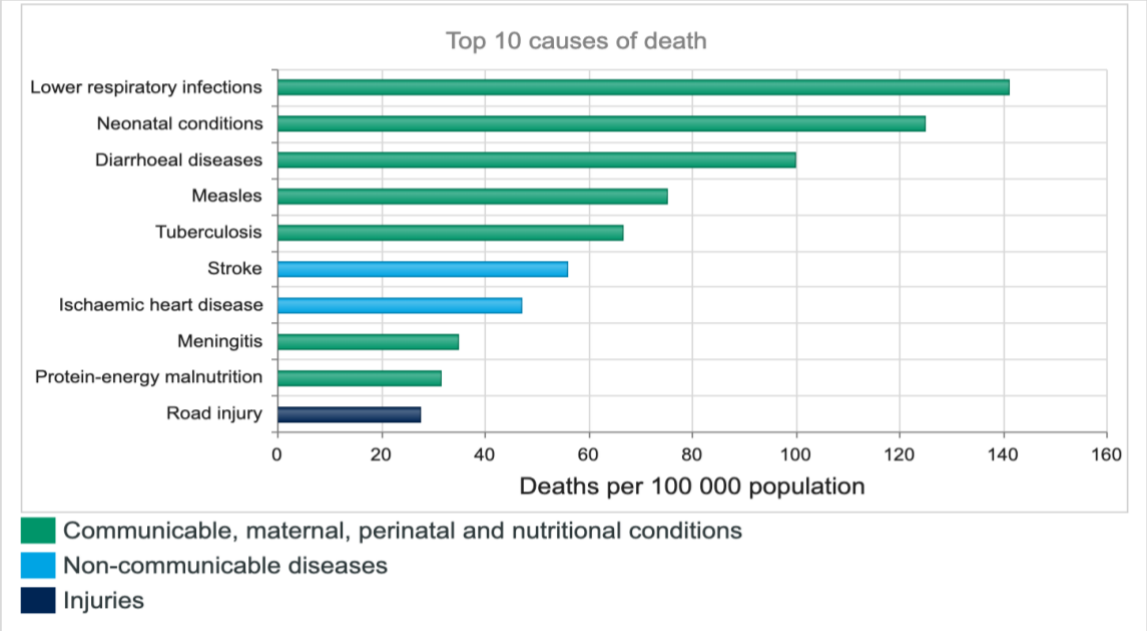
- WHO Country Cooperation Strategy (CCS) for Somalia 2021–2025.
- National Development Plan (NDP), 2020–2024.
- Roadmap for Universal Health Coverage, 2019–2023.
- Somalia Health Sector Strategic Plan 2022–2026 (HSSP III).
- National Development Plan III 2023-2027 (Somaliland).

The Ministry of Health & Human Services (MoHHS) oversees all health-related issues in Somalia. It remains committed to providing good-quality, accessible, and equitable health services throughout the country to improve the health of all Somali people.

3.1.6 Health outcome indicators

Like many African countries, Somalia struggles to improve most health indices, particularly infectious diseases, mother and child, and nutritional conditions. According to the WHO Global Health Observatory report, communicable (infectious diseases, maternal, perinatal, and nutritional conditions) accounted for the major cause-specific mortality in 2019, followed by non-communicable (chronic diseases) and injuries (Figure 3).

Figure 3: Top 10 causes of death in Somalia for both sexes and all ages (2019)[6]



Lower respiratory infections were the leading cause of death in 2019, followed by neonatal conditions. Tuberculosis (TB) is ranked 5th as the leading cause of premature death in 2019, like the same position it occupied in 2000; however, it reduced from 90.9/100,000 population to 66.6/100,000 population in 2019. Most key health indicators have improved over five years but at a marginal rate (Table 4).

Table 4: Changes in key health indicators[7]

Health Indicator	Value in 2016	Most recent value
Under 5 mortality rate/1,000 live births	130.3	114.6
Infant mortality rate /1,000 live births	81	73
Neonatal mortality rate/1,000 live births	39	37
Vaccination coverage (children aged 12-23 months)	NA	NA
% Of births attended by a skilled provider	25 (2002)	32 (2019)
Maternal Mortality Ratio/ 100,000 live births	893 (2013)	829 (2017)
Total fertility rate	6.9	6.4
Stunting (height for age in children under 5) - % stunted	29.3	27.4
Prevalence of underweight, weight for age (% of children under 5)	32.8 (2006)	NA
Prevalence of overweight, weight for height (% of children under 5)	4.7 (2006)	3 (2009)
Life expectancy at birth, female (years)	57	58
Life expectancy at birth, male (years)	53	54
Death rate, crude (per 1,000 people)	12	11

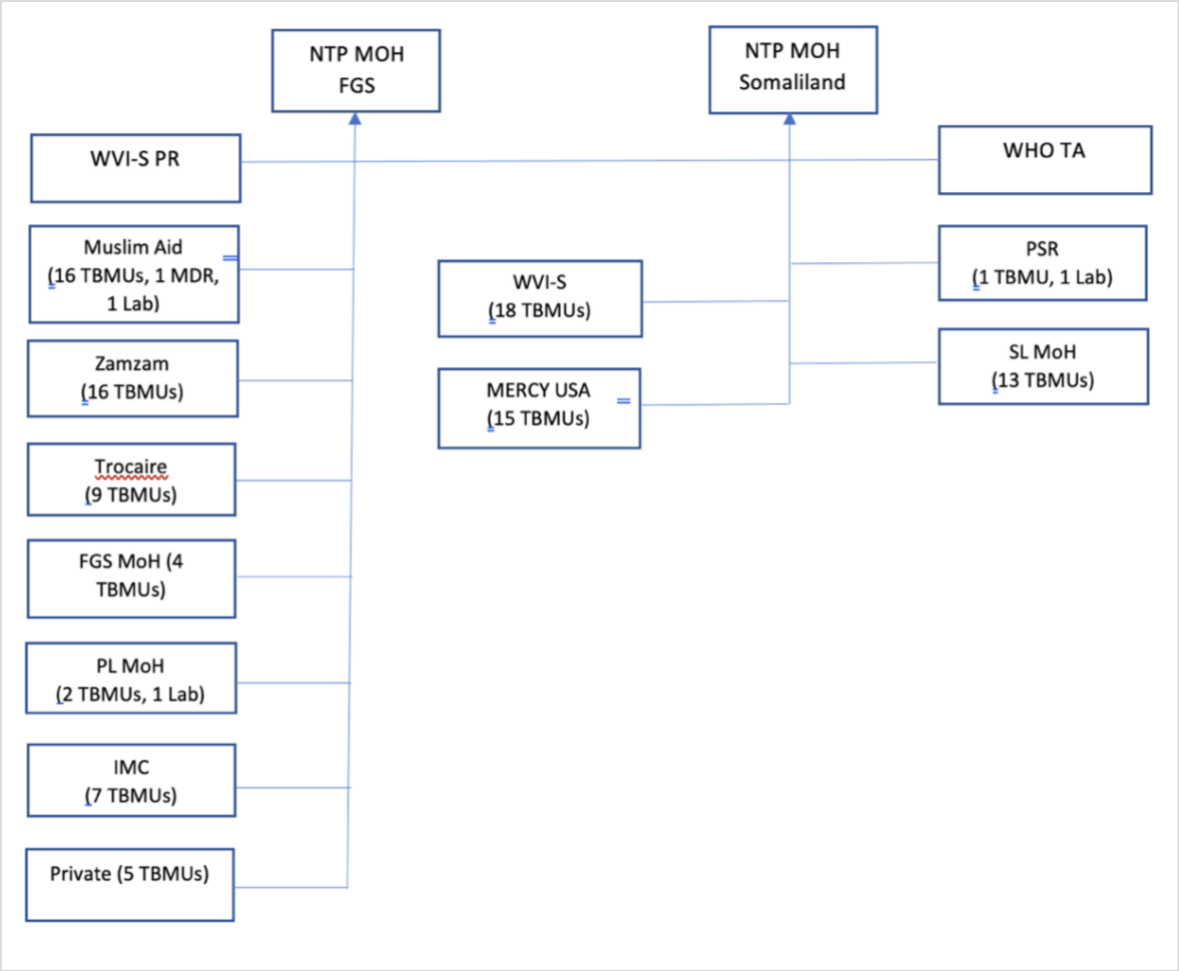
3.1.7 Structure of the National Tuberculosis Programme (NTP)

The NTP is the organ of the Ministry of Health saddled with the responsibility of controlling TB in Somalia. It has a functional structure/organogram that describes the function, including the line of

[6] WHO. The Global Health Observatory: https://www.who.int/data/gho/data/themes/mortality-and-global-health-estimates/ghe-leading-causes-of-death.
[7] The World bank Database

responsibilities and accountability among the team and hierarchy. There are two NTPs, the NTP for the FGS and that for Somaliland; both worked independently. TB, like other infectious diseases such as malaria and HIV/AIDS, is a high-level national impact indicator for Somalia's HSS Plan (2017-2019) and one of the MoHHS priority programs. The Program Manager heads the program and provides overall leadership to the NTP staff and other stakeholders involved in TB control and management in the country. The Program manager reports to the Director of Public Health and is accountable to the NTP team. The structural organogram of the NTP that describes its function is shown in Figure 4.

Figure 4: NTP basic functional structure



3.1.8 Financing and key partners

TB service delivery in Somalia is funded by the government and its partners, mainly the Global Fund. In 2021, the total funding for TB prevention, diagnosis, and treatment was US$ 11.1 million, while the expenditure was US$ 7.8 million, equivalent to 70.3% of the total received fund for the year. No funding gap was reported in 2021, but the funding source for TB prevention, diagnosis, and treatment was 100% international, of which the Global Fund is the primary donor. [8] Nonetheless, the Somali government is critical in providing policy direction and infrastructural and personnel support for TB control. TB services are delivered collaboratively with key stakeholders and partners in the country. The WHO is the leading technical partner to the program, providing technical assistance to the TB Program and World Vision (principal recipient of the Global Fund). World Vision works with other

[8] Tuberculosis Epidemiological Review in Somalia, 2022.

organizations as sub-recipients and the Ministry of Health to provide TB services nationwide. Other in-country partners supporting TB activities in Somalia include Medecins Sans Frontieres (MSF), independent monitoring agent Somarmen. As part of its mandate, the NTP continues collaborating with stakeholders to improve TB control in Somalia to reach the SDGs' and the End-TB strategy goals. Also, it is not relenting in ensuring improved access to TB diagnosis and treatment, which forms part of the Universal Health Coverage (UHC) measurement framework, for which indicators remain weak in the country.

3.2 TB epidemic situation in Somalia

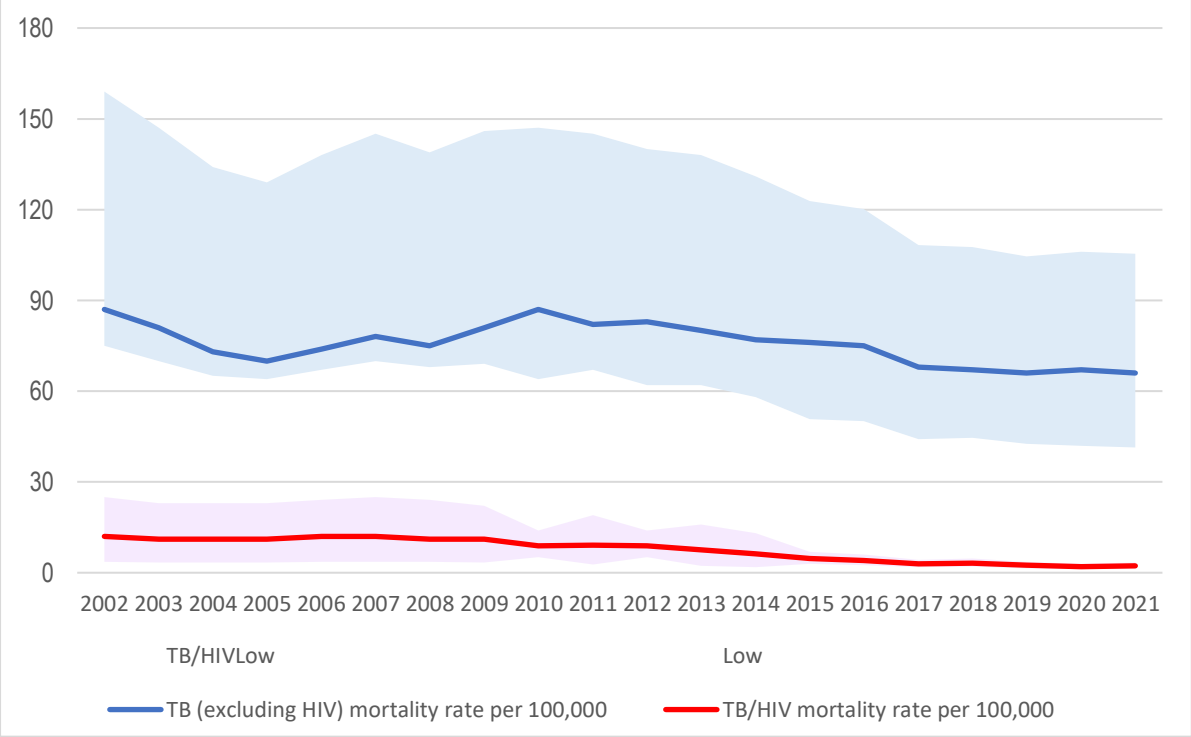
3.2.1 Estimations and notifications

The burden of TB (incidence, prevalence, and mortality) in Somalia is still based on estimates. In 2011 the country conducted a TB drug-resistant survey; however, no national TB prevalence survey was done, and vital registration is practically non-existent.[9]

Mortality

TB mortality, as estimated by the WHO (excluding TB/HIV deaths) for Somalia, has continually and steadily declined since 2010, from 87/100,000 in 2002 to 66/100,000 in 2021 (Figure 5). Similarly, estimated TB/HIV mortality significantly reduced from 12/100,000 in 2002 to 2.3/100,000 in 2021 (Figure 5). Unfortunately, little is being done to strengthen the country's Vital registration systems to help determine the accurate deaths attributable to TB.

Figure 5: Estimated TB mortality and TB/HIV mortality per 100 000 population, Somalia, 2002–2021



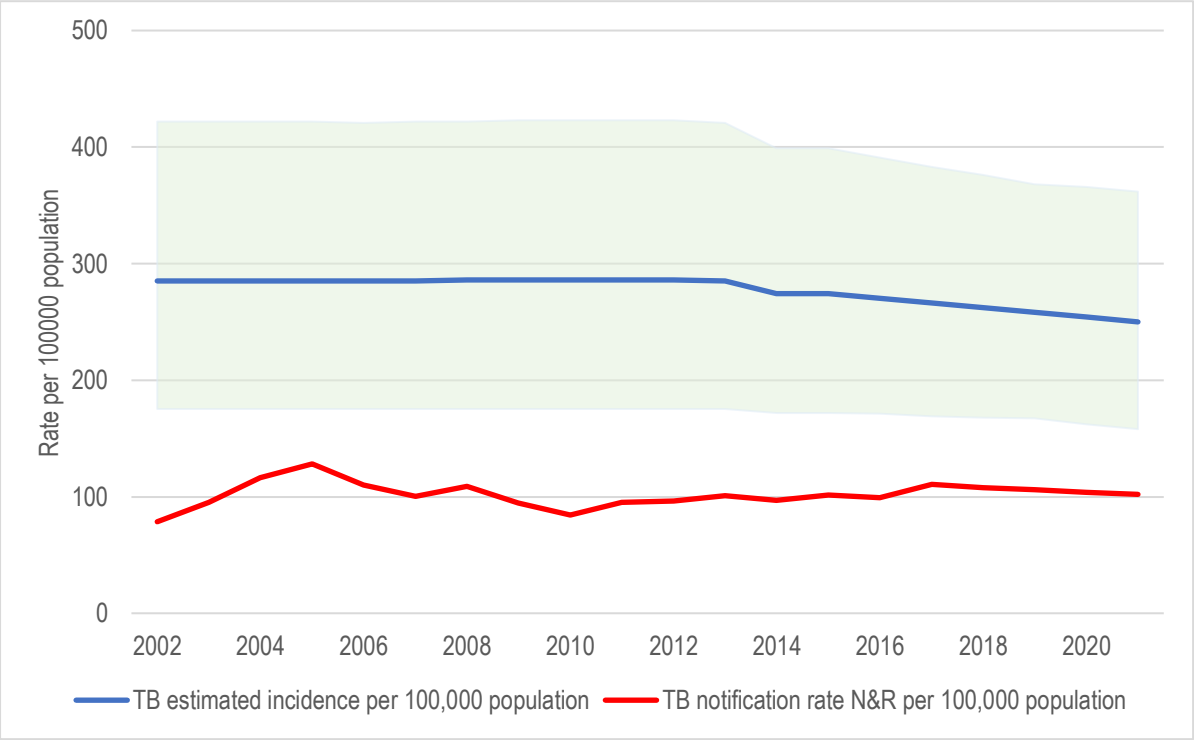
The blue and pink shaded area around the line indicates the uncertainty range.

[9] Tuberculosis Epidemiological Review in Somalia, 2022.

TB Incidence

The estimated incidence rate of TB for 2021 is 250 (158-362) per 100,000 population. Figure 6 shows the time trend of the estimated incidence rate in Somalia, which has remained stable for over a decade at around 285 and 286/100,000 before dipping in 2014. Similarly, the TB notification rate trend has remained relatively stable over the same period, increasing over two decades from 78.5/100,000 in 2002 to 102.1/100,000 (17,422 incident cases) in 2021. However, the TB notification rate declined annually in the last five years despite control efforts, from 110.9 in 2017 to 102.1/100,000 in 2021. The huge gap between TB notifications reported and the estimated TB incidence by WHO has been attributed to under-reporting and under-diagnosis, among other factors.[9] This suggests the need to strengthen the surveillance system and conduct a prevalence survey to measure these indicators directly to obtain more precise TB incidence and prevalence.

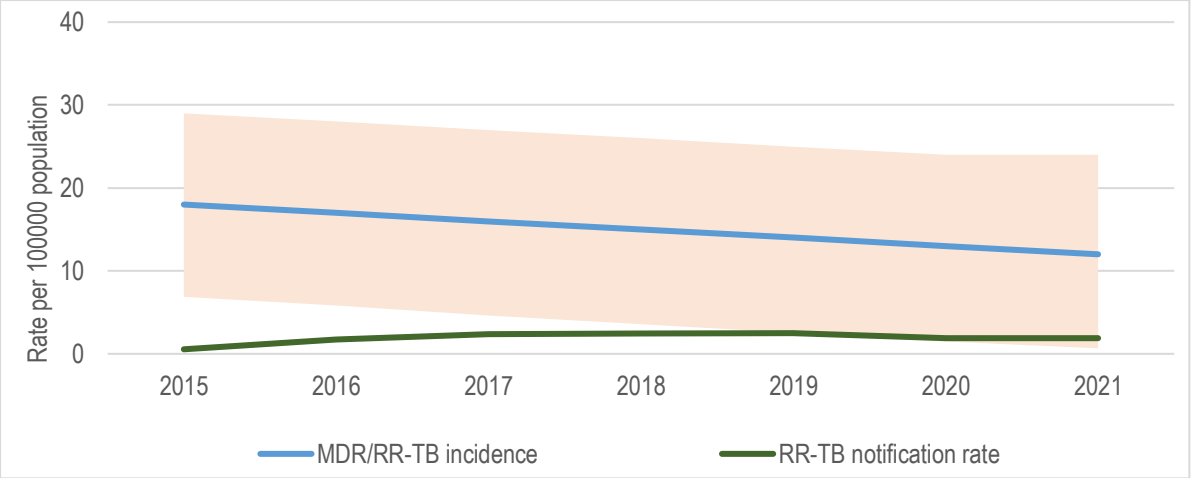
Figure 6: Estimated TB incidence and notification rate of incident TB cases per 100 000, 2002–2021



The green shaded area around the line indicates the uncertainty range.

The burden of RR-MDR/TB is 4.4% and 76% among new and previously treated TB cases, with the estimated value among notified cases to be 12/100,000 population translating to 2,100 cases in 2021 (Figure 7). These estimations place Somalia as one of the high-burden countries for MDR-TB (Global TB Report, 2022). Although RR/MDR-TB notification rate increased from 0.5/100,000 population to 1.9/100,000 population in 2021, over the past seven years, the estimated RR/MDR-TB incidence has declined from 18/100,000 in 2015 to 12/100,000 in 2021. This underscores the progress made in this program area, even though the value is far from the expected. However, the PMDT program in Somalia still needs strengthening.

Figure 7: Estimated RR/MDR-TB incidence and notification rate per 100 000, 2015–2021



3.3 Program Performance

3.3.1 TB Case notification

In Somalia, the number of incident TB cases has continued to increase, while the notification rate has fluctuated to become stable and declined since 2017. Thus, notified new and relapse TB cases increased annually from 11,975 in 2012 to 17,422 in 2021. Over the same period, relative to population, the notification rate per 100,000 population followed the same pattern and increased from 96.3 to 102.1 per 100,000. In contrast to notification, which increased gradually over the entire period, the TB notification rate increased but followed a different pattern. It initially increased from 96.3 in 2012 to 110.9 in 2017, then decreased at **-1.7%** annually to 102.1 per 100,000 in 2021. Despite this continued annual increment in the absolute number of TB cases notified, an uncertain number of incident TB cases remained unnotified annually. Continuing political and (armed) unrests in the country, subsequent service access problems, underdiagnosis of patients, and underreporting are some of the contributory factors attributable to the annual missing TB cases in Somalia.[9] The COVID-19 pandemic impacted, but not significantly, the TB case notification rate between 2020 and 2021.

Figure 8: Time-series trend of national TB notifications, 2012-2021

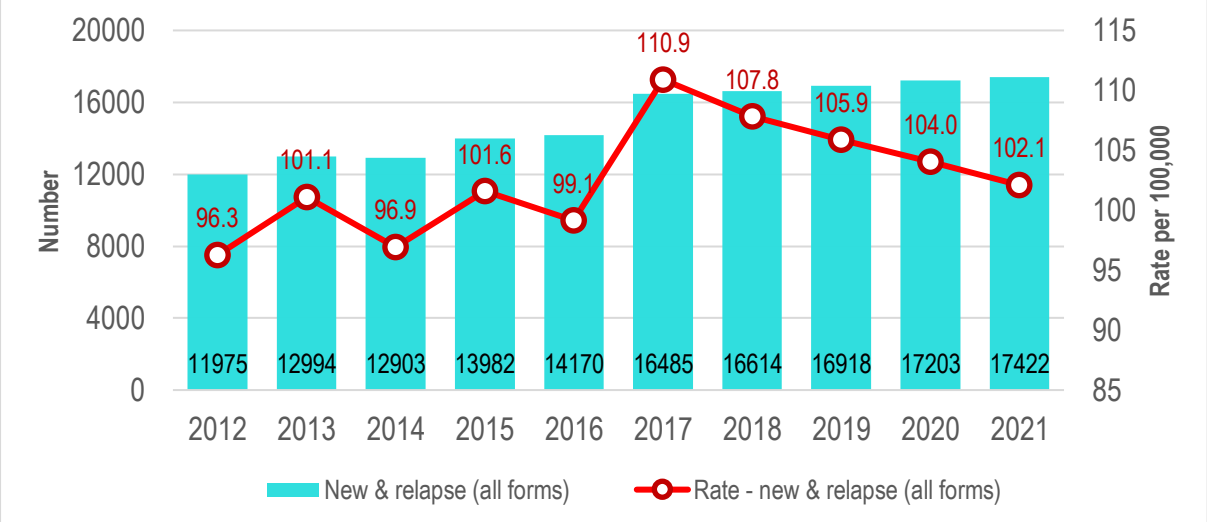
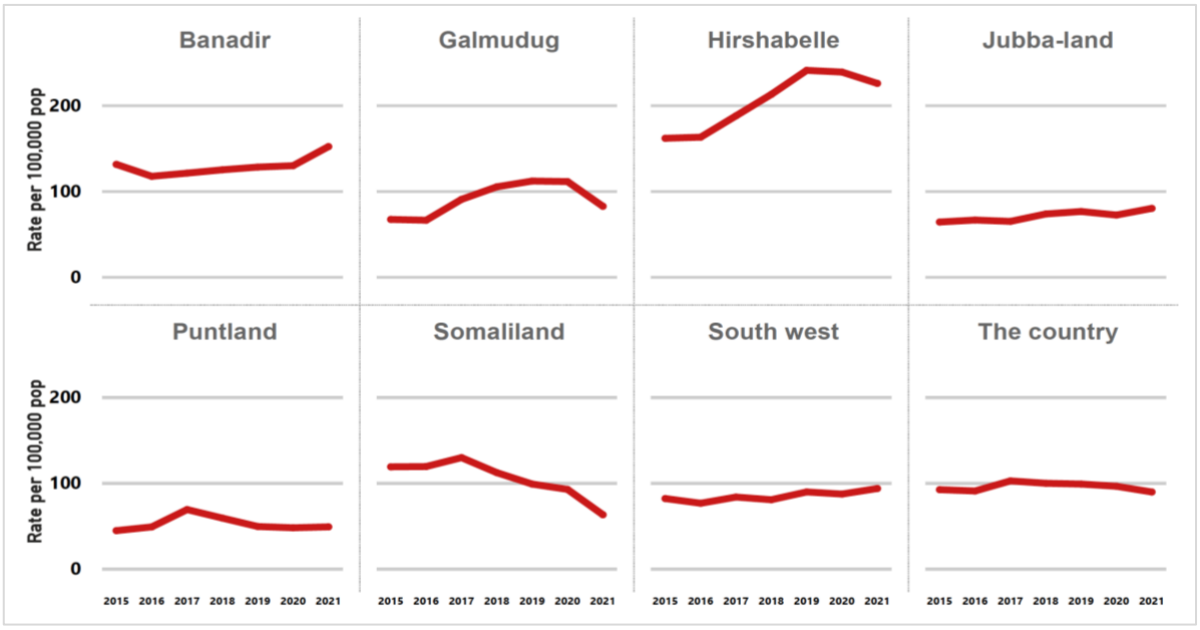


Figure 9 shows the trend of TB notification by geographical distribution in Somalia over seven years, and a marked variation in TB notification rate at the sub-national level was observed. TB notification in Hirshabelle increased and remained above 150/100,000 pop. since 2015, remaining above 200/100,000 even though it has declined since 2019. Like Hirshabelle, Banadir and Somaliland maintained an above 100/100,000 population mark; however, while Banadir continued to increase, Somaliland has been observed to be declining annually since 2017. Also, Jubaland, Puntland, and Southwest states have remained below the 100/100,000 population mark, with Jubaland and Southwest showing some upward movement. The pattern observed in Galmudug is an initial increase to above 100/100,000 population, followed by a decline in 2020. The effect of COVID-19 is not very marked sub-nationally, as only three (Galmudug, Hirshabelle, and Somaliland) out of the seven states showed a decline in TB case notifications in 2020. This observation may be related to the fact that the country did not respond to the COVID-19 threat through a total lockdown of the economy.

Figure 9: Trend in TB notification rate (new and relapse) by region, 2015 to 2021



Map 1 shows the incident TB notifications rate per state for 2021. Although TB notifications by number follow the population distribution; however, the map also revealed that, in 2021, the TB notification rate in Somalia varies by state, indicating a geographical variation in the disease spread. Hirshabelle, with the 3rd highest number of notified TB cases (2,781) in 2021, had the highest notification rate of 226/100,000 population, which is higher than the incidence rate for the country. Banadir had the second-highest notification rate of 152 per 100,000 population and the highest number of notified TB cases (3,905) in 2021. The remaining states have notification rates of less than 100 per 100,000 population in the same period. The case of Somaliland is significant because the state notified 3,585 TB cases in 2021 (second highest) and had a notification rate of 63 per 100,000 population. While this low notification rate can be attributed to the need for more accurate population data for the state, it is still possible that Somaliland is reporting far less than the expected number of TB in the state, considering the very low notification rate reported in 2021.

Map 1: Notification rate of new and relapse TB cases in 2021 per 100,000 population by region

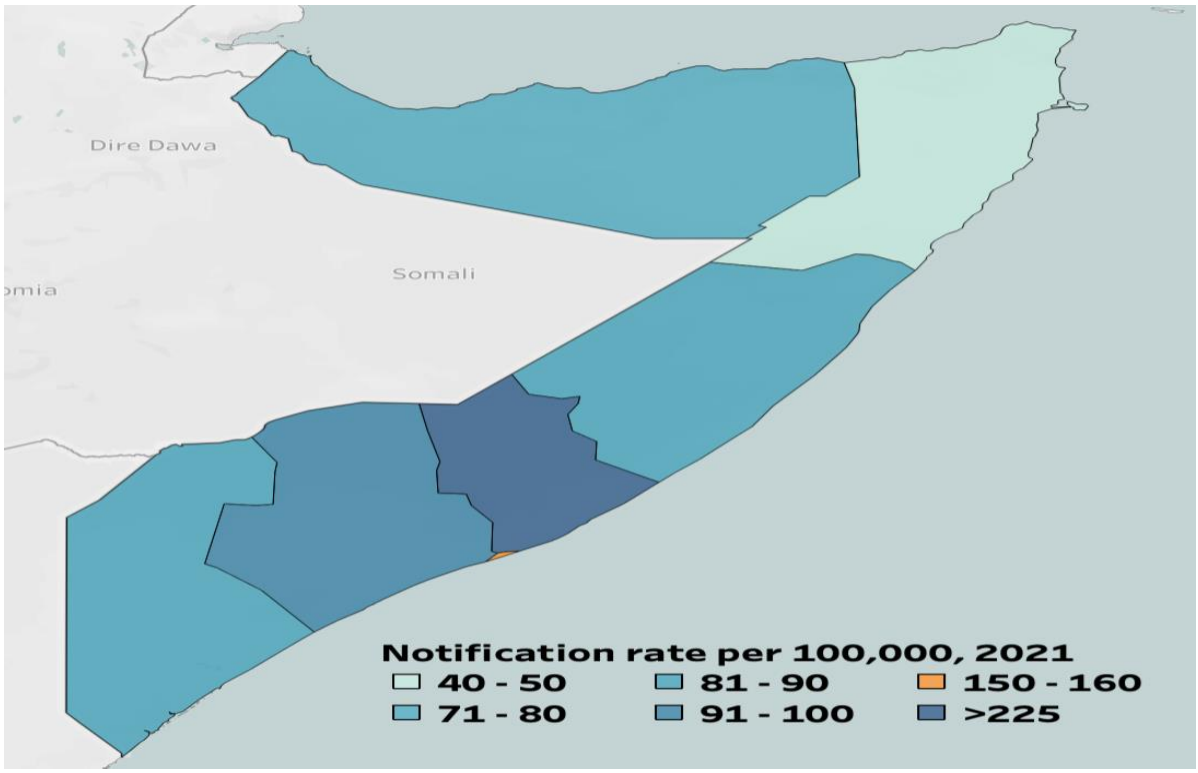


Figure 10 shows that the proportion of bacteriologically confirmed TB cases at the national level declined from 65.8% in 2012 to 60.4% in 2016 and increased steadily to 66.5% in 2021. The observed increase over the past five years may be attributed to the expansion and improved access to diagnostics services like the scale-up of Xpert MTB/RIF test in the country. However, the increase is marginal and does not match the number of diagnostic tools/services in-country. Therefore, the NTP should intensify efforts toward increasing access to TB diagnosis.

Figure 10: Trend of the proportion of bacteriologically confirmed TB among new pulmonary cases 2012–2021

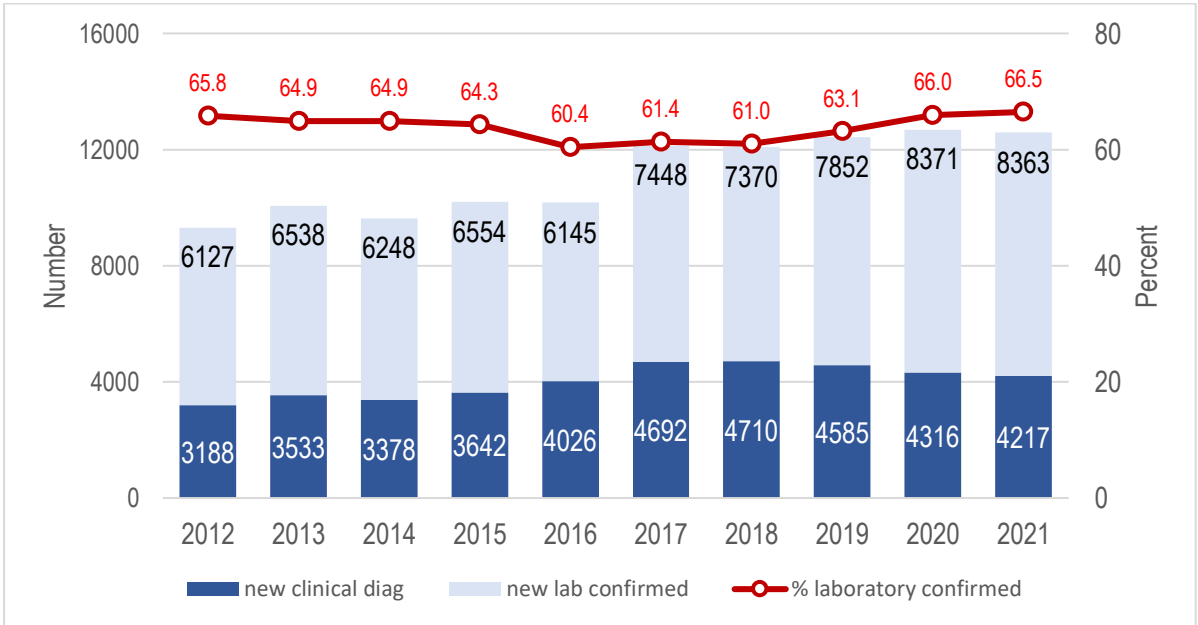
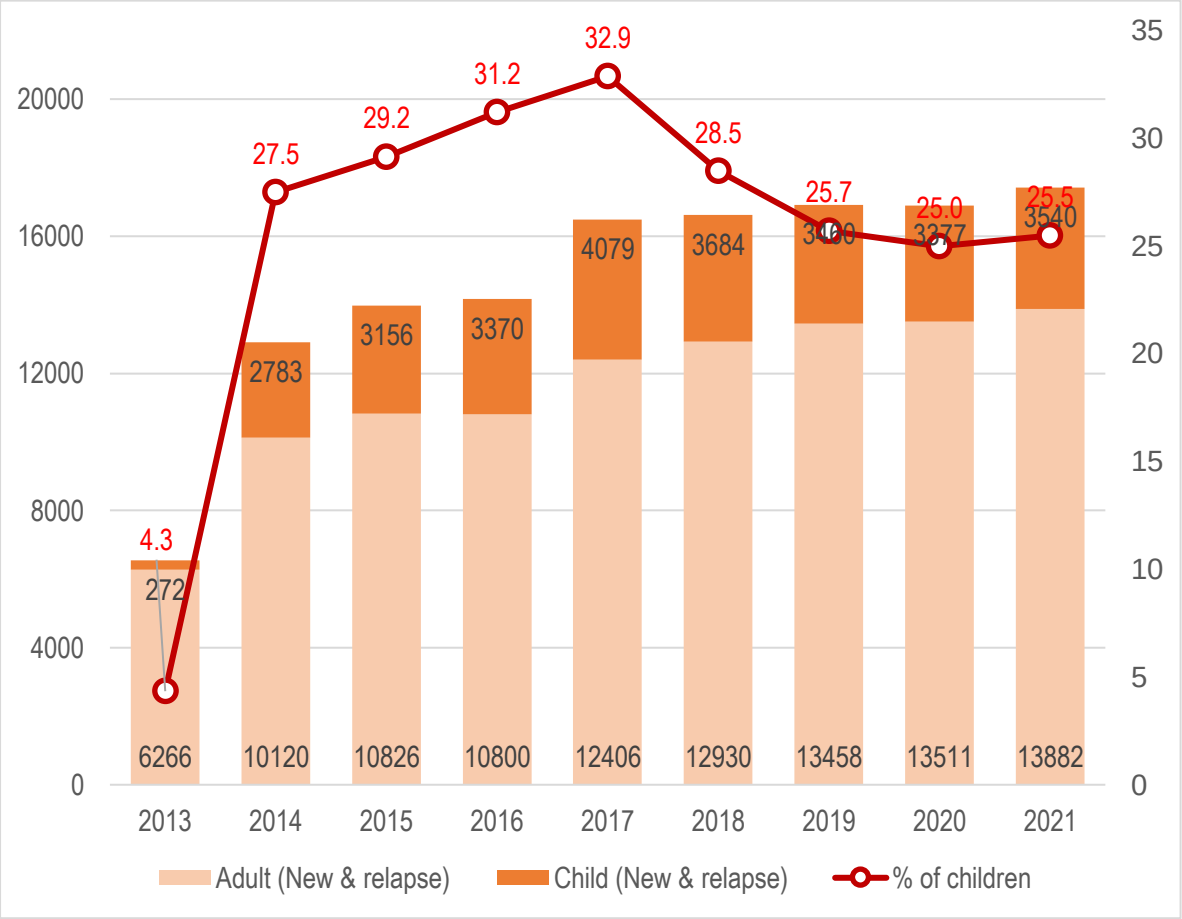


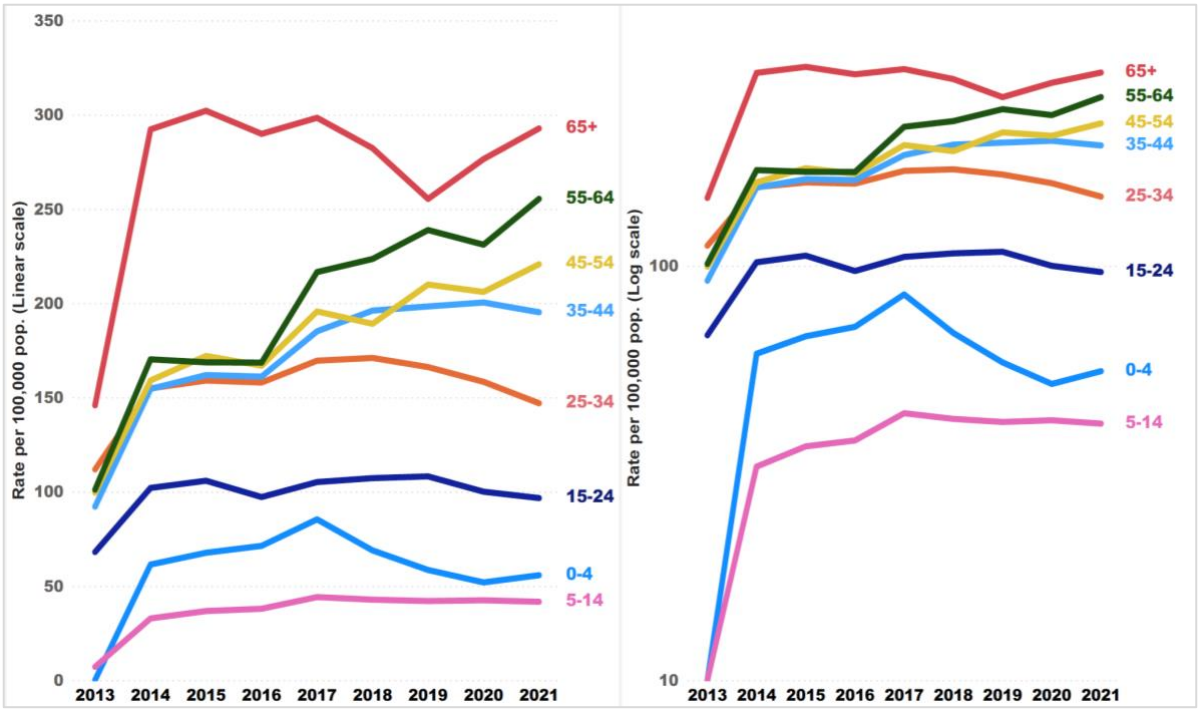
Figure 11 shows that the proportion of children among all new and relapse TB cases in Somalia has remained above 25% since 2014. Thus, it rose from 4.3% in 2013 to 32.9% in 2017 and declined to 25.5% in 2021. This analysis indicates that Somalia is performing well in meeting the expected proportion of children among all new and relapse TB cases notified annually. However, though the proportion has remained high over the past nine years, the trends are declining gradually. The decline could indicate that childhood TB is over diagnosed and is slowly returning to its actual level. Nonetheless, the NTP must endeavour to sustain the expected proportion to be at least within the benchmark.

Figure 11: New and relapse TB cases below 15 and ≥15 years, and proportion of children, 2013-2021



In Somalia, the highest age-specific notification rate for TB is observed among the elderly population, followed by those aged 35-54 (Figure 12). Age-specific notification rate has declined among the 0-4 and 25-34 age groups since 2017 but increased for the age group 0-4 in 2020. However, the notification rate among the age group 5-14 and 15-24 remained relatively the same since 2017 but began to decline for those aged 15-24 since 2019. The observed trend is inconsistent across age groups as there are periods of increment, followed by reduction and increment, particularly among the younger age groups. Certainly, TB transmission is still ongoing among the general population, but it is difficult to ascertain to what degree this is happening. Also, the age group 25-54, the economically productive age group in the country, accounts for approximately 44% of the total incident TB cases notified in the country in 2021, further reiterating the economic impact of TB on Somali society.

Figure 12: Trend in age-specific notification rate of new and relapse TB cases, linear (left) and logarithmic (right) scales, 2013–2021



The number and proportion of retreated TB cases among notified TB cases (all forms) have consistently declined over the last ten years despite an exponential increase in TB notifications over the same period (Figure 13). The steady decline since 2017 is significant enough to require further evaluation and action, considering the fact that TB diagnostic services have continued to expand and improve in the country. The 2022 epi review findings suggested that incorrect case definition/poor documentation could be one of the reasons for this observation.

Figure 13: Notification of new and retreated TB cases and the proportion of retreated, 2012–2021

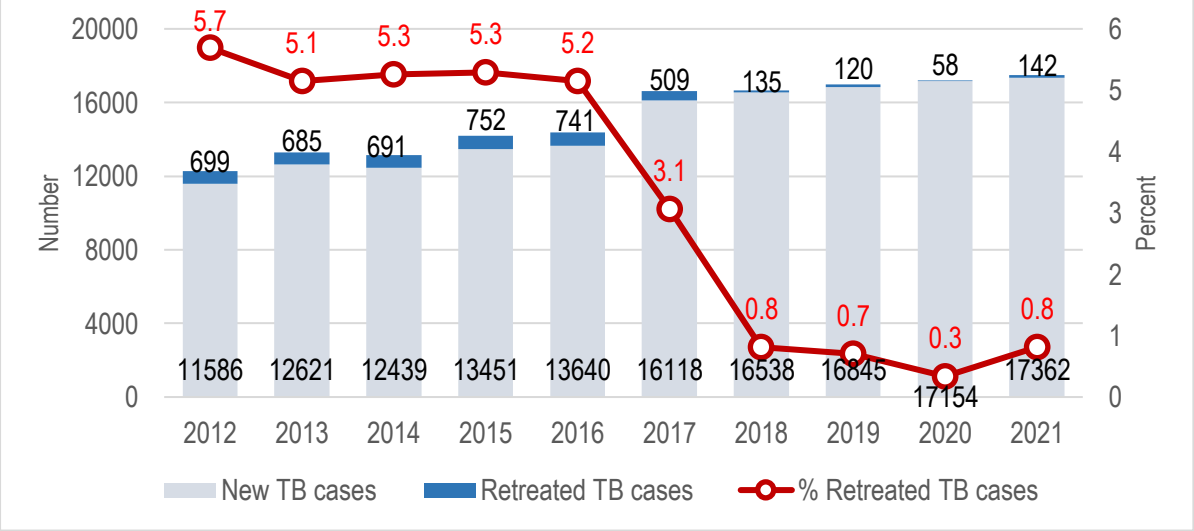
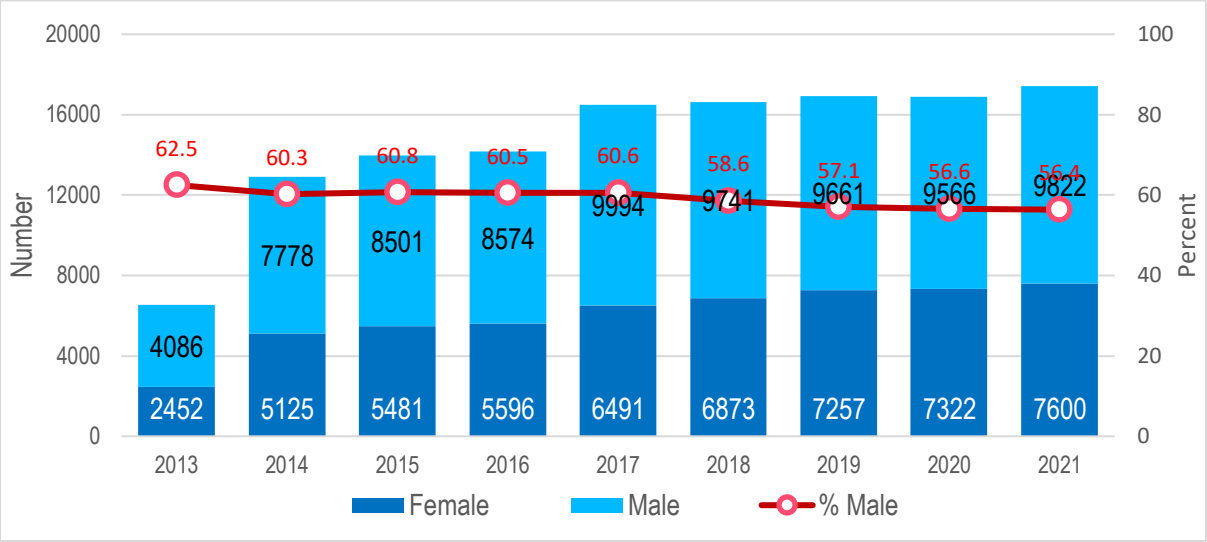


Figure 14 shows that over the last nine years, the proportion of males among notified new and relapse TB cases steadily and slightly declined from 62.5% in 2013 to 56.4% in 2021. Male to Female ratio has

continued to decline since 2017 from 1.7 to 1.3 in 2021 but remained above 1.0 indicating that the detection gap in notification remains greater for males than females, although, declining over time.

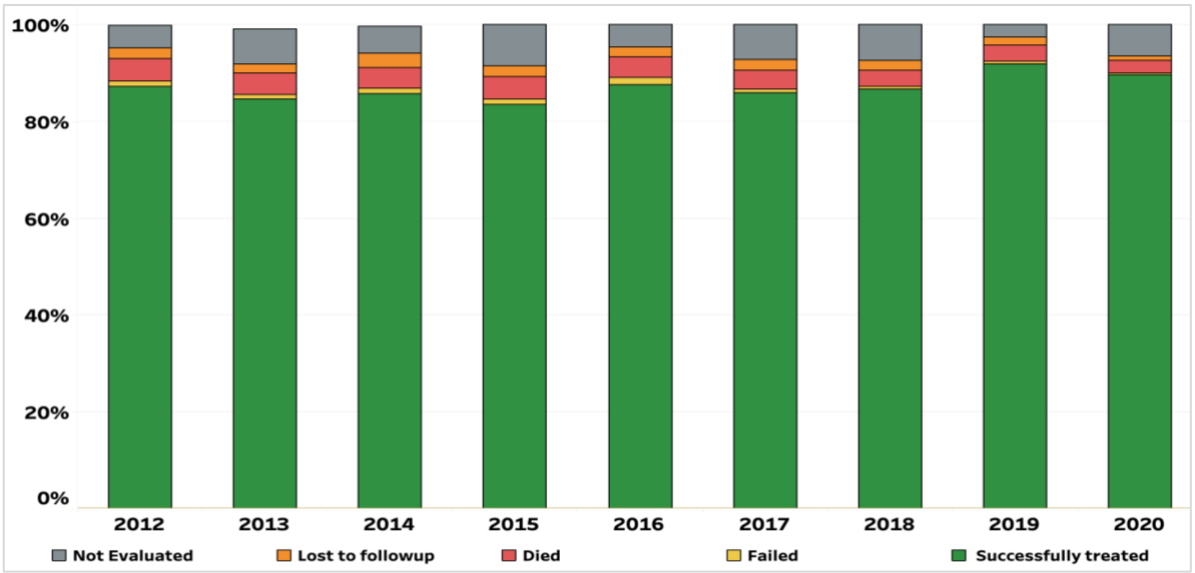
Figure 14: Number of notified new and relapse TB cases by sex and the proportion of males, 2013–2021



3.3.2 Treatment outcome

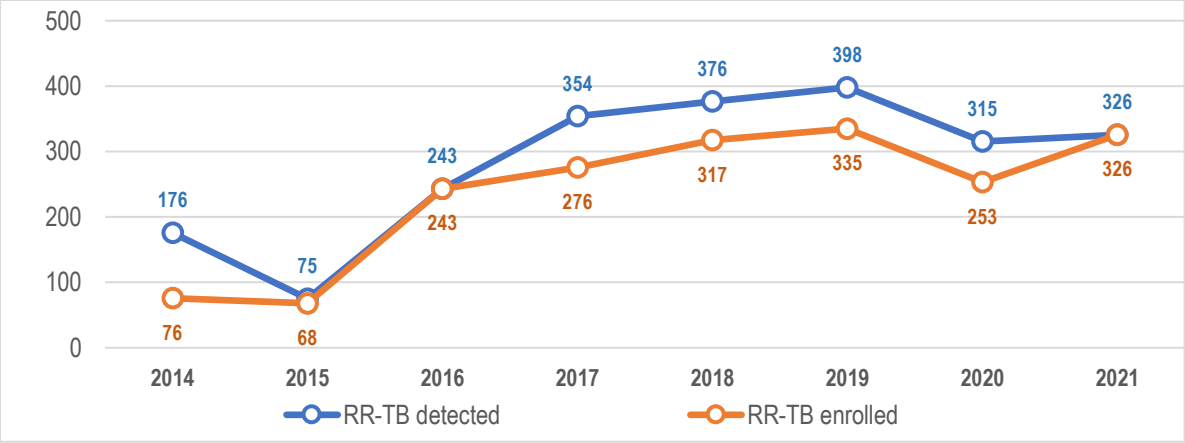
Over the last nine years, TB treatment outcome has improved in Somalia. The treatment success rate of new and relapse TB cases increased slightly from 87.1% in 2012 to approximately 90% in 2020, meeting the WHO target of 90% (Figure 15). The death rate declined from 4.6% in 2012 to 2.6% in 2020, the loss to follow-up rate reduced from 2.1% in 2012 to 1.0% in 2021, and the failure rate remained relatively low at 0.4% in 2021 from the 2012 value of 1.3%. However, the percentage not evaluated increased from 5% in 2012 to 7% in 2021, becoming the main reason for adverse treatment outcomes. The TB treatment success rate in Somalia is likely to be overestimated since the "initial loss-to-follow-up" cases are not routinely recorded, nor are there studies to assess the magnitude of initial loss-to-follow-up and not evaluated TB cases.

Figure 15: Trend in TB treatment outcomes of new and relapse TB cases, 2012-2020



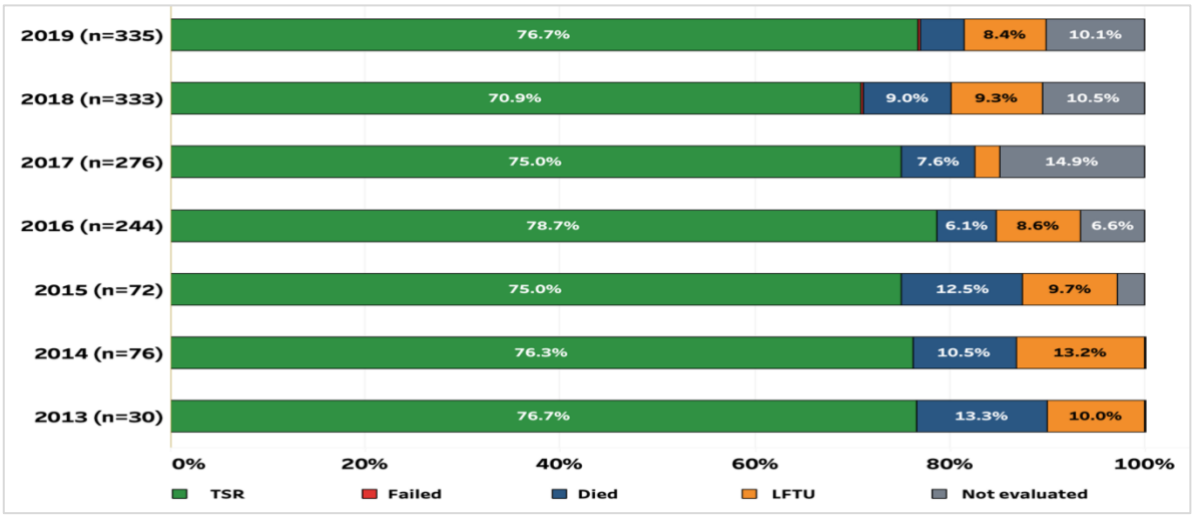
In 2021, Somalia diagnosed and notified 326 RR/MDR-TB cases and enrolled all into care, giving a 100% enrolment rate. Figure 16 shows the total number of RR/MDR-TB diagnosed cases and the number enrolled in treatment between 2014 and 2021. The number of diagnosed RR/MDR-TB cases increased from 176 in 2014 to 326 in 2021, giving a notification rate of 1.9 per 100,000 population and treatment coverage of 15.5% in 2021. Similarly, enrolled cases increased from 76 patients in 2014 to 326 in 2021.

Figure 16: Trend in the detection of RR-TB and enrolment into SLD treatment



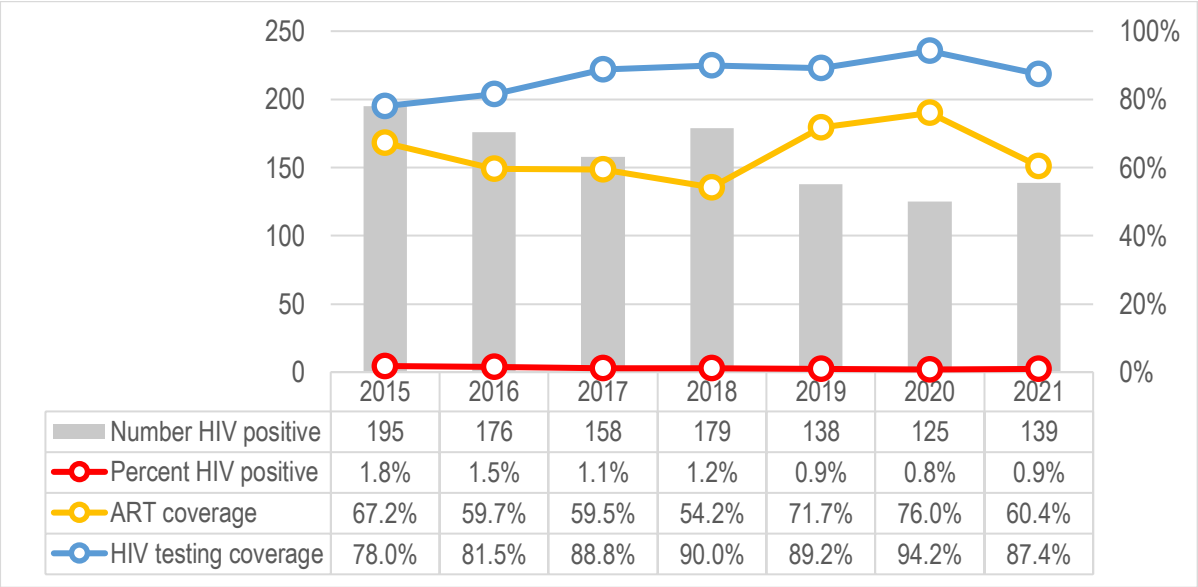
The management of RR/MDR-TB in Somalia witnessed tremendous progress over the past seven years, though there is still room for improved patient care and support. TB treatment success rate (TSR) for RR/MDR-TB cases enrolled in second-line treatment between 2013 and 2019 remained relatively the same. It remained at 76.7% for both years in 2019, surpassing the End TB strategy target of a 75% treatment success rate (Figure 17). A high death rate (13.3%) was observed in 2013 and crashed to 4.5% in 2019. Similarly, the loss to follow-up (LFTU) rate improved over this period, reducing from 10% in 2013 to as low as 2.5% in 2017 before rising again to 8.4% in 2019. However, the not evaluated rate, negligible in 2013 and 2014, has suddenly risen to above 10%. There is the possibility that some of these cases reported as not evaluated could have died or lost to follow-up, hence giving a false impression of the reduced death rate.

Figure 17: Treatment outcome of RR/MDR-TB patients enrolled in second-line treatment, 2013-2019



In Somalia, TB patients with documented HIV status (tested for HIV) increased from 78.0% in 2015 to 87.4% in 2021. The percentage of TB patients with positive HIV test results (TB/HIV co-infected) reduced steadily from 1.8% in 2015 to 0.8% in 2021; however, the proportion placed on ART among them reduced marginally from 67.2% to 60.4% in 2021 (Figure 18). Although some progress was made around TB/HIV collaborative activities, there is still much to be done as the program is far from achieving the 95-95-95 targets.

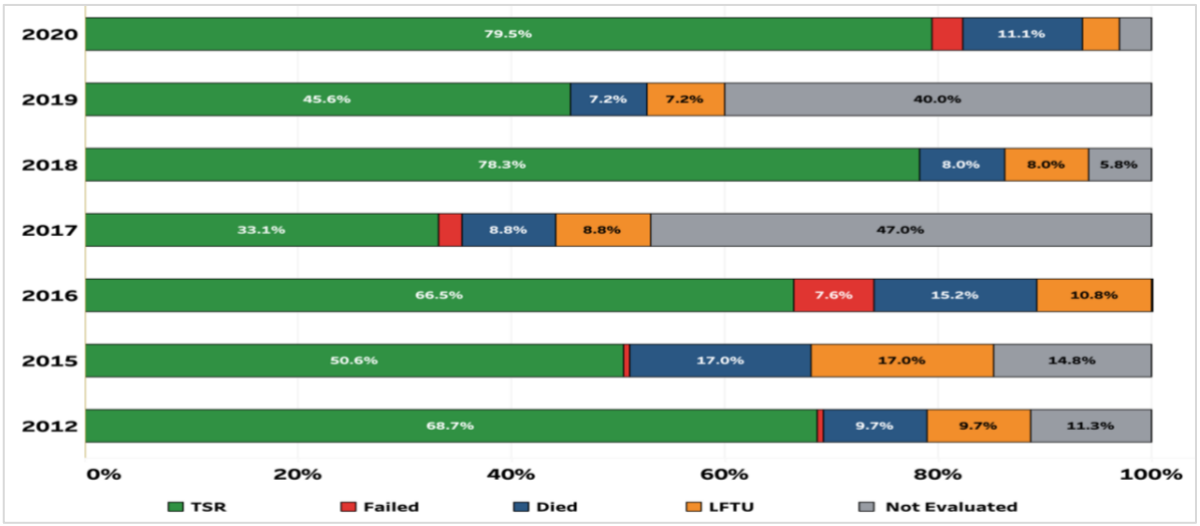
Figure 18: TB/HIV collaborative activities, 2015-2021



	2015	2016	2017	2018	2019	2020	2021
Number HIV positive	195	176	158	179	138	125	139
Percent HIV positive	1.8%	1.5%	1.1%	1.2%	0.9%	0.8%	0.9%
ART coverage	67.2%	59.7%	59.5%	54.2%	71.7%	76.0%	60.4%
HIV testing coverage	78.0%	81.5%	88.8%	90.0%	89.2%	94.2%	87.4%

TB treatment outcomes among TB/HIV co-infected patients over the last nine years have relatively improved in Somalia (Figure 19). TSR increased from 68.7% in 2012 to 79.5% in 2019; however, the increase was not consistent throughout this period. Notably, the death rate among TB/HIV patients has remained high, increasing from 9.7% in 2012 to 11.1% in 2021, with episodes within the periods where the value was higher than 15%. This observation (increasing death rate) is the opposite of what was observed among the new and relapse TB cases, indicating that poor management of TB/HIV co-infected individuals is a serious problem that needs to be urgently addressed in the country.

Figure 19: Treatment outcome of TB/HIV co-infected patients, 2012-2020



4. Program gaps and contributing factors

4.1 Introduction

The National Tuberculosis Control Program is midway through implementing the 2020 – 2024 National Tuberculosis strategic plan. A programmatic review of the National Strategic Plan was conducted in 2022 with support from the WHO and WVI. This exercise carried out an in-depth review of TB control in Somalia and identified key areas of success that could be scale-up and challenges, including areas that require improvement to enhance program performance consistent with the global direction for ending TB by 2030. In conducting the exercise, a thorough programmatic gap analysis was performed to determine the program's strengths, opportunities, threats, and priority challenges. This gap analysis not only looks at the program review findings, it equally considers findings from other assessments such as the epi-analysis and rGLC mission, including findings from various desk reviews, in-country field visits and the professional and personal experiences of each stakeholder in the process, including experience of people with TB. The 2020-2024 National Tuberculosis strategic plan implemented the following strategies.

- **Pillar 1: Integrated, patient-centred care and prevention:**
  - Promote local care-seeking and prevention through community engagement.
  - Accelerate early screening of TB.
  - Ensure appropriate quality diagnosis of TB.
  - Ensure quality of care and cure for drug sensible TB, including patient support.
  - Ensure prevention, diagnosis, and treatment of childhood TB.
  - Enhance programmatic management of drug-resistant TB, including patient support.
  - Strengthen the management of TB/HIV and other co-morbidities.
  - 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. Uptake new diagnostic tools and anti-TB drugs.
  - 3.2. Determine research priorities and perform research.

The NSP-TB 2020-2024 document linked no specific objectives to these strategies.

4.2 Strategic Objective and Program Gaps

This section summarizes the findings of the 2022 mid-term program review of the NSP-TB 2020-2024. section prioritized 12 thematic areas selected from the report of the 2022 mid-term TB Program review; the thematic/strategic areas include:

1. Program leadership and management.
2. Case finding, treatment, contact investigation, and management.

3. Laboratory network.
4. Programmatic Management of Drug Resistant TB (PMDT).
5. Child and adolescent TB and TB comorbidities.
6. TB/HIV and infection control.
7. Community engagement, rights, and gender.
8. Procurement and supply chain management (PSM).
9. Private-public partnership.
10. Monitoring and evaluation, recording, reporting, and operations research.

4.2.1 Areas of program performance and status of implementation

Key findings from the 2022 integrated TB In implementing this plan, notable progress was made in TB case notification, treatment outcome, childhood TB, expansion of diagnostic and treatment facilities, logistics management, and TB/HIV collaboration. Over the last ten years, the number of notified new and relapse TB cases and the TB notification rate increased per 100,000 population. Access to TB treatment and drug-resistant TB services have expanded, and TB treatment success rate among DS-TB, DR-TB, and TB/HIV co-infected patients improved in the last five years, reaching 89.5%, 77%, 79.5%, respectively, in 2021, with a significant decline in death rate. Also, the country improved its diagnostic infrastructure and capacity for DR-TB, including managing diagnosed DR-TB cases, by expanding DR-TB treatment centres to three in 2021. In this regard, GeneXpert machines increased to 53, LPA for First and Second-line Drugs increased to two, and centralized and decentralized DR-TB management centres increased to three and six, respectively. In addition, the proportion of children among total TB cases notified remained high for over a decade, and issues around stockout of TB drugs and commodities were reduced to the barest minimum. Table 5 highlights the status of achievement of the NSP-TB 2020-2024 as of the end of 2021.

Table 5: Performance against 2021 Targets

Indicator Level	Indicator	Baseline (2018)	Target (2021)	Achievement (2021)
Impact	Percentage of reduction of TB Incidence rate (per 100,000 population)	262/100,000	6%	**4.5%**
	Percentage of reduction of TB Deaths rate (per 100,000 population)	67/100,00	13%	**1.5%**
	TB-affected families facing catastrophic costs due to TB (%)	N/A	<20%	**No Data**
Outcome	TB notification rate new and relapse cases (per 100,000 Pop.)	111/100,000	148/100,000	**102/100,000**
	Number of TB cases (all forms) notified	16,614	24,000	**17,538**
	TB treatment coverage	42%	65%	**41%**
	Increase treatment success rate (TSR) for all DS TB cases	86%	88%	**90%**
	Treatment success rate, confirmed RR/MDR-TB	79%	>85	**77%**
	Case fatality rate (CFR) for notified cases (%)	4	<5	**28%**
Output	Percentage of presumptive cases referred by civil society, community (%)	NA	10	**No Data**
	Total number of functional TB MUs	96	136	**106**
	Total number of DR-TB treatment units	3	7	**7**

	Percentage of newly notified TB+ patients diagnosed using WHO recommended rapid tests	17%	40%	**30%**
	Number of notified RR/MDR-TB cases	376	940	**326**
	Percentage of TB cases with test result for HIV	>90	>99	**87.4%**
	Proportion of HIV positive TB cases given antiretroviral therapy during TB treatment	54%	85%	**60.4%**
Coverage	Percentage of RR/MDR-TB cases diagnosed put on treatment	85%	>95%	**100%**
	Coverage of MDR-TB patients treated with new drugs (%)	NA	50%	**99%**
	Proportion of MDR-TB patient files with aDSM information	NA	>95%	**100%**
	Percentage of LTBI treatment coverage among contacts < 5	NA	20%	**0%**
	Percentage of newly identified PLWH and unstable PLWH initiated on TPT	NA	40%	**22**
	Percentage of Health providers working with TB screened for TB/HIV at least once during the year	NA	30%	**30.3%**

80%-100% Achievement	
50%-79% Achievement	
<=50% Achievement/No data	

42.2 Areas of Underperformance

Key findings from the 2022 TB Program review revealed critical areas of underperformance (challenges), including contributing factors and root causes that should be addressed in this NSP-TB. Details of these critical areas of underperformance are highlighted in the next subsections.

4.2.2.1 Program Leadership and Management

There is good coordination and program management ownership, including good collaboration between the program and other partners involved in control and implementation. In addition, TB MUs increased to 106, and MDR-TB hospitals to nine (9). The challenges cover program structure and function, and service delivery.

Challenges

- Lack of a multisectoral accountability framework; however, the process of establishing one has been initiated.
- Weak political commitment to complete the establishment of the multi-sectoral accountability framework.
- High staff turnover significantly impacts TB control and management.
- Overall low staff morale due to inadequate incentives and welfare packages.
- Over-reliance of the NTP on external financing and implementors.
- Zero allocations or government release of funds for TB control in 2021 (GTB report, 2022).
- High staff turnover significantly impacts TB control and management.

- Overall low staff morale due to inadequate incentives and welfare packages.

4.2.2.2 Case Finding, treatment, contact investigation, and Case Management

Appreciable progress was made towards the TB case notification target; however, the target was not met. Only 17,422 incident TB cases (all forms) were notified in 2021, giving a 5.3% increment and an overall achievement of 73% of the NSP target. Also, the TB treatment success rate has remained above 85% since 2012, and the death rate declined from 4.6% in 2012 to 2.6% in 2020. The TB Treatment success rate for DS-TB cases (all forms) increased from 86% in 2018 to 89.5% in 2021, surpassing the target set for that period. Five states (Southwest, Jubbaland, Puntland, Hirshabelle, and Banadir) have TSR equal to or above the 90% WHO End TB targets for the 2020 cohort.

Challenges

- TB case notification and notification rate were below the set target of **24,000** and **148/100,000**, respectively, for 2021.
- Insufficient and inefficient active TB case-finding activities because of:
    - Inadequate integration of standalone TBMUs.
    - Inefficient utilization of female health workers in some areas.
    - Decreased opportunity for capacity building for TB management and control.
    - Inadequate TB MUs per population: 1:163,000 population (Deficit of 66 TB Mus as of 2021).
    - Insufficient collaboration with public and private health care providers and non-formal health care.
    - Lack of mobile TB centres.
    - Stigmatization.
    - The frequency of supervision visits per facility per year is insufficient.
- The proportion of new and relapse tested with rapid diagnostics at diagnosis is 30% in 2021; the highest attained was 31% in 2020.
- TSR for DS-TB cases (all forms) is overestimated since the “initial loss-to-follow-up” cases are not routinely recorded, nor are there studies to assess the magnitude of initial loss-to-follow-up and not evaluated TB cases.
- Inadequate and low-quality supervision of the health facilities to help staff give correct and appropriate patient outcomes.
- TSR is slightly low for Galmudug (78.0%) and Somaliland (85.0%).
- Substandard TB medicines availability in the market
- Inadequate contact tracing activities due to:
    - Insufficient funding for contact tracing
    - The NTP prioritizes intervention less.
    - The approach for contact tracing is not efficient and is cumbersome.
- Low TPT uptake among under-fives due to:
    - Resistance by health workers because of the fear that patients are likely to develop drug resistance.
    - Refusal of patients to take TPT because they do not see a convincing reason to take the therapy when they don’t have the symptoms/signs of TB.
    - Lack of funding for transportation.

    - Long duration of TPT; however, shorter TPT regimens are already being introduced in Somalia, and INH is now used for HIV-co-infected patients.
- Despite some in-country contact tracing and TPT activities, no data was reported to the WHO in 2021.

4.2.2.3 Laboratory systems

There is a functional laboratory network in place that primarily provides basic TB diagnostic and treatment monitoring services. There are three NTRLs providing advanced and referral-level TB diagnostic services, 106 microscopy centers, 53 GeneXpert machines, including 14 ten-color machines, and an established specimen transportation and referral system. EQA (blinded rechecking) is regularly done for microscopy with a performance greater than 95%.

Challenges

- Inadequate supply of reagents for baseline tests at the NTRLs
- The NTRL at Garowe NTRL is not fully functional:
    - No Negative air Pressure, Biosafety cabinet Level 3, all culture equipment, reagents, accessories, Glassware, and consumables.
- GeneXpert and Smear, microscopy proficiency testing has not started yet in Garowe and Mogadishu NTRLs.
- Lack of baseline machines for decentralized DR-TB centers.
- Weak specimen referral system
    - From DR-TB decentralization sites to the NTRLs.
    - Some TB MUs have no sputum transportation mechanism in place.
    - 53 TB MUs do not have GeneXpert machines.
- Knowledge gap among laboratory staff. Including inadequate duration for training staff.
- Panel Testing for Microscopy and GeneXpert & Solid Culture and DST training for all NTRLs not done yet.
- Weak Laboratory Quality Management System, particularly at Garowe and Hargeisa NTRLs.
- Lack of Benchmarking for all 3 NTRLs.
- Inadequate human resources for the TB laboratory network and insufficient incentives for laboratory staff at the NTRLs and TBMUs.

4.2.2.4 Programmatic management of drug-resistant tuberculosis

Progress was achieved for some of the expected outcomes for PMDT. In 2021, the country notified 326 RR/MDR-TB cases, corresponding to 35% achievement of the 2021 target, RR/MDR-TB notification rate and treatment coverage increased marginally in the past seven years but was 15.5%. 100% of the notified RR/MDR-TB cases were enrolled in treatment, thus meeting the target of >95% for the period under review. In addition, the country met 91% of its 2021 TSR target, as 77% of the enrolled RR/MDR-TB cases were successfully treated in 2021.

Challenges

- Very low DR-TB cases notification:
    - Only 35% achievement against the NSP target for 2021.
- Very low DST coverage:
    - The proportion of new pulmonary bacteriologically confirmed notified TB cases tested for Rifampicin resistance is 62% in 2021, declining from 85% in 2017.

    - The proportion of previously treated pulmonary bacteriologically confirmed notified TB cases tested for Rifampicin resistance is 39% in 2021, declining from 100% in 2020.
- Inadequate supply of baseline tests at the DR-TB management centres.
- Garowe NTRL is not optimally functional to support DR-TB management in the country.
- Inadequate baseline machines for decentralized MDR-TB centres.
- Some gaps in the knowledge of DR-TB case management still exist even though all staff has been given adequate training on DR-TB management.
- Lack of plan for rehabilitating dilapidated DR-TB centres.
- Availability of low-quality TB medicines in the open market.
- Some patients still incur the cost of TB diagnosis.

4.2.2.5 Child and Adolescent TB and TB Comorbidities

No specific target was set to evaluate the performance of childhood and adolescent TB in the NSP. Nonetheless, the country has continued to sustain its efforts as one of the few countries that have convincingly met the benchmark of notifying 5 to 15% of children among new and relapse TB cases, considering that TB diagnosis in children, mainly those under five, is difficult because it is rarely laboratory-confirmed. Somalia has maintained a childhood TB proportion above 25% in the past five years.

Challenges

- Childhood TB is likely to be over diagnosed among children, considering the ease with which it is being diagnosed in the country.
- There is a sub-optimal capacity for diagnosis of child TB among health workers.
- Stool testing is yet to be fully scaled up in the country.
- Low contact tracing and TPT uptake.
- Low uptake of the free X-ray services for child TB diagnosis.
- Only 25/106 TB MUs have X-ray machines.

4.2.2.6 TB/HIV and infection control

The NTP adopted the WHO-recommended integrated TB and HIV service delivery and collaborates with the HIV Program. TB/HIV co-infection rate remained low at 0.9% and 88% of the NSP HIV testing coverage targets was met, indicating that 87.4% of new and relapse TB cases know their status.

Challenges

- Non-availability of TB/HIV guidelines.
- Weak TB/HIV collaboration between the TB and HIV Programs:
    - Non-functional TB/HIV technical working group.
- No TB/HIV focal point at the national level to drive the efficient implementation of TB/HIV activities.
- Delay in the supply of HIV commodities.
- Insufficient integration of TB/HIV activities.
- Low TPT uptake among HIV patients – Only 22% of HIV-positive people on ART were placed on TPT in 2019.
- Insufficient GeneXpert utilization for TB/HIV testing.

4.2.2.7 Community engagement, rights, stigma, and gender

There is a structured community program in place with a good number of trained FHWs available in different projects across the country that the NTP can leverage to improve overall TB case notification. An ACSM focal point is available at the NTP office to drive ACSM activities in the country.

Challenges

- Lack of a costed ACSM operational plan.
- Most of the radio jingles and IEC materials are out of date.
- Difficulty targeting religious leaders and men because of the lack of adequate ACSM plan and support.
- Active case finding in the community solely relies on the activities of FHWs and is not efficiently implemented to increase case notification significantly.
- Sub-optimal functioning of the FHW in increasing TB cases due to:
    - FHWs are not evenly distributed across all Health facilities, and where they are present, they are mostly in the cities and not rural areas.
    - No clear link between the various FHWs doing different diseases awareness, thus increasing stigma/discrimination, thus, counterproductive to active case-finding output.
    - No linkages between the Ministry of Health and other agencies in harmonizing incentives for CHWs/FHWs supporting TB control and general health activities in Somalia.
    - Weak engagement of the FHWs and the lack of a well-designed M&E system to effectively monitor performance, including poor welfare and incentive package.
- Not enough innovation is observed in active community case search activities to increase TB case notification in such a way as to meet the NSP target.

4.2.2.8 Procurement and supply chain management (PSM)

The PSM is functional, with a good quarterly forecasting system that ensures adequate availability of medicines and other TB commodities. There is a warehouse for keeping TB medicines and commodities. The WHO effectively manages the warehouse, ensuring the availability and storage of drugs with no record of shortage or expiry of anti-TB drugs in 2022.

Challenges

- No clear accountability framework for the health products supply chain due to inadequate health products supply chain guidelines.
- Slow progress in establishing a regulatory framework for monitoring TB drugs.
- Unsatisfactory health products management at the TB MUs due to limited human resources for health supply chain management at the facility and regional level.
- Limited health products supply chain visibility due to inadequate electronic logistic management information system.
- Delay in the repair and maintenance of TB health equipment due to lack of compressive maintenance contracts and health equipment management plan.
- Weak post-marketing surveillance of medicines due to underdeveloped post-marketing surveillance system and medicines regulatory authority.

4.2.2.9 Private-public partnership

A situational analysis report for PPM, a costed M&E plan for the private sector, and a mapping of all PPM facilities in Somalia exist. In 2021, the private sector facilities jointly notified 2,676 new TB cases, approximating 15.4% contribution to overall national TB case notification for 2021.

Challenges:

- Lack of policy documents for guiding the private sector, e.g., PPM and Infection Prevention and Control.
- The slow progress of integrating TB MUs with other health services (only about 50% of the TB MUs are integrated with other health services).
- Health System is largely stand-alone and has not integrated TB services into other health services, including the Outpatient Department (OPD).
- Healthcare workers in the PPM sector are not adequately trained in TB service provision, including conducting active case-finding activities.
- The referral pathways for TB presumptive TB cases from other healthcare providers and private health facilities.
- Healthcare workers in the private sector do not use TB guidelines, SOPS, Algorithms, and registers.
- The engagement of the private sector/PPM facilities is still sub-optimal despite the current collaborative efforts.

4.2.2.10 Monitoring and evaluation, recording, reporting, and operations research.

The epi review reports noted that the country's TB surveillance system could accurately measure TB incident cases but not mortality. Routine and non-routine data for TB are readily available with standardized TB data collection and reporting tools that align with WHO recommendations. The country is migrating towards using the DHIS 2 as the reporting system for TB to strengthen its TB M&E and surveillance system.

Challenges

- Weak M&E/supervisory and surveillance systems.
    - Inadequate quality assurance procedures for reported data – No DQA or Onsite Data Verification (OSDV).
    - Insufficient capacity of M&E/surveillance personnel to adequately interrogate and use M&E information for decision-making – training/capacity-building plan specific to TB M&E not existing.
    - M&E products, such as monthly, quarterly, or annual newsletters or narrative reports, are not routinely available.
- There are flaws in the current data flow as key stakeholders are side-lined.
- Inadequate number and frequency of supervision.
- A low proportion of the entire budget is allocated to M&E.
- No electronic case-based system.
- Weak feedback mechanism: feedback on TB data quality is not systematically provided to all lower reporting levels.

5. The National Strategic Plan for Tuberculosis 2024 – 2026

5.1 New strategic directions

This NSP-TB will build on the success of the previous one. Additionally, it will bring on board innovations through adopting efficient strategies that have effectively increased case notification and improved case holding within the concept of patient-centeredness. This is borne out of the Program's desire to respond to new challenges and realities controlling TB in Somalia and ending the TB epidemic in the country. Considering the findings of the Epi and mid-term program reviews that identified low TB case notification, particularly for DR-TB, as the main challenge facing TB control in Somalia, this NSP-TB will adopt technology-driven innovations to increase TB case notification in the country. In addition, it will focus on those areas identified as barriers to underdiagnosis and enhancers of underreporting. Also, it will attempt to strengthen the systems and networks necessary to implement programs and deliver quality TB services, including improving treatment outcomes.

The approaches adopted in this NSP-TB are well thought through. They align with WHO normative guidance, other international recommendations and strategies, and program experiences, including techniques proven to be efficient and effective in similar settings. It follows the logic of the three pillars and their components, including rapidly scaling up services to achieve universal access to TB prevention, diagnosis, treatment, and care, with an emphasis on quality care, accountability, linkages between the different levels of the health system, and partnerships that leverage the resources and efforts of other disease programs and initiatives to have a more significant impact for TB control in Somalia. Within the overall context of its vision, mission, and goal, the Somalia NTP, in collaboration with all stakeholders, has set ambiguous yet achievable targets for 2024 – 2026 as part of its desire and efforts towards reaching the end TB targets and milestone and ending the TB epidemic in Somalia.

Collaboratively, the NTP supported by the WHO and WVI successfully implemented the previous NSP-TB; however, universal access to quality TB services remained sub-optimal. Hence, the NTP, through strategies adopted in this three-year plan, aims to provide universal access to quality TB services by:

- Expanding access to TB preventive, diagnostic and treatment services for DS-TB and DR-TB, including children, thus, increasing TB case notification and improving treatment success.
- Integrate TB and HIV services to reduce the burden of the two diseases among those affected.
- Address the needs of key affected populations (e.g., slum dwellers, IDP camps, and people living in hard-to-reach areas, including malnourished populations) by providing systematic screening, early detection, and uninterrupted treatment through people-centred approaches.
- Reduce catastrophic costs incurred due to TB by patients and their families.
- Mobilize domestic resources to sustain the gains made.
- Strengthen supporting systems for these achievements, including ensuring collaboration and accountability by establishing a "multisectoral accountability framework."

The new strategic direction sets targets and milestones to enable the NTP to turn around the TB epidemic in the country by 2026 and end TB by 2035.

5.2 Vision, Mission, Goals, Objectives, and Targets for TB Control in Somalia

The framework of the MoH and NTP's vision and mission for TB control in Somalia guided the overall guiding principle for the finalization of this NSP-TB 2024-2026 and aligned with the global strategy to end TB. This document describes in detail the steps the TB program and its partners intend to take within the next three years to address the current determinants influencing the increasing transmission of TB and the challenges facing TB control in Somalia.

5.2.1 NTP Vision and Mission

The NTP's vision for TB in Somalia is "A Somalia free of Tuberculosis" with a mission to "Contribute to ending global tuberculosis epidemic by favouring access to quality diagnosis and care of all forms of tuberculosis, including enhancing prevention of the disease." In keeping with the global strategy to end TB, the NTP aligns its new strategic direction and goals for controlling TB in Somalia with the goals and targets of the End TB strategy with clear milestones to help monitor progress.

5.2.2 NSP-TB 2024-2026 Goals, Objectives, and Targets

The objectives, strategic intervention, and activities of the NSP-TB 2024-2026 are categorised under an overarching goal, which aligns with the three pillars of the End TB strategy. This document's section provides an overview of the goal, strategic directions, objectives, and targets of the NSP-TB 2024-2026. It describes in detail how the goal and new program direction are linked to SMART objectives, corresponding strategic interventions, and implementable activities, including selected indicators for monitoring each goal and the progress of this NSP; these indicators are further expanded and defined in the M&E plan section of this document. The NSP-TB 2024-2026 has three sub-goals/pillars, 16 objectives, three overarching impact targets, and several targets for monitoring the goals, objectives, and activities.

NSP-TB 2024-2026 Goal

This NSP aims to ensure that the TB Program is moving toward the End TB strategy targets and milestones of reducing TB deaths by 75% and halving TB incidence compared to the 2015 figure by 2025. Considering the numerous barriers influencing TB control in Somalia and available resources, among other factors, the NSP-TB 2024-2026 overarching goal is to:

- **Reduce TB deaths and incidence by 39.5% and 30.7%, respectively, compared to the 2015 value, and ensure that affected families facing catastrophic costs are <20%.**

Contextually, this goal will reduce the mortality rate of TB from 76 per 100,000 in 2015 to 46 per 100,000 in 2026 and correspondingly reduce the TB incidence rate from 274 per 100,000 in 2015 to 190 per 100,000 in 2026. This goal is further conceptualised under three pillars described below and summarized in Table 6.

Pillar 1: This pillar focuses on adopting innovative strategies, including technology, on enhancing the provision of high-quality TB preventive, diagnostic, and treatment and care services to all Somalians, irrespective of their sociocultural status, without incurring catastrophic costs. Seven objectives are designed to help achieve this goal and comprise the core strategic approaches to drive access to preventive, quality TB diagnostic and treatment and care services. These include abolishing barriers

to seeking care and receiving timely and effective treatment and care services. First, it will strengthen the laboratory network and optimize the external quality assurance (EQA) system, including expanding new diagnostic technologies such as Truenat and TB LAMP and scaling up the current specimen transportation network. Secondly, it emphasizes universal access to quality-assured anti-TB medicines, expansion of TB services to underserved and vulnerable populations, and providing patient-centred TB services and care, including psychosocial support. Additionally, these objectives promote using innovative information and communication technology and managing latent TB infection among high-risk groups. Finally, these objectives address issues of MDR-TB, childhood TB, and TB/HIV, including the adoption of new treatment regimens and preventive therapy. The adoption of innovations to improve the quality of care is extended to the adoption and expansion of rapid diagnosis and resistance testing and universal access to quality-assured DST and infection control.

Pillar 2: This pillar encapsulates the focus of the second goal of the NSP-TB, which is to institute bold policies and supportive systems for TB prevention, diagnosis, treatment, and care. It emphasizes strong government stewardship, a critical component to the successful coordination of efforts of all stakeholders in the adaptation, implementation, monitoring, and evaluation of the NSP-TB 2024-2026. Like the first pillar, eight objectives form the core strategic approach toward progress in meeting the targets of the second goal. These objectives focus on strengthening government leadership and overall national capacity, including regional, state, and international collaboration in the fight against TB in Somalia. Through these objectives, the second goal pushes for the development of policy frameworks, including creating a conducive environment for civil society, community, and the private sector engagement and ensuring universal health coverage, social protection, poverty alleviation, and action on the social determinants of TB. This goal will aim at achieving sustained political commitment demonstrated by increased domestic funding of the national TB strategic plan, including encouraging inter-sectorial collaboration. Also very critical, it will strengthen the NTP's capacity to support the implementation of the NSP-TB effectively, efficiently, and successfully, particularly in program management, M&E, surveillance, procurement, supply, and drug management.

Pillar 3: The third pillar/goal of the NSP-TB 2024-2026 is to intensify research and innovations. This goal is built on one strategic objective, which forms its core strategic approach. The main strategic approach of this objective is to increase the uptake of research and innovations that will support the successful implementation of this strategic plan. Specifically, this 3rd goal, through this objective, pushes for strengthening operational research and innovations and encourages the NTP to increase the pursuit of research by developing a national research agenda, including building the program's capacity to conduct and disseminate relevant research. This focus will involve advocating for funds to sustain TB research, including promoting the translation of research findings into policy development for improved implementation of interventions. Additionally, through its TB research task force, the NTP will work with other research institutions to form a coalition to improve efficiencies in implementing the national research agenda for TB.

Table 6: Summary of the NSP-TB 2024-2026 goals, objectives, and targets

Goal of the NTP: End TB in Somalia by 2035	
Impact Indicators and Targets This NSP will contribute to the following long-term impact indicators by reversing the TB epidemic in Somalia through increased access to patient-centred quality care and prevention services, embracing bold policies and supporting enabling systems, including adopting innovative ways to improve diagnosis, treatment, and care for TB: 4. Decrease TB mortality from 76/100,000 in 2015 to 46/100,000 by 2026. 5. Decrease TB incidence from 274/100,000 in 2015 to 190/100,000 by 2026. 6. Reduce the percentage of TB patients and their households experiencing catastrophic costs due to TB to <20% by 2026.	
Pillar 1: To provide high-quality TB preventive, diagnostic and treatment services to all patients without their having to incur catastrophic costs.	
Objectives under Pillar 1	
1.1	Increase TB treatment coverage from 41% in 2021 to 83% in 2026 by strengthening presumptive TB identification and increasing access to universal drug susceptibility testing.
1.2	Increase DR-TB treatment coverage from 15.5% in 2021 to 78.6% in 2026 and ensure that 100% of notified cases are enrolled on second line treatment by 2026 by improving access to DST.
1.3	Increase TB treatment success rate for new and relapse TB cases (adults, children, and adolescents) from 90% in 2021 to ≥90% in 2026 through providing quality treatment and care for DS-TB patients, including patient support.
1.4	Increase DR-TB treatment success rate from 77% in 2019 to ≥80% in 2026 through the provision of quality second line treatment and care, including patient support for DR-TB patients (adults, children, and adolescents).
1.5	Ensure that the proportion of children among new and relapse TB cases notified is ≥15% by end of 2026 by improving in-country diagnostic capacity.
1.6	Increase TB treatment success rate among TB/HIV co-infected persons from 46% in 2020 to ≥80% by 2026 through improving the management of TB/HIV co-infection and co-morbidities.
1.7	Increase the percentage of contacts of bacteriologically confirmed index TB cases (< 5 and ≥5 years) started on TB preventive therapy (TPT) from 0% in 2021 to ≥50 by 2026 through strengthening contact investigation and provision of shorter TB preventive regimen.
Pillar 2: Institute bold policies and supportive systems for TB care and prevention	
Objective under Pillar 2	
2.1	Mobilize at least 90% of funding needed to implement activities of the NSP-TB 2024-2026 by the end of 2026.
2.2	Increase the proportion of community contribution to national case notification to at least 20% of all new and relapse TB cases (all forms) notified annually by 2026.
2.3	Increase the proportion of PPM contribution to national case notification from 15.4% in 2021 to ≥20% of new and relapse TB cases (all forms) notified by 2026.
2.4	Ensure TB case reporting coverage is more than 90% by 2026 through strengthening of existing monitoring and evaluation, universal health coverage policy and regulatory frameworks for case notification.
2.5	Reduce stock out of TB product to less than 5% by 2026 through strengthening of the Procurement Supply Management (PSM) system and development of regulatory frameworks for quality rational use of TB medicines.

2.6	Reduce the percentage of TB patients and their households that experience catastrophic costs due to TB to less than 20% by 2026 through provision of social protection, poverty alleviation and actions on other determinants of TB.
2.7	Create supportive system for the successful implementation of at least 90% of activities captured in the NSP-TB 2024-2026 by the end of 2026.
Pillar 3: Intensified research and innovations	
Objective under Pillar 3	
3.1	Conduct at least 2 operations research annually by the end of 2026 to optimize implementation of the NSP-TB 2024-2026.
3.2	Adopt the use of two new tools at the end of 2026 to promote innovation for impact.

5.2.3 NSP-TB 2024-2026 targets

The goals and objectives of this plan are designed to achieve key interim targets in TB control performance in line with the milestone of the overarching indicators of the end TB strategy. Section three of this document, the Monitoring and Evaluation Plan, will present the expected annual achievements of this plan in such a way that will enable performance monitoring and evaluation. The NTP will intensify efforts in collaborating with all stakeholders to ensure that these targets are achieved and, in turn, contributes towards reaching global targets for performance, some of which are within reach in the three years covered by this plan and others of which will require longer-term efforts, through an intensified but stepwise process that emphasizes accountability, quality, and collaboration.

Furthermore, the development of this document demonstrated NTP's collaborative and inclusive policy. The program brought together all stakeholders in-country involved directly and indirectly in TB control to set ambitious but achievable targets for this National Strategic. It considers its strengths, weaknesses, opportunities, and available resources, including unforeseen circumstances, to set these targets. In addition, the country identified ten (10) important national targets for TB to be monitored closely as a priority and pointer toward achieving the NSP-TB 2024-2026 goals and key End TB strategy milestones (Table 7). Overall, these targets will contribute to the long-term goals of the NTP by increasing TB treatment coverage from 41% in 2021 to 83% in 2026 and treatment success rates from 77% in 2021 to ≥90% in 2026, translating to reducing the estimated TB incidence rate from 250 in 2021 to 190 per 100,000 population in 2026 and mortality rate from 66 in 2021 to 46 per 100,000 population in 2026.

Table 7: NSP-TB Targets for monitoring the top ten priority indicators of the End TB Strategy

S/N	Indicator	2021 performance	2026 target
1	TB Treatment coverage	41%	83%
2	TB treatment success rate	90%	≥90%
3	Proportion of TB-affected household facing catastrophic costs due to TB	NA	<20%
4	Proportion of new and relapse TB patients tested using a WHO-recommended rapid test at the time of diagnosis	30%	≥90%

5	TBI treatment coverage (children <5 years and above on TPT)	0%	≥50%
6	Contact investigation coverage	NA	≥80%
7	Percentage of new and relapse TB patients using DST for rifampicin	62%	≥80%
8	Treatment coverage, new TB drugs	NA	NA
9	Proportion of TB patients with documented HIV status	87%	100%
10	Case fatality ratio (CFR)	28%	<5%

6. Operational and Technical Assistance plan

6.1 Rationale

The operational and technical assistance plan aims to describe how the pillars and objectives of the NSP-TB 2024-2026 link to the strategic interventions and activities proposed. Also, it identifies the programs' technical assistance needs that will enable an efficient and effective implementation process of the new NSP. The adopted framework for the operational plan highlights each objective and links them with the strategic interventions and main activities, including when the activities will be implemented. The funding source is not indicated; however, the Somalian government will spearhead the financing and resource mobilization for implementing these activities with main support from the Global Fund and other grants to fight TB, including the private sector operating within the country. This operational and technical assistance plan will serve as a roadmap that will guide the NTP and its partners to generate the annual work plans and makes implementation seamless. In addition, it will enable the program to prepare its work plans based on agreed activities and to monitor progress toward reaching the expected outputs and outcomes described in the M&E Plan section. Furthermore, this operational plan will enable the NTP and other implementers to generate annual work plans that will define specifics regarding whom, when and where the activities will be implemented and the funding sources. An important aspect of this section is the TA plan, which indicates specific areas where the NTP will require technical assistance. Along this line, this operational plan emphasizes the need for continuous capacity building at all levels, including engaging the private sector, civil society organizations, and the community.

6.2 Framework of the Operational Plan

Tables 8, 9, and 10 highlight the framework used for this three years plan. The table provides details of the strategic directions and activities that will be implemented annually to achieve the targets set. It aligns the pillars, objectives, strategic interventions, and activities, including specific timelines to guide the smooth implementation of the NSP. This sub-section elaborates more on how the activities proposed in the plan are expected to be organized.

6.2.1 NSP-TB Activity Implementation Arrangement for Pillar 1

Objectives 1.1 and 1.2 cover activities the NTP intends to carry out to increase TB and DR-TB treatment coverage over the three years of the NSP. The strategic interventions and activities are designed along the 12 benchmarks of the WHO standard: Universal access to rapid tuberculosis diagnostics' objectives to improve access to and use of WRDs as the initial test for individuals with presumptive TB identified through active and passive case finding, to increase detection of bacteriologically confirmed cases and drug resistance, and to reduce the time to diagnosis. [10] Specifically, these activities cover the four steps of the diagnostic cascade: identifying presumptive TB, accessing testing, being tested, and receiving a diagnosis. Objective 1.1 focuses on strengthening presumptive TB identification through systematic screening of high-risk groups and using chest X-rays for TB screening, including increasing access to WRDs by strengthening TB diagnostic networks and increasing access to WRDs in healthcare facilities or strengthening existing specimen referral systems. Also, along the same diagnostic cascade,

[10] WHO standard: universal access to rapid tuberculosis diagnostics. Geneva: World Health Organization. 2023. https://apps.who.int/iris/bitstream/handle/10665/366854/9789240071315-eng.pdf.

objective 1.2 aim to improve access to RR/MDR-TB diagnosis, prevention, and treatment through scaling up in-country capacity for WRD and drug resistance testing, including strengthening detection of the resistant organism for TB, Malaria, and HIV through effective integration and coordination. The emphasis of this objective is to, beyond increasing access to WRD, scale up the capacity to detect drug resistance to TB organisms and leverage existing TB lab infrastructures (e.g., PCR machines in Puntland, Somaliland, and FGS, and the Gene sequencing machines in Hargeisa and Mogadishu) to detect drug resistance for Malaria and HIV organisms.

Contextually, the NTP, through objective 1.1, will conduct a systematic screening for TB disease among people with structural risk factors for TB, people living with HIV, households and other close contacts of individuals with TB disease, prison inmates, miners and others exposed to silica dust, people attending health care services who have clinical risk factors for TB, and the general population using approaches/algorithms with both high sensitivity and specificity. Also, to integrate/harmonize the functions of FHWs/CHWs to conduct TB Case finding in the community and vulnerable populations efficiently. Emphasis is also placed on creating an efficient equipment maintenance system, expanding rapid molecular testing for TB, adopting newer testing platforms like TB LAMP and Truenat, improving the TB quality assurance and maintenance system, and ensuring available diagnostic services are always available and optimally utilized. The game changer for this NSP-TB is NTP's resolve to adopt innovation and to do things differently. Specific examples are highlighted below.

1. Integrate TB screening into routine medical care at all public health facilities and introduce the Program Quality Improvement and Efficiency (PQE) concept at facilities with a daily high patient turnout. The PQE strategy will enable cascade analysis of patients screened, identified as presumptive TB, evaluated for TB, diagnosed, and enrolled in treatment at high-volume outpatient departments, thus, enabling efficiency improvement along the cascade.
2. Facilitate the conduct of targeted active TB case finding in the community using hotspot mapping technology, complemented with Wellness on Wheel (WOW) trucks and new tools such as Portable Digital X-rays (PDX) with computer-aided diagnosis (CAD). In this regard, the NTP uses hotspot mapping to determine areas of high TB-yielding spots and mobilizes the WOW truck or the PDX machines for active case-finding activities, including awareness creation.
3. Create a roster by integrating and harmonizing FHW/CHWs from the different donors, e.g., FGS and World Bank. This involves capacity building, improving welfare package, and upgrading their operational structure and functions to be able to play a significant role in implementing community-based active case-finding and contact tracing activities, including finding missing TB cases among people in congregate settings, IDP camps, slums, prisons, hard-to-reach communities, or vulnerable populations.

Similarly, activities from objective 1.2 emphasize scaling up capacity and access to rapid diagnostic DST by ensuring efficient distribution of rapid diagnostic and DST services and awareness creation among health facilities staff on the need to improve access to molecular testing for all patients with TB symptoms and signs. In addition, the objective focuses on sustaining and enhancing the functions of the NTRLs in Hargeisa and Mogadishu, including upgrading that at Garowe. More importantly, the program will leverage opportunities from existing infrastructure for Anti-microbial resistance (AMR), including advocating for integrating TB, Malaria, and HIV as part of AMR activities using the existing DST laboratories under TB in Mogadishu and Hargeisa. In this line, the TB program will support the

PCR machines in Puntland, Somaliland, and FGS, and the Gene sequencing machines in Hargeisa and Mogadishu that can be leveraged to detect resistance to TB, Malaria, and HIV drugs. Overall, the objective will ensure a functional laboratory network and a targeted, efficient active case-finding system in Somalia.

Finally, the activities under these two objectives emphasize overall system strengthening, including capacity building for staff and the assurance of an enabling and conducive working environment for these staff.

Objectives 1.3 and 1.4 focuses on strategies that improve case-holding for adult, children, and adolescent. It advocates for a strengthening system to ensure universal access to quality DS-TB and DR-TB treatment and care services, including the uninterrupted supply of TB medicines and commodities. Its primary strategy includes scaling up treatment and follow-up capacity for DS-TB and DR-TB through expanding TB treatment services to non-TB sites, e.g., increasing the number of TBMUs and integrating TBMUs into other existing routing health services. Additionally, it advocates for establishing patient tracking mechanisms, such as using digital technology and engaging existing community structures to support improvement in patient adherence. Furthermore, it sorts to implement a mechanism that will always ensure the availability of quality-assured TB medicines and commodities for all, irrespective of the type of TB or age category of the patient. These strategies capture activities that enable adequate quantification of TB drugs and commodities through effective stakeholder engagement and planning. Specifically, PMDT's activities strengthen coordination and policy development to ensure the successful decentralization of DR-TB prevention and care services. This enables treatment initiation and continuation at health facilities levels beyond the DR-TB designated treatment centres, improving care and reducing treatment delays. Additionally, these objective underscores the importance of case-holding among children and the need to ensure that children diagnosed with TB are started on treatment and supported to complete their treatment without their parents incurring any catastrophic cost.

Objective 1.5 intends to ensure that the gains in childhood and adolescent TB case notifications in Somalia are sustained while building capacity for improved diagnosis and case management among children and adolescents. These activities align with those already highlighted under the TB case-finding strategies but focus on strengthening capacities to ensure that all children, particularly those neglected or malnourished, are reached and supported. Thus, the main strategic change for child TB will be supporting the update of the national policy to ensure that children diagnosed with undernutrition are identified as presumptive TB. Also, the innovative TB case-finding approaches proposed for adults will equally be applied to older children and adolescents.

Objectives 1.6 align its activities along four prongs, which are to strengthen the coordinating mechanism for TB/HIV collaboration, reduce the burden of HIV among presumptive and TB patients, reduce the burden of TB among People Living with HIV (PLWHs), and strengthen the management of persons with TB/HIV co-infection and other co-morbidities. Specifically, it will strengthen the mechanism for coordinating TB/HIV collaborative activities at all levels to improve program performance. Thus, it supports the proposal that TB and HIV grant management should be under one Principal Recipient to ensure the ease of coordination and adequate supply management, monitoring, and supervision. Also, this objective aims to reduce the burden of TB among PLWHs by intensifying TB

case-finding among PLWHs and reducing the burden of HIV among presumptive and TB patients by strengthening routine HIV testing and counselling. Furthermore, the program will expand TB services to two ART sites, including considering other alternative ways TB/HIV co-infected individuals can access ART drugs. In addition to different strategies and activities captured to improve case-holding, activities under this objective precisely sort of enhance the quality of care provided to TB/HIV co-infected persons and those with co-morbidities by building the capacity of staff to manage these groups of people appropriately, update the management guidelines/SOPs and provide psychosocial support to them to improve adherence. The objective also will prioritize and leverage quarterly analysis of treatment outcomes to improve treatment outcomes and quality of life among TB/HIV co-infected individuals. Lastly, the NTP, through its TB/HIV collaborative mechanism, will advocate that the PLWH with negative TB test results have unlimited access to preventive TB therapy.

Objective 1.7 focuses on preventing TB disease by preventing individuals from becoming diseased through strengthening TB prevention activities. This strategic intervention stressed the need for capacity building of health staff on identifying and managing contacts of bacteriologically diagnosed patients, including the continued use and availability of shorter TB preventive therapy (TPT) and ensuring proper documentation.

Table 8 provides a summary of how the objectives of pillar 1 relates to its strategic intervention and activities.

Table 8: Framework of the Operational Plan for Pillar 1 of the NSP-TB 2024 - 2026

Pillar 1: To provide high-quality TB preventive, diagnostic and treatment services to all patients without their having to incur catastrophic costs						
Obj 1.1	**Increase TB treatment coverage from 41% in 2021 to 83% in 2026 by strengthening presumptive TB identification and increasing access to universal drug susceptibility testing.**					
Strategic Intervention		**Activity**		**Yr1**	**Yr2**	**Yr3**
SI 1.1.1	Strengthen presumptive TB identification through systematic screening of high-risk groups and the use of Chest X-rays for TB screening.	1.1.1.1	Adopt/Introduce technology-aided active TB case-finding tools such as hotspot mapping complemented with WHO-approved new tools for TB screening.			
		1.1.1.2	Conduct systematic screening for TB disease among people with structural risk factors for TB.			
		1.1.1.3	Conduct systematic screening for TB disease among people living with HIV.			
		1.1.1.4	Conduct systematic screening for TB disease among households and other close contacts of individuals with TB disease. R			
		1.1.1.5	Conduct systematic screening for TB disease in prisons and other penitentiary institutions.			
		1.1.1.6	Conduct systematic screening for TB disease among miners and others exposed to silica dust.			
		1.1.1.7	Conduct systematic screening for TB disease among people attending health care services who have clinical risk factors for TB - PQE			
		1.1.1.8	Conduct systematic screening for TB disease among the general population			

			using approaches/algorithms with both high sensitivity and specificity.			
		1.1.1.9	Upgrade the functions of FHWs/CHWs to conduct TB Case finding in the community and vulnerable populations efficiently.			
SI 1.1.2	Increase access to WRDs by strengthening TB diagnostic networks and increasing access to WRDs in healthcare facilities.	1.1.2.1	Update and make available WRD-based diagnostic algorithm to specify that WRDs are to be used as the initial diagnostic test for all patients with presumed TB, including children and PLHIV.			
		1.1.2.1	Ensure that all primary healthcare facilities have access to WRDs (on-site or through sample referral).			
		1.1.2.2	Ensure that all individuals with TB have access to a WRD as the initial diagnostic test.			
		1.1.2.3	Ensure that WRD testing capacity meets expected needs by optimizing TB diagnostic services in Somalia.			
		1.1.2.4	Put in place a system that will ensure that TB laboratory equipment maintenance are well maintained.			
		1.1.2.4	Put in place a quality-assured testing system for WRD use in Somalia to reduce error rate to ≤ 5%.			
		1.1.2.5	Ensure that all individuals with presumptive TB are tested with a WRD.			
		1.1.2.5	Increase the number of individuals with a diagnosis of TB based on a WRD result.			
		1.1.2.6	Ensure that test-positivity rate is stable across testing sites.			
		1.1.2.7	Increase the availability of test results by ensuring that all TB testing laboratories achieve a turn-around time of ≤ 48 hrs for samples received for WRD testing.			
Obj 1.2	**Increase DR-TB treatment coverage from 15.5% in 2021 to 78.6% in 2026 and ensure that 100% of notified cases are enrolled on second line treatment by 2026 by improving access to DST.**					
SI 1.2.1	Improve access to RR/MDR-TB diagnosis, prevention, and treatment through scaling up in-country capacity for WRD and drug resistance testing.	1.2.1.1	Create awareness on identification and evaluation of at-risk population for drug resistant TB.			
		1.2.1.2	Build staff's surveillance capacity for drug resistant TB.			
		1.2.1.3	Ensure that all patients with bacteriologically confirmed TB undergo universal drug susceptibility testing (Resistance test for RR, FQ, bedaquiline and linezolid).			
		1.2.1.4	Improve the function of two TB reference laboratories in Hargeisa and Mogadishu.			
		1.2.1.5	Upgrade the national TB reference laboratory in Garowe to be able to perform culture (solid and liquid) and DST services.			
SI 1.2.2	Strengthen detection of resistant organism for TB, Malaria, and HIV through effective integration and coordination.	1.2.2.1	Integrate TB, Malaria, and HIV as part of AMR activities.			
			Establish coordinating mechanism to ensure a functional integrated AMR system for TB, Malaria, and HIV.			
		1.2.2.2	Upgrade PCR machines in Puntland, Somaliland, and FGS, and the Gene			

			sequencing machines in Hargeisa and Mogadishu.			
		1.2.2.3	Conduct routine monitoring and surveillance/detection of resistance to TB, Malaria, and HIV drugs.			
		1.2.2.4	Establish an electronic reporting system for effective integration, monitoring, and surveillance to understand			
		1.2.2.5	Build National referral laboratories staff's capacity in DST for malaria, HIV and TB.			
		1.2.2.6	Procure appropriate supplies and equipment for testing drug resistance for malaria, HIV and TB.			
Obj 1.3	**Increase TB treatment success rate for new and relapse TB cases (adults, children, and adolescents) from 90% in 2021 to ≥90% in 2026 through providing quality treatment and care for DS-TB patients, including patient support.**					
SI 1.3.1	Improve access to quality DS-TB treatment and care services for adults, children, and adolescents.	1.3.1.1	Scale up treatment and follow up capacity for DS-TB by expanding TB services to none TB sites - increase the number of TBMUs.			
		1.3.1.2	Adequately quantify TB drugs and commodities for DS-TB (adults, children and adolescents).			
		1.3.1.3	Procure adequate quantity of quality-assured first line anti-TB medicine.			
		1.3.1.4	Procure adequate quantity of quality-assured child-friendly first line anti-TB medicine.			
SI 1.3.2	Strengthen TB adherence for both adults, children, and adolescents.	1.3.2.1	Establish patient tracking mechanism using innovation-aided technology.			
		1.3.2.2	Engage community structures to support improvement in patient adherence and TSR.			
		1.3.2.3	Provide psychosocial support through patient-centered support and engagement of caregiver to improve patients' adherence and TSR.			
Obj 1.4	**Increase DR-TB treatment success rate from 77% in 2019 to ≥80% in 2026 through the provision of quality second line treatment and care, including patient support for DR-TB patients (adults, children, and adolescents).**					
SI 1.4.1	Strengthen coordination and policy development to ensure successful decentralization of DR-TB prevention, treatment and care services.	1.4.1.1	Ensure the establishment of coordination platform for decentralization of DR-TB management.			
		1.4.1.2	Update policy and policy documents for DR-TB management and control, including the adoption new drugs for managing DR-TB such BPAL and BPAL-M regimens			
		1.4.1.3	Update the TOR of DR-TB focal person and develop PMDT implementation and decentralization plan.			
		1.4.1.4	Update the TOR and membership of the National PMDT committee to effectively coordinate the decentralization process.			
SI 1.4.2	Strengthen decentralization process and treatment initiation and continuation at health facilities levels to improve care care and reduce treatment delays.	1.4.2.1	Review the system for effective initiation and monitoring of DR-TB management at facility level.			
		1.4.2.2	Support the initiation and monitoring of patients on DR-TB treatment at health facility level.			

		1.4.2.3	Strengthen psychosocial support to all DR-TB patients managed in the community and health facility to improve treatment adherence.			
		1.4.2.4	Support mentorship program to support the decentralization of DR-TB activities.			
SI 1.4.3	Ensure the availability of SLD and other commodities.	1.4.3.1	Adequately quantify second line and ancillary drugs for patients on DR-TB treatment.			
		1.4.3.2	Procure of adequate quality-assured second line and ancillary drugs for patients on DR-TB treatment (Budget captured under SI 2.5.3 and activity 2.5.3.2)			
Obj 1.5	**Ensure that the proportion of children among new and relapse TB cases notified is ≥15% by end of 2026 by improving in-country diagnostic capacity.**					
SI 1.5.1	Strengthen coordination platform to improve TB control in children and adolescents, including policy strengthening.	1.5.1.1	Empower Focal point to drive the control and coordination of childhood TB and adolescent TB in the country.			
		1.5.1.2	Adopt and implement new strategies to improve the control of TB in children and adolescent in line with the global road map for childhood TB.			
		1.5.1.3	Develop and update policy documents and SOPs for the control and management of TB in children and adolescent			
SI 1.5.2	Strengthen TB diagnosis among children and adolescent, including using new technologies and other methods.	1.5.2.1	Provide equipment/instrument that can enhance the diagnosis of TB in children and adolescents e.g., new tools like Portable Digital X-rays, stool testing etc.			
		1.5.2.2	Build capacity of healthcare workers to appropriately diagnose TB in children and adolescent across all levels of care and avoid over diagnosis.			
		1.5.2.3	Rapidly scale up TB Preventive Therapy (TPT) among children less than 5 years using short and effective regimens.			
Obj 1.6	**Increase TB treatment success rate among TB/HIV co-infected persons from 46% in 2020 to ≥80% by 2026 through improving the management of TB/HIV co-infection and co-morbidities.**					
SI 1.6.1	Strengthen mechanism for coordination of TB/HIV collaborative activities at all levels.	1.6.1.1	Improve coordination and planning of TB and HIV joint activities, e.g., establish and support TWG TB/HIV collaboration and functional at all levels.			
		1.6.1.2	Conduct integrated delivery, monitoring, and evaluation of collaborative TB/HIV activities.			
		1.6.1.3	Conduct annual TB/HIV joint program review meetings.			
SI 1.6.2	Reduce the burden of HIV among presumptive and TB patients through strengthening of routine HIV testing and counselling.	1.6.2.1	Ensure availability of HIV Test kits at all TB facilities through adequate quantification, procurement, and correct distribution to point of service delivery.			
		1.6.2.2	Carry out routine HIV screening for all presumptive and TB patients, including proper counselling.			
		1.6.2.3	Document properly all HIV counselling and test carried out.			
		1.6.2.4	Ensure access to high quality anti-TB medicines and commodities. Refer to objective 1.3 & 4.			

		1.6.2.5	Conduct quarterly analysis of data to ensure that ≥95% of presumptive and TB patients have documented evidence of their HIV status.			
SI 1.6.3	Reduce the burden of TB among People Living with HIV (PLWHs) by strengthening intensify TB case-finding among PLWHs.	1.6.3.1	Determine TB prevalence among people living with HIV by instituting routine symptomatic screening for TB among them.			
		1.6.3.1	Provide TB Prevention therapy for PLWHs who screened negative to TB disease.			
		1.6.3.2	Update diagnostic algorithm for systematic screening for TB at ART and HTC sites – Refer to activity 1.1.1.3.			
		1.6.3.2	Conduct Intensify TB case-finding using newer technology at ART and HTC sites – Refer to activity 1.1.1.3.			
		1.6.3.4	Link TB/HIV co-infection patients to TB/HIV co-infection management through provision of one-shop services for T/HIV.			
		1.6.3.5	Provide HIV prevention and intervention services for patients with presumptive and diagnosed TB.			
		1.6.3.6	Institute a system that assures TB infection control in HIV health-care settings.			
SI 1.6.4	Strengthen the management of persons with TB/HIV co-infection and other co-morbidities.	1.6.4.1	Establish 2 more ART facilities to improve the management of TB/HIV co-infection.			
		1.6.4.2	Build the capacity of clinicians managing TB/HIV co-infection.			
			Update the management guidelines/SOPs for TB/HIV co-infection and other morbidities.			
			Provide psychosocial support to individuals that are TB/HIV co-infected or with other morbidities to improve adherence.			
		1.6.4.3	Ensure that the referral system between TB and HIV health care facilities is functional and reliable.			
		1.6.4.4	Establish feedback and follow up mechanism of referral patients between HIV and TB centers.			
		1.6.4.5	Routinely review the quarterly TB /HIV co infection data.			
		1.6.4.6	Conduct quarterly cohort analysis and mortality reviews of TB/HIV co-infection patients' treatment outcomes.			
		1.6.4.7	Provide psychosocial support to TB/HIV co-infected persons and those with other co-morbidities to improve adherence.			
Obj 1.7	**Increase the percentage of contacts of bacteriologically confirmed index TB cases (< 5 and ≥5 years) started on TB preventive therapy (TPT) from 0% in 2021 to ≥50 by 2026 through strengthening contact investigation and provision of shorter TB preventive regimen.**					
SI 1.7.1	Strengthen TB prevention activities.	1.7.1.1	Conduct systematic screening for TB disease among household and other close contacts of individuals with bacteriological confirmed TB disease.			
		1.7.1.2	Conduct systematic screening for TB disease among person living with HIV.			

		1.7.1.2	Procure adequate quantity of quality-assured shorter regimen TB Preventive medicines.			
		1.7.1.2	Document by disaggregation all activities carried out for TP prevention.			

6.2.2 NSP-TB Activity Implementation Arrangement for Pillar 2

Objective 2.1 aims to improve government stewardship and strengthen ACSM, program management, and partner coordination through strategic interventions and activities. The primary idea is to ensure government commitment and stewardship and create a platform for accountability at all levels, including resource mobilization for TP program planning, implementation, monitoring, and evaluation. Also, of importance, is improving TB program management and coordination across all levels. Key activities include establishing a national multisectoral platform for which TB stakeholders can participate to drive the implementation of the End TB Strategy and engaging national legislature to inform policy change for TB and increase funding for TB prevention and care. In addition, establish advocacy platforms that can be used to push TB agenda, inform Policy change for TB, and enable resource mobilization for TB prevention and care. Still, establish coordinating mechanisms for ACSM for TB in the country and use it to mobilize resources for TB prevention and care. Lastly, improve the overall technical support for program management (planning, implementation, monitoring, and evaluation) and ensure the availability of all TB operational guidelines SOPs, including strengthening supportive supervision and program management to enhance performance at all levels.

Objective 2.2 focuses on engaging and empowering the community through strengthening community involvement in TB case finding and other control activities, including enhancing and implementing communication and social mobilization strategies to increase TB knowledge and awareness. The primary activities to achieve this include establishing a platform to engage community-based and civil society organizations, empowering them, and expanding their scope in supporting community-based TB case-finding activities. Also, emphasis is placed on scaling up the dissemination of TB prevention and care messages through mass media and other information dissemination platforms such as WhatsApp, Twitter, and Facebook, conducting mass awareness campaigns in the communities, and commemorating World TB Day (WTD), including participating in the celebration of World Asthma and Tobacco Day. Furthermore, the program will institute and support national testing week outside the WTD community activities. Lastly, this objective sort to harmonize the functions of Female Health Workers and community health workers, including improving their condition of work and ensuring that the implementation strategies for case-finding are more efficient.

Objective 2.3 is the objective that looks at how the contribution of the private sector to TB control, particularly case notification and treatment outcome, could be enhanced. It seeks to achieve this by building on the current progress by strengthening leadership and partnership to facilitate resource mobilization, active oversight, and coordination of PPM activities in the country. Also, to enhance the monitoring and evaluation of PPM activities in the country to ensure effectiveness and efficiency, including expanding TB diagnosis and treatment to health facilities and other care providers. The main activities in this plan include putting in place a robust policy and regulatory framework to sustain PPM

activities in the country, harmonize and mobilize resources, and develop an M&E framework/plan to guide the implementation of PPM activities and resource allocation of funds. Also, institute a functional, supportive supervision, mentorship, and feedback mechanism for the PPM initiative at all levels, evaluate the PPM action plan by 2026 and learn from its implementation. The objective also seeks to engage additional private and non-profit healthcare facilities and homes used as Elaj, including identifying and engaging home care where informal care is provided. Overall, this objective and its activities will increase the contribution from the private sector and serve as a learning curve for future planning, implementation, monitoring, and evaluation of PPM activities in Somalia.

Objective 2.4 focuses on strengthening the country's M&E and surveillance systems to enable it to capture all notified TB cases and accurately report their treatment outcomes. Also, the activities are designed to improve data analysis, use and decision-making, including improving NTP's monitoring and evaluation capacity. The primary consideration for implementation involves addressing M&E human resource gap at the central unit, capacity building, updating the existing M&E framework, planning, and ensuring tools availability, including making available policy documents and guidelines for M&E and routinely producing TB information products for TB control. Also, improve data quality management at all levels, establish a quality assurance mechanism for TB data management, migrate to an electronic data management system, and create an environment to ensure data-driven decision-making, which includes improving data analysis skills to improve data use and decision making. Lastly, this objective will implement a mechanism to enhance the monitoring of community TB activities, mainly TB case-finding activities of FHWs/CHWs and improve coordination of monitoring across stakeholders.

Objective 2.5 recognizes the role of the Procurement and Supply Management (PSM) system in the TB control program and the importance of ensuring an uninterrupted supply of TB medicines and commodities all the time. In this regard, this objective aims to reduce the stockout of TB products to the barest minimum by strengthening its supply chain management system and always ensuring the continuous availability of health products. Also, it prioritizes providing improved access to TB diagnostics by always ensuring proper management of laboratory and diagnostic equipment and reagent, including strengthening health products management and logistics management information system. Furthermore, this objective includes activities that will build on the current achievement in warehouse management of TB products and build staff capacity to manage TB products properly. Of programmatic importance is putting in place a maintenance and sustainability system for diagnostic equipment in the country by building in-country biomedical engineers.

Objective 2.6 focuses on reducing the proportion of TB patients and their households that experience catastrophic costs due to TB through providing social protection, poverty alleviation and actions on other determinants of TB. Most activities in this NSP-TB are patient-centred and designed to increase access to preventive, diagnostic, treatment, and care services. Also, activities on this objective, specifically, advocate for increased social protection, poverty alleviation and actions on other determinants of TB such as poor housing, malnutrition etc. In addition, it sorts to strengthen existing interagency partnership with agencies and organizations involved in poverty alleviation, provide psychosocial support to TB patients in the form of counselling, food, and transportation package. One major activity under this objective is determining what percentage of TB patients and their family are incurring catastrophic cost due to TB and to see how this can be reduced annually.

Objective 2.7 is the objective dedicated to ensuring that a supportive system for the successful implementation of the NSP-TB 2024-2026 is created. It focuses on strengthening the central unit of the NTP to function efficiently through providing adequate infrastructure, routine logistical support (e.g., vehicle/fueling for movement and transportation, consumables, and office maintenance), and improv human resource management. In addition, these objective captures activities that pay close attention to NTP financial management system strengthening and support for the sub-national level to be able to successfully implement NSP-TB 2024-2026.

Table 9 provides a summary of how the objectives of pillar 2 relates to its strategic intervention and activities.

Table 9: Framework of the Operational Plan for Pillar 2 of the NSP-TB 2024 - 2026

Pillar 2: Institute bold policies and supportive systems for TB care and prevention						
Obj 2.1	**Mobilize at least 90% of funding needed to implement activities of the NSP-TB 2024-2026 by the end of 2026.**					
Strategic Intervention		**Activity**		**Yr1**	**Yr2**	**Yr3**
SI 2.1.1	Advocate for improved government stewardship	2.1.1.1	Establish a national multisectoral platform for which TB stakeholders can participate to drive the implementation of the End TB Strategy.			
		2.1.1.2	Engage National Legislature to inform policy change for TB and increase funding for TB prevention and care.			
		2.1.1.3	Establish advocacy platforms that can be used to push TB agenda, inform Policy change for TB, and enable resource mobilization for TB prevention and care.			
SI 2.1.2	Strengthen ACSM to increase funding support for TB care and prevention	2.1.2.1	Establish coordinating mechanisms for ACSM for TB in Somalia.			
		2.1.2.2	Use established ACSM mechanism or platform to mobilize resources for TB prevention and care.			
SI 2.1.3	Strengthen program management and partner coordination.	2.1.3.1	Improve technical support for program management (planning, implementation, monitoring and evaluation).			
		2.1.3.2	Ensure the availability of all TB operational guidelines and Standard Operating Procedures (SOPS).			
		2.1.3.3	Strengthen supportive supervision and program management to enhance performance at all levels.			
		2.1.3.4	Improve overall program management for TB control.			
Obj 2.2	**Increase the proportion of community contribution to national case notification to at least 20% of all new and relapse TB cases (all forms) notified annually by 2026.**					
SI 2.2.1	Strengthen community involvement in TB case finding and other control activities	2.2.1.1	Establish platform to engage community organizations and civil society organizations.			
		2.2.1.2	Expand the number of Civil Society Organizations (CSOs)and Community Based Organizations (CBOs) in supporting			

			the implementation of TB services in the community.			
		2.2.1.3	Empower the engaged CBOs and CSOs to be able to support implementation of TB activities.			
		2.2.1.4	Conduct targeted TB case finding activities in the community - refer to community activities under cases finding in objective 1.			
		2.2.1.5	Involve the community in the implementation of TB prevention and care services.			
SI 2.2.2	Strengthen and implement communication & social mobilization strategies to increase TB knowledge and awareness	2.2.2.1	Scale up dissemination of TB prevention and care messages through mass media.			
		2.2.2.2	Conduct mass awareness campaigns.			
		2.2.2.3	Commemorate World TB day, including participating in the celebration of World Asthma day and Tobacco day.			
		2.2.2.4	Institute national testing week outside the world TB day community activities.			
Obj 2.3	**Increase the proportion of PPM contribution to national case notification from 15.4% in 2021 to ≥20% of new and relapse TB cases (all forms) notified by 2026.**					
SI 2.3.1	Strengthen leadership and partnership for PPM to facilitate resource mobilization, active oversight and coordination of PPM activities	2.3.1.1	Strengthen PPM program leadership and coordination.			
		2.3.1.2	Strengthen policy and regulatory environment to sustain PPM.			
		2.3.1.3	Harmonize and mobilize resources for PPM.			
SI 2.3.2	Strengthen the monitoring and evaluation of PPM activities in the country to ensure effectiveness and efficiency	2.3.2.1	Develop M&E framework/plan guide the implementation of PPM activities and resource allocation of funds.			
		2.3.2.2	Institute a functional supportive supervision, mentorship and feedback mechanisms for PPM initiative at all levels.			
		2.3.2.3	Evaluate PPM action plan by 2026.			
SI 2.3.3	Expand TB diagnosis and treatment to health facilities and other care providers	2.3.3.1	Engage additional private and non-profit healthcare facilities.			
		2.3.3.2	Engage home care houses that are used as Elaj.			
		2.3.3.3	Identify and engage home care where informal care are provided.			
Obj 2.4	**Ensure TB case reporting coverage is ≥90% by 2026 through strengthening of existing monitoring and evaluation, universal health coverage policy and regulatory frameworks for case notification.**					
SI 2.4.1	Strengthen M&E Systems	2.4.1.1	Address M&E human resource gap at the central unit.			
		2.4.1.2	Build capacity of M&E staff across all level.			
		2.4.1.3	Provide adequate relevant tools for M&E functioning.			
		2.4.1.4	Adequately resource M&E function across the NTP.			

		2.4.1.5	Update existing M&E framework, plan, and tools.			
		2.4.1.6	Make available policy documents and guideline for M&E.			
		2.4.1.7	Monitor and evaluate activities of the NSP TB 2024-2026, including assessments.			
		2.4.1.8	Make available TB information products for TB control.			
SI 2.4.2	Strengthen TB surveillance system to be able to capture all notified TB cases, including outcomes	2.4.2.1	Improve data quality management at all level.			
		2.4.2.2	Migrate to electronic data management system.			
		2.4.2.3	Establish quality assurance mechanism.			
SI 2.4.3	Strengthen use of data for decision-making	2.4.3.1	Create an enviornment to enhance data-driven decision making.			
		2.4.3.2	Improve data analysis skills to improve data use and decision making.			
SI 2.4.4	Improve monitoring of NTP	2.4.4.1	Monitoring of community work.			
		2.4.4.2	Improve coordination of monitoring across stakeholders.			
SI 2.4.5	Monitor and evaluate TB program implementation	2.4.5.1	Conduct specific periodic evaluations and program reviews, e.g., Epi review and End-term NSP review.			
Obj 2.5	**Reduce stockout of TB product to less than 5% by 2026 through strengthening of the Procurement Supply Management system and development of regulatory frameworks for quality rational use of TB medicines.**					
S 2.5.1	Strengthen health products Management and logistics management information	2.5.1.1	Develop comprehensive health products management guideliness.			
		2.5.1.2	Develop comprehensive TB health product and equiptments management plan.			
		2.5.1.3	Develop electronic logistic management information system.			
		2.5.1.4	Enhancement of human resources for health product management – Include training for Quan TB tool.			
		2.5.1.5	Improve the health products regulatory system.			
SI 2.5.2	Institute maintenance and sustainability system for diagnostic and other health equipment in the country	2.5.2.1	Develop a maintenance and sustainability system plan for the country.			
		2.5.2.2	Establish an in-country taskforce to coordinate TB health equipment maintenance and sustainability.			
		2.5.2.2	Build in-country capacity for maintenance and sustainability of laboratory equipment and chest X-rays, including identifying and training in-country biomedical engineers.			
SI 2.5.3	Ensure the availability of health products (Medicines and laboratory reagents for DS-TB	2.5.3.1	Ensure adequate quantification and timely requisition of TB Medicines and laboratory reagents for DS-TB and DR-TB.			

	and DR-TB) for adults, Children and TB/HIV co-infected persons.	2.5.3.2	Procure adequate TB health products (Medicines and laboratory reagents for DS-TB and DR-TB, including TB Preventive drugs) for adults, Children and TB/HIV co-infected persons.			
SI 2.5.4	Ensure the availability of health products (health equipment and new tools for active case finding).	2.5.4.1	Identify all the health equipment and new tools (for active case finding) needed in the country).			
		2.5.4.2	Ensure adequate quantification and timely/periodic requisition of identified health equipment and new tools (for active case finding).			
		2.5.4.3	Procure adequate health equipment and new tools (for active case finding).			
Obj 2.6	**Reduce the percentage of TB patients and their households that experience catastrophic costs due to TB to less than 20% by 2026 through provision of social protection, poverty alleviation and actions on other determinants of TB.**					
SI 2.6.1	Advocate for Social protection, poverty alleviation and actions on other determinants of TB such as poor housing, malnutrition etc.	2.6.1.1	Strengthen existing interagency partnership with agencies and organizations involved in poverty alleviation.			
		2.6.1.2	Provide psychosocial support to TB patients in the form of counselling, food, and transportation package.			
		2.6.1.3	Determine the percentage of TB patients and their households that experience catastrophic costs due to TB – refer to activity 3.1.1.4 for details.			
Obj 2.7	**Create supportive system for the successful implementation of at least 90% of activities captured in the NSP-TB 2024-2026 by the end of 2026.**					
SI 2.7.1	Improve the function of the central unit of the NTP through upgrading and supporting infrastructures and daily program running.	2.7.1.1	Provide adequate infrastructure to create a conducive environment that enhances productivity, including renovation and erecting of new infrastructures.			
		2.7.1.2	Provide logistical support for routine and day to day running of the NTP's office across all levels to enable effective program management and implementation.			
		2.7.1.3	Provide logistical support such as vehicle and fueling for movement and transportation to enhance effective implementation of program activity.			
		2.7.1.4	Provide up to date equipment to all staff to enhance productive and improve performance.			
	Strengthening TB programme management capacities to be able to successfully implement the NSP-TB 2024-2026.	2.7.2.1	Conduct a Human Resources assessment to identify gaps in Human resource management.			
		2.7.2.2	Develop and implement a Human Resources management plan for the NTP to address gaps in terms of quantity and quality.			
		2.7.2.3	Engage relevant staff according to the NTP's Human Resources management plan.			
		2.7.2.4	Build capacity of all staff to be able to carry out their job description effectively.			

		2.7.2.5	Strengthen the NTP financial management system to be able to support the implementation of the TB NSP			
		2.7.2.6	Build capacity of the NTP manger and other senior staff on advance program management, monitoring, and evaluation.			
		2.7.2.7	Provide funding for salaries and other staff benefits.			
		2.7.2.8	Integrate the functions of the TB coordinators at the state levels to enable them serve as TB and HIV coordinators at the states.			
		2.7.2.9	Support the sub-national level to be able to successfully implement NSP-TB 2024-2026.			

6.2.3 NSP-TB Activity Implementation Arrangement for Pillar 3

Objective 3.1 focuses on intensified research to improve program planning, implementation, monitoring, and evaluation. In addition, this objective is to intentionally improve program efficiency by strengthening the research component of the TB control program. The activities are designed to have a national coordinating mechanism to increase the pursuit of research by developing a national research agenda and building the program's capacity to conduct and disseminate relevant research that will inform policy change and improve overall program efficiency. In addition, focuses on advocacy for funds mobilization to sustain TB research, promoting research findings translation into policy development for improved implementation of interventions. Additionally, through its TB research task force or coordinating mechanism, the NTP will work with other research institutions to form a coalition to improve efficiencies in implementing the national research agenda for TB.

Objective 3.2 focuses on enhancing the program's capacity and interest to uptake innovations proven to be efficacious and found to have changed TB patient management and control in many countries. With this objective and its activities, the programme intends to follow the rapidly changing landscape of diagnostic tools and TB preventive and curing drugs. This objective advocates the uptake and scale-up of new tools such as Truenat, TB LAMP, and PDX machines with CAD, among others, including scaling up and addressing implementation challenges limiting the absorption of these efficacious interventions and innovations. The successful adoption and scale-up of these tools will significantly increase TB case notifications and improve the quality of care delivered to the patient. Specifically, the introduction of TB LAMP and Truenat tools, which have high throughput compared to the conventional GeneXpert machine in conducting community-based active TB case-finding. Also, the PDX machines will be useful in increasing the presumptive yield viz-a-viz overall TB case notification with the right deployment.

Table 10 provides a summary of how the objectives of pillar 3 relates to its strategic intervention and activities and showcases areas of research priority for the NTP over this 3-year period.

Table 10: Framework of the Operational Plan for Pillar 3 of the NSP-TB 2024 - 2026

Pillar 3: Intensified research and innovations						
Obj 3.1	**Conduct at least 2 operations research annually by the end of 2026 to optimize implementation of the NSP-TB 2024-2026.**					
Strategic Intervention		**Activity**		**Yr1**	**Yr2**	**Yr3**
SI 3.1.1	Institute and strengthen the research component of the National TB Program.	3.1.1.1	Develop and implement an operations research agenda to support attainment of TB control targets.			
		3.1.1.2	Build strategic partnership with research & academic institutions.			
SI 3.1.1	Mainstream the conduct of operations research into the routine TB operational plan.	3.1.2.1	Conduct TB specific research to measure impact e.g., TB prevalence survey and TB catastrophic cost survey.			
		3.1.2.2	Conduct other TB related operational research (OR) that improve program efficiency: KAP survey, inventory study etc.			
Obj 3.2	**Adopt the use of two new tools at the end of 2026 to promote innovation for impact.**					
SI 3.2.1	Enhance the uptake of new diagnostic tools and anti-TB drugs.	3.2.1.1	Adopt recommended policies and integrate new diagnostic and treatment tools.			
		3.2.1.2	Adopt the use of newer technology such as new tools (TB LAMP, Truenat, PDX with CAD) for TB diagnosis by 2026 (Budget captured under PSM – Objective 2.5).			
		3.2.1.3	Adopt the use of new regiment for both preventive and treatment (Budget captured under PSM – Objective 2.5).			

6.3 Framework of the Technical Assistance Plan

The technical assistant plan indicates specific areas where the NTP will require technical assistance. Some of these areas include the upgrading of the NTRL in Garowe, specimen transportation, using technology-aided active case finding like hot mapping, strengthening of TB surveillance system, improving data analysis skills, transition to an electronic data management system, implementation of Program Quality Improvement and Efficiency (PQE) strategy, conducting surveys and operational research, policy and strategic document development, program management, human resource development, PPM and ACSM. This framework will help the program easily identify technical assistance needed while developing its annual work plans. The NTP's TA needs for NSP-TB 2024-2026 will continually be updated as the need arises while developing its annual work plans.

7. The Monitoring and Evaluation Plan

7.1 The objective of the NTP M&E Plan 2024 - 2026

The NSP-TB 2024-2026 M&E plan will enable the NTP and its stakeholders to closely monitor and accurately measure the progress made in implementing activities proposed in the operational plan section of this document and evaluate progress made to achieve the intended goals and results. It describes how and by what method the program will evaluate the impact of the strategies and interventions described in the Core and operational plans. This M&E plan briefly describes the current NTP M&E system in terms of its structure, data management and the key findings of the 2022 epidemiological analysis, including the recommended steps suggested to address challenges identified from the review. The latter part of the plan guides how the NSP-TB 2024-2026 will be monitored and evaluated. Refer to Table 11 for the targets and milestones.

The objectives of the NTP M&E Plan 2024-2026 are to:

1. Track progress and monitor the outcomes and outputs of the NSP-TB 2024-2026
2. Strengthen the required human resource capacity at all levels from national, state, district, and health facility levels.
3. Strengthen the TB surveillance system in the country.
4. Ensure the availability of quality data at all times.
    a. Institute processes for ensuring good data quality and availability at all levels.
    b. Facilitate efficient data transmission and feedback flow system across all levels of the NTP.
5. Strengthen surveys and operations research for TB.
6. Build upon the requisite infrastructure for monitoring and evaluation in Somalia.
7. Mobilize adequate financial and material resources to support the full operationalization of the M&E plan.

7.2 Organization of the NTP M&E and Surveillance system

The M&E and surveillance system of the TB program is established to ensure that the program can measure accurately its incidence and mortality cases as well as ensuring that program activities are implemented as planned. Specifically, the system should provide a reliable status of the program's performance, implementation progress towards program targets, epidemiological trend of disease burden and accountability in line with international best practices.

7.2.1. Structure

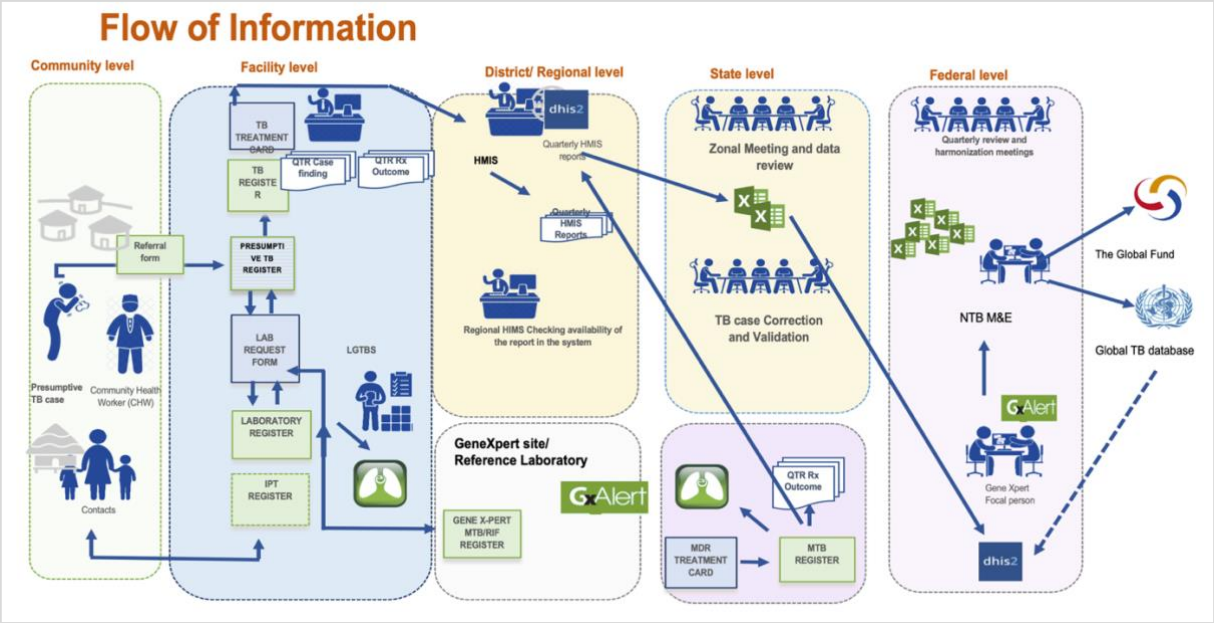
The National Tuberculosis Program (NTP), one of the divisions under the Public Health Department within the Federal Ministry of Health of Somalia provides oversight of TB control in Somalia. The M&E unit coordinates TB surveillance, monitoring, and evaluation activities for the NTP under the leadership of the Program Manager of the NTP. This system cuts across the central unit, states, and health facilities, excluding the district, which is expected to be the program's Basic Management Unit (BMU). The NTP's recording and reporting documents follow the WHO-recommended definitions and reporting framework for tuberculosis (2013 revision). TB service delivery at health facilities begins with patient screening, identification of presumptive TB, and registration into the presumptive TB Register

(TB 01). After that, patients are evaluated, diagnosed, and managed appropriately for TB and their information is recorded according to the NTP guidelines.

7.2.2 Data Flow and Reporting

All data generated from all service delivery points, including the community, are updated regularly and collated quarterly by the country's NTP M&E focal persons and state TB coordinators using appropriate tools. After verifying the collated data from all the managed TB facilities, the data from this level in each state is shared with the Principal Recipient (PR) and WHO and entered in the pre-designed Excel quarterly reporting templates. This aggregated data is now stored as facility, state, and national reports for the whole country and present programmatic levels indicators and targets assigned for the country. The Basic Management Unit of the TB Programme has not been clearly defined in the structure described; hence, there is a need for the NTP to define the BMU levels clearly. Figure 20 provides the schematic display of the NTP's flow of information.

Figure 20: Flow of information



7.2.3. Electronic data collection systems

In addition to the programmatic paper-to-electronic quarterly aggregated reporting, there are two other parallel systems of TB-related data flow, already shown in Figure 20.

- **National Health Management Information System (HMIS):** Data collection and reporting tools were revised and standardized in 2016. In addition, health information management switched from a Microsoft Access database to District Health Information System (DHIS 2), an open-source software. Regional HMIS officers started entering facility-level data into DHIS 2 in January 2017. With the help of the Global Fund/UNICEF, the ministry of health adopted the integrated DHIS 2 software as the national reporting system for routine health data.
- **District Health Information System version 2 (DHIS 2)** is Somalia's current health data management system. It is the electronic tool the NTP uses to store aggregated data collected from facilities and the community. The DHIS 2 was integrated with TB and HIV Programs, the only two programs yet to be integrated. Most of the TB indicators are in the system, and the country is implementing the flow of the DHIS, where the TB facilities have the printed TB form.

They fill in the information quarterly and then share it with District Health Officers regional and central. TOT training of DHIS 2 for the program and managers was conducted in 2022, where all the TB data for 2021 and the 3rd quarter of 2022 was completed in 2022. The Epi review mission could not interrogate the system; hence have limited information on its functionalities and use.

7.2.4. Data quality control and verifications

Data quality control and verification are implemented across all levels of program implementation (facility, district, zonal and Federal levels). At the facility level, quality control is implemented during the supervisory visits using a standard checklist, which contains qualitative measurements of data quality of the audited facility, including completeness, accuracy, validity, and cross-checking between source documents and recounting of reports. Quality control is implemented at the State and zonal levels during the quarterly review and harmonization meetings. Zonal review and harmonization meetings usually take place quarterly with the participation of the NTB Manger, State TB coordinators, SRs managing the TB facilities, M&E Clinicians, Lab, MDR focal persons, and partners. During those meetings, state and zonal-level data are verified and validated. Also, inconsistencies are identified and reconciled where feasible. Where it is not feasible, feedback is provided to lower levels to reconcile data using primary source documents. Onsite data validation (OSDV) is a routine monitoring activity implemented every quarter designed to improve the quality of reported data across all relevant levels, from the TB health facility and the state.

7.3. Key findings from 2022 TB Epi review

Somalia made marginal progress in strengthening its surveillance and M&E system. For example, its external consistency of data improved, the surveillance data can provide a direct measure of the prevalence of HIV in TB cases, and all scheduled periodic data are received and processed at the national level as at when due.

7.3.1 Strength

The main strengths of TB surveillance in Somalia include:

- TB M&E/surveillance system is well-established in-country and able to measure TB incidence.
- Data collection tools align with the WHO 2013 recording and reporting framework.
- A sound and well-structured information flow system.
- surveillance data provide a direct measure of TB-HIV co-infection.
- Presumptive TB data is readily available to enable TB cascade analysis.
- Some level of data interrogation and harmonization is happening.
- TB cases notified/reported are externally consistent.

7.3.2 Areas of notable gaps

The main weaknesses of TB surveillance in Somalia include:

- **59% of estimated TB cases missed in 2021:**
  - Potential under-reporting and under-diagnosis
  - Sub-optimal active case search intervention ongoing; sub-optimally targeted.

- Low screening for TB leading to low presumptive and TB yield; hence, low TB case notification.
- TB reporting is not a legal requirement in the country

- **Data quality issues at various levels are persisting:**
  - Review and harmonization meetings to assess and improve data quality are not adequate and regular, particularly at the sub-national level.
  - TB surveillance data are not internally consistent.
  - There is a lack of a training package for TB surveillance activities.
  - The surveillance for TB recording and reporting is primarily paper based.

- **Inadequate number and capacity for surveillance at the central level**
  - Inadequate M&E staff at the national level in terms of number and quality.
  - Insufficient capacity to provide adequate oversight at the sub-national level on M&E and surveillance.
  - Insufficient capacity to conduct granular level analytics to inform programmatic decisions – suboptimal data use likely.
  - The lack of capacity for routine analysis of TB data and systematic feedback to the lower level
  - There is no sub-national level data management system.

- **No Vital Registration system for TB:**
  - There is no established vital registration system in the country to measure TB mortality accurately; unfortunately, establishing one is not a priority for the country.

7.3.3 Recommendations

1. **Strengthen coverage of the TB surveillance system to find "missed cases."**

- Determine the true burden of TB in Somalia by conducting a prevalence survey.
- Address under-reporting:
  - Conduct a nationally representative inventory study.
  - Improve data collection and reporting for presumptive TB.
  - Institute the quarterly TB cascade analysis to include at least the evaluation rate, TB yield, and notification rate.
  - Capture all diagnosed TB cases in the TB treatment register.
- Address under-diagnosis:
  - Engage non-NTP health facilities, including non-traditional healthcare providers
  - Adopt innovations such as scaling up stool testing in children etc.
- Conduct targeted and efficient active case finding using artificial intelligence (hotspot mapping):
  - Guide the use of mobile trucks with hotspot mappings
  - Conduct TB cascade analysis starting from the screening rate for this targeted intervention

2. **Strengthen the quality of the TB surveillance system**

- Initiate the transition from paper to electronic medical record/case-based system.

- Optimize the use of the DHIS 2 for TB
- Strengthen the M&E unit at the central unit:
  - Increase the number of staff to have at least an Epidemiologist (Liaise with the Epidemiology unit) and data manager.
  - Build the capacity of the current M&E officer (targeted training and coaching)
- Strengthen the control program structure to improve the performance of the surveillance system, particularly at the state levels (refer to the WHO concept of Basic Management Unit of the Program file:///Users/apple/Downloads/WHO_HTM_TB_2004.344.pdf.
- Institutionalize data quality improvement and reporting system from lower levels:
  - Develop/update guidelines and SOPs for data management – validation, completeness, and cleaning
  - Print and distribute guidelines and SOPs, including other documents, to improve the surveillance system in all health facilities.

3. Facilitate and establish routine data analysis and use for policy, planning, and programmatic action at all levels:

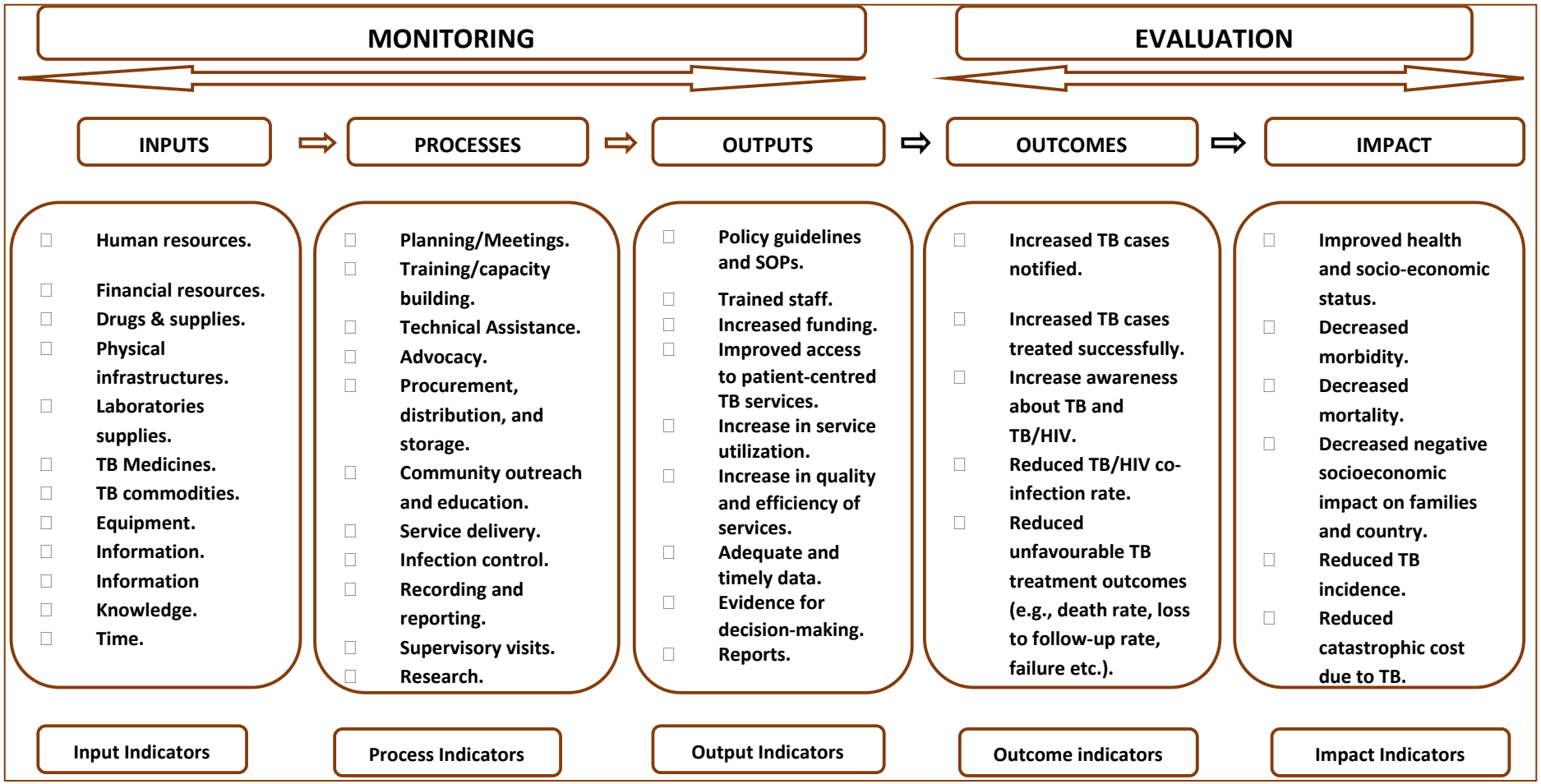
- Conduct routine and periodic data reviews.
  - Institutionalize a systematic data review system along the levels of reporting.
  - Review to ensure data harmonization, interrogation, validation, analysis, and use between the national and sub-national level teams and the facilities.
- Improve data use across all levels:
  - Optimize using the DHIS 2 tool to create dashboards with clear visualization of surveillance data, including spatial analysis.
  - Implement a training plan to interrogate and use DHIS 2 dashboards across all levels.
  - Develop and disseminate TB M&E products, such as quarterly bulletins and annual TB surveillance reports.

4. Improve the direct measurement of TB burden and death:

- Sufficiently interrogate the findings of the TB prevalence and DRS report, including the Epi review report.
- The WHO should continue engaging the NTP on the need to establish a vital registration system in the country.

Figure 21 and table 11 presents the M&E logical framework and the performance framework for the NSP-TB 2024-2026, respectively.

Figure 21: M&E Logical framework for the NSP-TB 2024-2026



This logical framework (planning tool) helps to set out the objectives of the NSP-TB and shows how these objectives will be measured. The M&E performance framework details how the specific indicators will be measured over the three-year period.

Table 11: NSP 2024 - 2026 performance framework

S/N	Detail	Definition	Source	Freq.	Who collects? (Level)	Baseline		Performance target			Comments / calculations/hypotheses
						Year	Value	2024	2025	2026	
Impact Indicators											
1	Percentage of reduction of TB Deaths rate.	Measured by WHO estimations through modeling	WHO, annual TB Report	Annually Cumulative	WHO	2021	66	54	50	46	Decrease by 18.2% from 2021 value (66 to 54/100k, then by 7.4% and 8.0%, respectively, for 2025 and 2026, i.e., 54 to 50/100k (2025) and 50 to 46/100k. Implying reducing TB mortality by 39.5% in 2026 from the 2015 value of 76/100k
2	Percentage reduction of TB Incidence rate (per 100,000 population).	Measured by WHO estimations through modeling	WHO, annual TB Report	Annually Cumulative	WHO	2021	250	220	210	190	Decrease by 12.5% from 2021 value (250 to 220/100k, then by 4.5% and 9.5%, respectively, for 2025 and 2026, i.e., 220 to 210/100k (2025) and 210 to 190/100k. Implying reducing TB incidence by 30.7% in 2026 from the 2015 value of 274/100k.
3	Percentage of TB-affected families facing catastrophic costs due to TB <20%.	Numerator: Proportion of TB patients (and their households) who incur catastrophic costs Denominator: all patients treated	Survey			2021	N.A.	<20%	<20%	<20%	Decrease to <20% through 2024, 2025, and 2026. No survey has been conducted in Somalia to establish a baseline.
Outcome indicator											
1	TB notification rate for new and relapse cases (per 100,000 Pop.)	Numerator: Number of TB cases notified (new and relapses). Denominator: Population/100,000.	HMIS, NTP report	Annually	NTP National	2021	102	132	144	157	

2	TB treatment coverage	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)	2021	41%	60%	69%	83%	
3	TB treatment coverage	Numerator: Number of notified people with bacteriologically confirmed, drug resistant RR-TB and/or MDR-TB Denominator: estimated number of drug resistant RR-TB and/or MDR-TB in the same year (%)	NTP report WHO incidence estimates	Annually	WHO National	2021	15.5%	50%	63%	79%	
4	Treatment success rate (TSR) of bacteriologically confirmed plus clinically diagnosed (new and relapse) DS-TB case.	Numerator: TB cases new and relapse DS-TB cases (all forms) successfully treated (cured plus completed treatment) Denominator: total number of TB cases (DS- and DR-TB cases) registered during the year	NTP report WHO GTB report RHMIS	Annually	NTP National District TBMU	2021	90%	≥90	≥90	≥90	
5	Treatment success rate of RR-TB and/or /MDR-TB successfully treated.		HMIS/NTP report	Annually (for cohort)	MDR-TB unit NTP	2021	79	>80	>83	>85	
6	Percentage of population with adequate knowledge* on TB symptoms, transmission, and prevention	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	2021	N.A.	>80		>90	
Coverage Indicators											
1	Number of patients with all forms of TB notified (i.e., bacteriologically confirmed plus clinically diagnosed) – only new and relapse TB cases		HMIS, NTP report	Annually	NTP	National	17,422	24,899	27,981	31,445	Increase of 2,395 annually up to 2024, then increase of 5,000 between 2025 and 2026.
2	Percentage of new and relapse TB patients tested using a WHO-recommended rapid test at the time of diagnosis.	Numerator: Number of new and relapses cases diagnosed using WHO recommended rapid tests Denominator: Number of new and relapses case notified	WHO, annual TB Report HMIS, NTP reports	Quarterly and annually	NTP	National regional	30%	70	80	≥90	Cf. DST coverage

3	Percentage of new and relapse TB patients using DST for rifampicin	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	WHO, annual TB Report HMIS, NTP report	Quarterly and annually	NTP	TBMU	62%	75%	80%	≥85	
4	Percentage of notified patients with all forms of TB (i.e., bacteriologically confirmed plus clinically diagnosed – only new and relapse) contributed by non-national TB program providers – private/non-governmental facilities	Numerator: Number of notified patients with all forms of TB (i.e., bacteriologically confirmed plus clinically diagnosed – only new and relapse) from non-national TB program providers – private/non-governmental facilities Denominator: Number of notified patients with all forms of TB (i.e., bacteriologically confirmed plus clinically diagnosed – only new and relapse)	HMIS, NTP report	Quarterly and annually	HMIS, NTP report	2021	15.4%	≥20	≥20	≥20	
5	Percentage of notified patients with all forms of TB (i.e., bacteriologically confirmed plus clinically diagnosed – only new and relapse) contributed by non-national TB program providers – public sector	Numerator: Number of notified patients with all forms of TB (i.e., bacteriologically confirmed plus clinically diagnosed – only new and relapse) from non-national TB program providers – public sector Denominator: Number of notified patients with all forms of TB (i.e., bacteriologically confirmed plus clinically diagnosed – only new and relapse)	HMIS, NTP report	Quarterly and annually	HMIS, NTP report	2021	NA	60%	55%	50%	
6	Percentage of notified patients with all forms of TB (i.e., bacteriologically confirmed plus clinically diagnosed – only new and relapse) contributed by non-national TB program	Numerator: Number of notified patients with all forms of TB (i.e., bacteriologically confirmed plus clinically diagnosed – only new and relapse) from non-national TB program providers – Community referrals Denominator: Number of notified patients with all forms of TB (i.e., bacteriologically	HMIS, NTP report	Quarterly and annually	HMIS, NTP report	2021	NA	≥20	≥20	≥20	

	providers – Community referrals	confirmed plus clinically diagnosed – only new and relapse)									
7	Number of notified RR/MDRT-B cases		HMIS/NTP report	Annually	NTP	National	326	848	972	1,102	
8	Percentage of RR/MDRTB cases diagnosed put on treatment	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	100%	100%	100%	100%	
9	Proportion of MDRTB patient files with aDSM information	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.	>99	>99	>99	
10	Percentage of Health providers working with TB screened for TB/HIV at least once during the year	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.	30	40	50	
11	Household contact screening coverage	Numerator: Number of household contacts of new and relapse cases of bacteriologically confirmed and notified pulmonary TB who were screened for TB Denominator: Number of household contacts of new and relapse cases of bacteriologically confirmed and notified pulmonary TB	HMIS, NTP report	Annually	NTP	All HF	NA	80%	≥80	≥80	
12	TB preventive therapy (TPT) coverage among household contacts of bacteriologically confirmed index TB cases (< 5 and above 5	Numerator: number of children and adults who are household contacts of TB cases started on TB preventive therapy (TPT) Denominator: number of people eligible for TB preventive therapy.	HMIS/NTP report	Quarterly and annually	NTP	National, TBMU, HF	0	30%	40%	≥50%	Parameters: one child <5 years per TBB+ patient; TBB+ proportion among notified cases increasing 10%/year

	years).										
13	Percentage of people (children and adults) who completed TPT out of those who initiated TB preventive treatment	Numerator: number of people (children and adults) who completed TPT Denominator: number of people who initiated TB preventive treatment	HMIS/NTP report	Quarterly and annually	NTP	National, TBMU, HF	NA	≥80	≥80	≥80	
14	CXR for TB screening coverage.	Numerator: Number of districts in which CXR is used regularly (with or without CAD) for TB screening Denominator: Total number of districts in the country.	HMIS/NTP report	Annually	NTP	National	NA	30%	40%	≥50	This includes CXR with or without CAD.
15	Percentage of individuals with presumptive TB tested with a WRD.	Numerator: Total number of individuals with presumptive TB tested with a WRD Denominator: Total number of individuals with presumptive TB	HMIS/NTP report	Annually	NTP	National	NA	60%	80%	≥90	
16	Percentage of districts in which all facilities have a TB diagnostic algorithm that requires a WRD to be used as the initial diagnostic test for all individuals with presumptive TB.	Numerator: Number of districts in which all facilities have a TB diagnostic algorithm that requires a WRD to be used as the initial diagnostic test for all individuals with presumptive TB, including children and individuals with HIV (combined with LF-LAM) and extrapulmonary TB Denominator: Total number of districts in the country.	HMIS/NTP report	Quarterly and annually	NTP	National, TBMU, HF	NA	70%	≥80	≥80	
17	Diagnostic coverage in health facilities (Access to WRDs in primary health-care facilities).	Numerator: Number of primary health-care facilities with access to WRDs (either on site or through a sample referral system). Denominator: Total number of primary health-care facilities in the country.	HMIS/NTP report	Quarterly and annually	NTP	National, TBMU, HF	NA	50%	≥80	≥80	
18	Diagnostic coverage in health facilities (Patient access to WRDs)	Numerator: Number of notified new and relapse TB cases tested initially with a WRD Denominator: Total number of notified patients.	Annual TB Report HMIS, NTP reports	Quarterly and annually	NTP	National regional	30%	70	80	≥90	
19	Rifampicin DST coverage	Numerator: Number of patients notified with bacteriologically confirmed pulmonary TB with DST results for RIF.	WHO, annual TB Report HMIS, NTP report	Quarterly and annually	NTP	TBMU	62%	75%	80%	≥85	

		Denominator: Number of patients notified with bacteriologically confirmed pulmonary TB									
20	Fluoroquinolone DST coverage	Numerator: Number of patients notified with bacteriologically confirmed RR pulmonary TB and DST results for FQ Denominator: Number of patients notified with bacteriologically confirmed RR pulmonary TB	WHO, Annual TB Report HMIS, NTP reports	Quarterly and annually	NTP	National regional	TBD	TBD	TBD	TBD	
21	Bedaquiline DST coverage	Numerator: Number of patients notified with bacteriologically confirmed RR and FQ-resistant pulmonary TB with DST results for bedaquiline Denominator: Number of notified patients with bacteriologically confirmed RR and FQ-resistant pulmonary TB	WHO, Annual TB Report HMIS, NTP reports	Quarterly and annually	NTP	National regional	TBD	TBD	TBD	TBD	
22	Linezolid DST coverage	Numerator: Number of patients notified with bacteriologically confirmed RR and FQ-resistant pulmonary TB with DST results for linezolid Denominator: Number of notified patients with bacteriologically confirmed RR and FQ-resistant pulmonary TB	WHO, Annual TB Report HMIS, NTP reports	Quarterly and annually	NTP	National regional	TBD	TBD	TBD	TBD	
23	Case fatality rate (CFR) for notified cases (%)	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	28%	<15%	<10%	<5%	No vital register, thus adaption of the indicator
24	Percentage of HIV positive TB cases given antiretroviral therapy during TB treatment	Numerator: Number of HIV-positive new and relapse TB cases given antiretroviral therapy during TB treatment Denominator: Number of HIV-positive new and relapse TB cases registered during the evaluated period	HMIS/NTP report	Quarterly and annually	NTP	National, Region, Hospital, TBMU	60%	80%	≥85	≥90	

25	Percentage of TBMU with no stock out of FL (RHZE and RH ad) drugs of experienced in the last 12 months	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	<5%	<5%	<5%	
Output indicator											
1	Error rate of functional instruments.	Numerator: Number of WRD TB testing sites with annual error rates ≤ 5%. Denominator: Number of WRD TB testing sites in the country.	Annual TB Report HMIS, NTP reports	Quarterly and annually	NTP	National regional	NA	≤ 5%	≤ 5%	≤ 5%	
2	Percentage of TB testing laboratories achieving a turn-around time of ≤ 48 h for ≥ 80% of samples received for WRD testing.	Numerator: Number of laboratories that achieve a TAT of ≤ 48 h for ≥ 80% of samples received for WRD testing. Denominator: Number of WRD testing laboratories.	Annual TB Report HMIS, NTP reports	Quarterly and annually	NTP	National regional	NA	≥ 70%	≥ 70%	≥ 70%	TAT is calculated from the time between first presentation of the patient to the start of treatment, with further disaggregation by delivery of the result and the start of treatment.
3	Total number of TBMU		NTP reports	Annually	NTP	National	106	136	146	156	Increase by 10 annually
4	Number of MDR-TB Management Hospitals		HMIS/NTP report	Annually			3	9	11	13	
5	Percentage of TB cases with test result for HIV	Numerator: Number of new and relapse TB patients who had an HIV test result recorded in the TB register Denominator: Total number of registered new and relapse TB cases during the period of assessment.	HMIS/NTP report	Quarterly and annually	NTP	National, Region Hospital, TBMU	87%	>99	>99	>99	
6	Percentage of TB cases reported in DHIS2 during the evaluated period.	Numerator: Number of cases reported in DHIS2 during the evaluated period Denominator: Total Number of cases reported in all source documents (TB register) during the evaluated period	NTP report	Quarterly, annually	TBMU, NTP	Regional, NTP	N.A.	>95	>95	>95	
7	Completion rate										

8	Number of new tools used in the TB program	NTP report	Quarterly, annually	TBMU, NTP	Regional, NTP		N.A.	1	2	3	The number of new tools used in the TB program to 3 by 2026 (at least one per year).
9	Number of operational research studies completed.	Number of completed operational research (report disseminated)	Study report	Annually	NTP	National, Regional	N.A.	2	4	6	
10	Percentage of the annual budget defined in the NSP-TB 2024-2026 funded.	Numerator: Total annual budget defined in the NSP-TB 2024-2026 funded Denominator: Total annual budget captured in the NSP-TB 2024-2026 for the period	Quarterly, annually	TBMU, NTP	Regional, NTP		N.A.	≥ 90%	≥ 90%	≥ 90%	Include domestic and international resources
11	Percentage of activities captured in the NSP-TB 2024-2026 implemented.	Numerator: Total number of activities captured in the NSP-TB 2024-2026 implemented. Denominator: Total number of activities captured in the NSP-TB 2024-2026 for the period	Quarterly, annually	TBMU, NTP	Regional, NTP		N.A.	≥ 90%	≥ 90%	≥ 90%	

8. NSP-TB 2024-2026 Budget Plan

8.1 Background

The budget plan section completes the NSP-TB 2024-2026 and describes how the government of Somalia intends to fund the activities of the NSP-TB. The overall cost needed to execute the strategic intervention and activities required to rapidly reduce TB mortality and incidence, including addressing catastrophic costs suffered by TB patients and their families in Somalia over the three years, is estimated at **Sixty million, one hundred and thirty-four thousand, seven hundred and sixty-five United States Dollars (US$60,134,765.00).** The Government of Somalia will provide the financing for these activities with support from the Global Fund and other grants to fight TB, including the private sector within the country.

8.2 Budget estimate analysis

The estimated budget is categorized and displayed along the pillars and objectives of the operational and technical assistant plan. Table 12 summarizes the budget allocation by pillars; 61.8% (US$37,163,284.77) of the total budget was allocated to implement activities captured in pillar 1 of the NSP-TB. Activities captured under this pillar focus mainly on identifying presumptive TB cases, improving access to WRD, improving case holding for DS-TB and DR-TB, improving TB/HIV co-infection management, and strengthening TB prevention services in Somalia. Thus, this pillar focuses on adopting technology-aided innovations that will enable the NTP significantly increase TB notification and find the missing TB cases. Likewise, pillar 2, which focuses on system strengthening and improving support for efficient program management and coordination, was allocated 28.8% (US$17,318,812.32) of the total budget. The remaining 9.4% (US$5,652,667.91) of the estimated budget was allocated to implement activities captured in pillar 3, which focuses on strengthening research and encouraging innovation adoption. Table 13 summarizes the budget allocation by objectives. Seven objectives: 1.1 (35%), 1.3 (9%), 1.4 (6%), 2.2 (5.1%), 2.3 (6%), 2.7 (8.2%) and 3.2 (8.3%) had budget allocations above 5% when combined, accounted for 77.6% of the total budget. The distribution of resources to sections of most significant importance underscores the NTP's desire to ensure universal access to quality TB services nationwide while ensuring a strong and resilient system and workforce capable of implementing the NSP-TB 2024-2026 is encouraged.

Table 12: Budget estimates for Somalia NSP-TB 2024-2026 by Pillar/Goal

Pillar	Total Cost ($)	%
Pillar 1 **To provide high-quality TB preventive, diagnostic and treatment services to all patients without their having to incur catastrophic costs**	**37,163,284.77**	**61.8%**
Pillar 2 **Institute bold policies and supportive systems for TB care and prevention**	**17,318,812.32**	**28.8%**
Pillar 3 **Intensified research and innovations**	**5,652,667.91**	**9.4%**
TOTAL	**60,134,765.00**	**100%**

Table 13: Budget estimates for Somalia NSP-TB 2024-2026 by Objective

Objective	Year 1 Obj Cost ($)	Year 2 Obj Cost ($)	Year 3 Obj Cost ($)	Total Obj Cost ($)	%
1.1: Increase TB treatment coverage from 41% in 2021 to 83% in 2026 by strengthening presumptive TB identification and increasing access to universal drug susceptibility testing.	9,076,018.72	6,297,558.73	5,673,590.30	21,047,167.75	35%
1.2: Increase DR-TB treatment coverage from 15.5% in 2021 to 78.6% in 2026 and ensure that 100% of notified cases are enrolled on second line treatment by 2026 by improving access to DST.	752,012.98	521,797.72	470,097.48	1,743,908.19	2.9%
1.3: Increase TB treatment success rate for new and relapse TB cases (adults, children, and adolescents) from 90% in 2021 to ≥90% in 2026 through providing quality treatment and care for DS-TB patients, including patient support.	2,333,833.38	1,619,372.25	1,458,923.22	5,412,128.85	9%
1.4: Increase DR-TB treatment success rate from 77% in 2019 to ≥80% in 2026 through the provision of quality second line treatment and care, including patient support for DR-TB patients (adults, children, and adolescents).	1,555,888.92	1,079,581.50	972,615.48	3,608,085.90	6%
1.5: Ensure that the proportion of children among new and relapse TB cases notified is ≥15% by end of 2026 by improving in-country diagnostic capacity.	777,944.46	539,790.75	486,307.74	1,804,042.95	3%
1.6: Increase TB treatment success rate among TB/HIV co-infected persons from 46% in 2020 to ≥80% by 2026 through improving the management of TB/HIV co-infection and co-morbidities.	363,040.75	251,902.35	226,943.61	841,886.71	1.4%
1.7: Increase the percentage of contacts of bacteriologically confirmed index TB cases (< 5 and ≥5 years) started on TB preventive therapy (TPT) from 0% in 2021 to ≥50 by 2026 through strengthening contact investigation and provision of shorter TB preventive regimen.	1,166,916.69	809,686.12	729,461.61	2,706,064.43	4.5%
2.1: Mobilize at least 90% of funding needed to implement activities of the NSP-TB 2024-2026 by the end of 2026.	129,657.41	89,965.12	81,051.29	300,673.83	0.5%
2.2: Increase the proportion of community contribution to national case notification to at least 20% of all new and relapse TB cases (all forms) notified annually by 2026.	1,322,505.58	917,644.27	826,723.16	3,066,873.02	5.1%
2.3: Increase the proportion of PPM contribution to national case notification from 15.4% in 2021 to ≥20% of new and relapse TB cases (all forms) notified by 2026.	1,555,888.92	1,079,581.50	972,615.48	3,608,085.90	6%
2.4: Ensure TB case reporting coverage is ≥90% by 2026 through strengthening of existing monitoring and evaluation, universal health coverage policy and regulatory frameworks for case notification.	777,944.46	539,790.75	486,307.74	1,804,042.95	3%
2.5: Reduce stockout of TB product to less than 5% by 2026 through strengthening of the Procurement Supply Management system and development of regulatory frameworks for quality rational use of TB medicines.	1,296,574.10	899,651.25	810,512.90	3,006,738.25	5%
2.6: Reduce the percentage of TB patients and their households that experience catastrophic costs due to TB to less than 20% by 2026 through provision of social protection, poverty alleviation and actions on other determinants of TB.	259,314.82	179,930.25	162,102.58	601,347.65	1%
2.7: Create supportive system for the successful implementation of at least 90% of activities captured in the NSP-TB 2024-2026 by the end of 2026.	2,126,381.53	1,475,428.05	1,329,241.16	4,931,050.73	8.2%
3.1: Conduct at least 2 operations research annually by the end of 2026 to optimize implementation of the NSP-TB 2024-2026.	285,246.30	197,923.27	178,312.84	661,482.42	1.1%
3.2: Adopt the use of two new tools at the end of 2026 to promote innovation for impact.	2,152,313.01	1,493,421.07	1,345,451.41	4,991,185.50	8.3%
	25,931,482.05	17,993,024.95	16,210,258.00	60,134,765.00	100%

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